Appendix H
Transportation Reports

Transportation Impact Study (April 2024)

P23160

Transportation Impact Study

Creekside Village
El Dorado Hills, California

Prepared for:
Winn Ridge Investments, LLC
and
County of El Dorado, California

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April 25, 2024

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REVISION HISTORY

Description	Date	Notes
Internal Draft	February 19, 2024	Draft TIS.
Admin Draft	February 22, 2024	Revisions for clarity.
Public Report	April 25, 2024	Added EBL queue data at intersection 3, clarified abatement 18A.

EXECUTIVE SUMMARY

This transportation impact study (TIS) analyzes the proposed Creekside Village Specific Plan (the Project) for consistency with the El Dorado County General Plan level-of-service policies and for vehicle miles of travel (VMT) impacts under the California Environmental Quality Act (CEQA). Where appropriate, abatement measures are provided to address any deficiencies relative to adopted General Plan policies and mitigation measures are provided to address any potentially significant impacts under CEQA.

Creekside Village (the Project) is a planned community with housing, parks, open space, and neighborhood commercial located in the El Dorado Hills community region of El Dorado County. Requested entitlements include a tentative subdivision map allowing for up to 918 single family homes and an option to include up to 5,400 sqft of neighborhood commercial, a General Plan amendment, and a new Specific Plan. The Project proposes 668 residential lots, and two large lots for the remaining 250 single family homes on a vacant 207.9 acre parcel located on the southern end of the El Dorado Hills Business Park, south of Investment Boulevard and west of Latrobe Road. The Project parcels are APNs 117-010-032 and a portion of 117-010-031. A vicinity map Is shown in **Figure ES-1**. The Project parcel is split by a creek, with most of the housing located on the south side of the creek. The north side of the creek would contain 87 of the residential lots, neighborhood commercial, parks and open space, and the south side of the creek would include 581 of the residential lots plus two large lots for the remaining 250 dwelling units, parks, and open space.

The Project parcel has been de-annexed from the business park, and the applicant is requesting to change its General Plan land use designation and zoning from Research and Development (R&D) to Adopted Plan (AP) with Single Family Low Density (CV-SFL), Single Family Medium Density (CV-SFM) residential, and Neighborhood Commercial (CV-NC), Open Space (CV-OS) and Parks (CV-P) land use designations within the plan area.

Project Description

Figure ES-2 provides a preliminary site plan for the Project. The Project would:

- Amend the General Plan, change the zoning designation, and adopt a specific plan to allow the development of 207.9 acres for residential, neighborhood commercial and related uses on land that is undeveloped and currently designated as industrial and R&D.

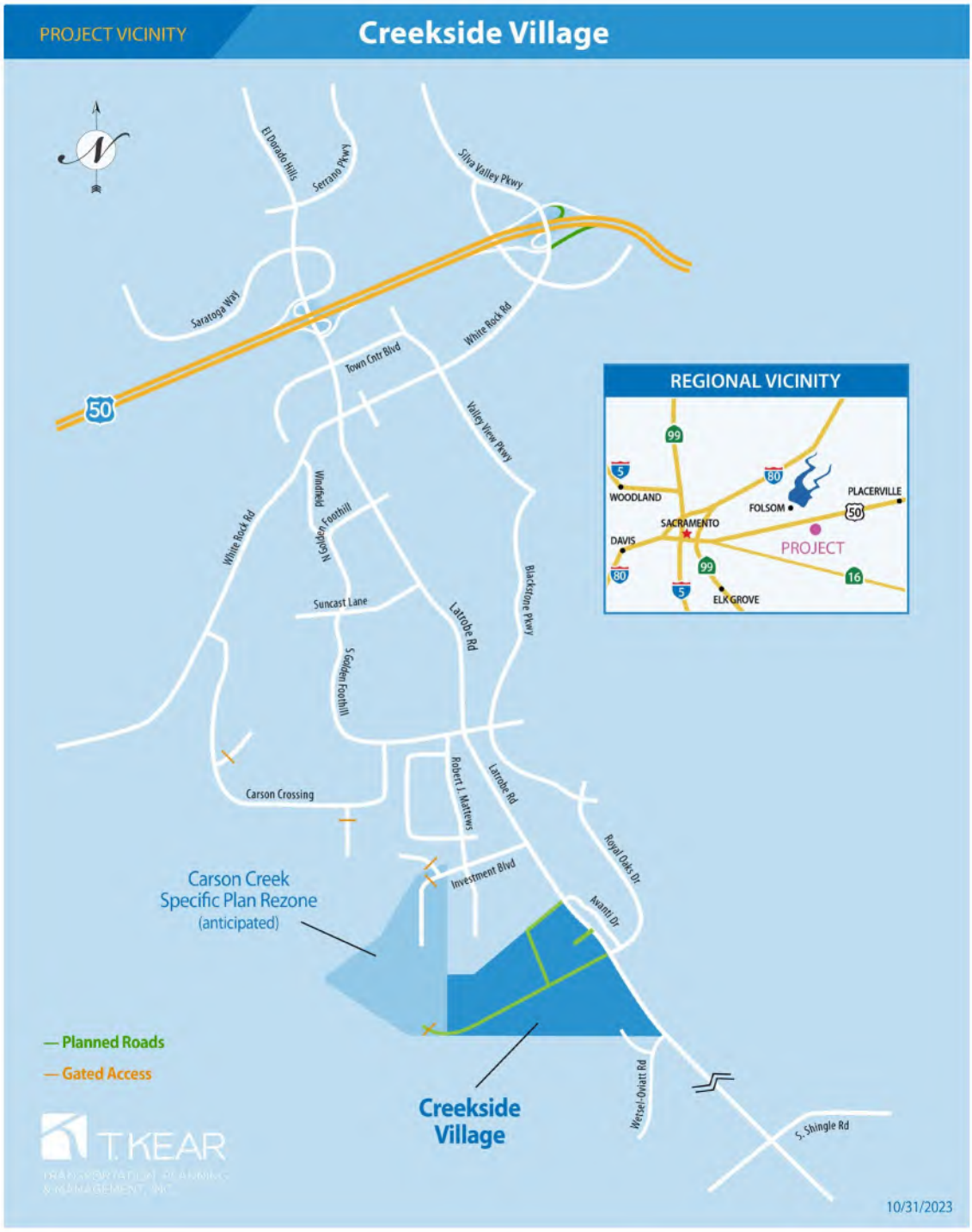


Figure ES-1. Project location map

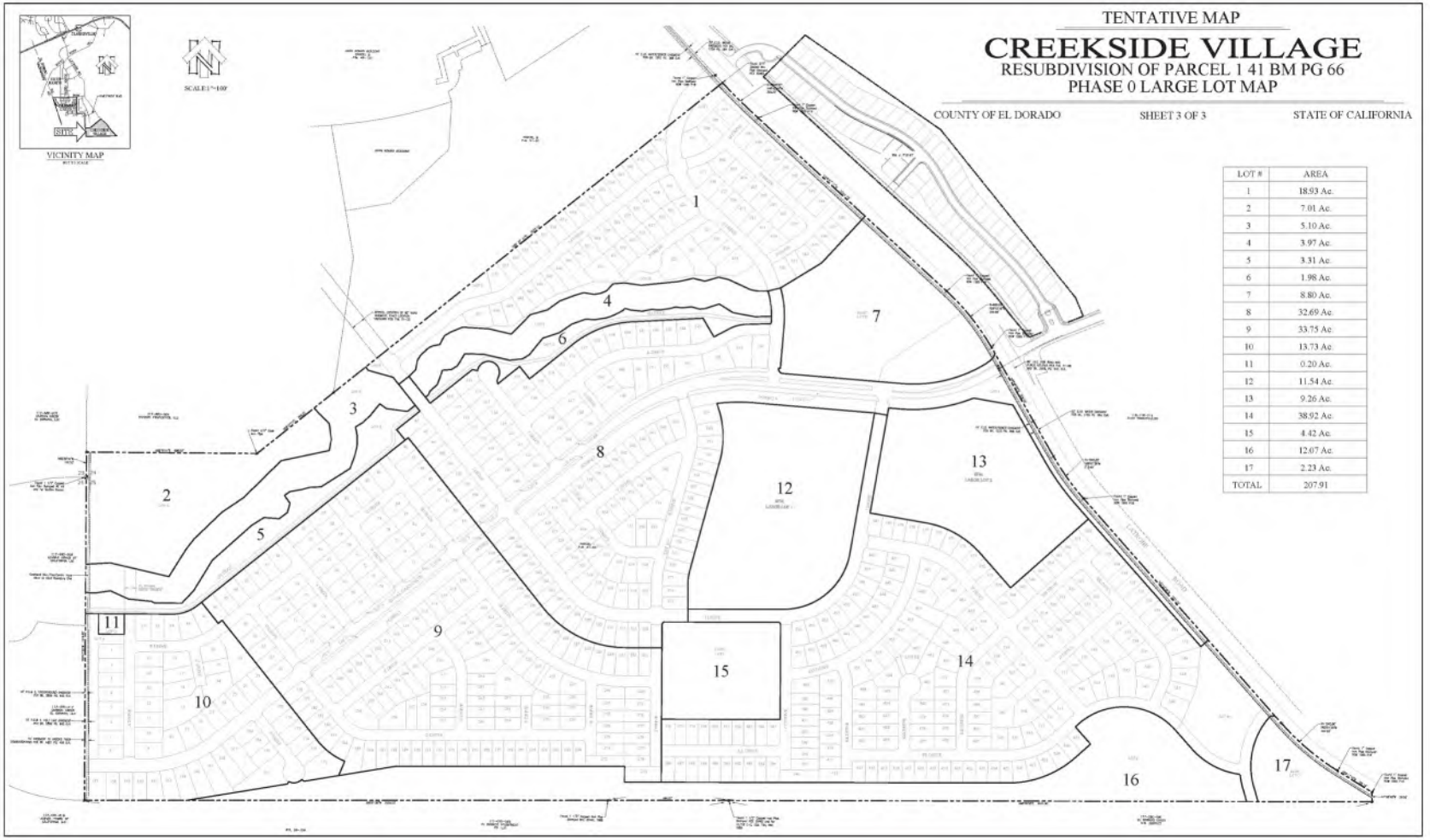


Figure ES-2. Preliminary Project site plan

- Create a Tentative Map for 668 homesites, 2 large-lot parcels that are analyzed as a combined total of 250 additional homes and 5,400 sqft of neighborhood commercial (918 homes and 5,400 sqft of commercial in total). The Tentative Map would include additional lots associated with parks and open space and various landscape lots.

Access to the Project will be provided by three roadways, a commercial driveway and a multiuse trail:

- The primary access will be from Latrobe Road via an extension of Royal Oaks Drive. The intersection of Latrobe Rd/Royal Oaks Dr is proposed to remain as full access, This intersection is analyzed with its existing two-way-stop-control, with signal-controlled recommended as an abatement to maintain acceptable level-of-service.
- The first secondary access road is an extension of Avanti Dr. The intersection is proposed as full access with side-street-stop-control.
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- A pedestrian and bicycle access route connecting to Robert J. Mathews Parkway will provide enhanced non-motorized access to the medical, education, fitness, service, food, and retail options within the El Dorado Hills Business Park.

Traffic is distributed across the driveways based on the rough proximity of each land use to the access points.

Study Area

The TIS area (**Figure ES-3**), which includes portions of White Rock Road, Latrobe Road, El Dorado Hills Boulevard, Silva Valley Parkway and US 50 in El Dorado County, California, was selected with consideration of the requirements of CEQA and General Plan policies TC-Xd and TC-Xe. Specifically, the study was selected to include El Dorado County locations where Project traffic would constitute:

A. A two percent increase in traffic during the AM peak hour, PM peak hour, or daily; or,
B. The addition of 100 or more daily trips; or,
C. The addition of 10 or more trips during the AM peak hour or the PM peak hour.



Figure ES-3 Study area

Project Trip Generation and Distribution

Anticipated Traffic generation by the Project reflects both trips generated by the Project itself, and, avoided trips in 2033 and 2040 from the commercial land uses that the El Dorado County TDM assumes will take place on the Project parcels.

Project Trips

Anticipated trips are based on Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition (2021). **Table ES-1** shows anticipated Project Trip Generation. To be conservative, trip generation estimates are generally based on the higher rates for the peak hour of the generator rather than the peak hour of adjacent street traffic. The higher of either the average trip generation rate or equation-based trip generation rate was also used.

Avoided Trips

Avoided trips are additional peak hour trips that the TDM assumes in the future from growth within the Project TAZ. These avoided trips were estimated by running the TDM with and without assumed 2020[1] through 2040 employment growth for the effected portion of the Project's transportation analysis zone (TAZ 612). Creekside Village replaces 62% of the available land in TAZ 612 (**Figure ES-4**), therefor 62% of the employment growth was eliminated from TAZ 612 when estimating the number of avoided trips using the TDM. TDM employment assumptions for TAZ 612 are shown in **Table ES-2** below, along with the resulting avoided trips.

Trip Distribution with Adjustment for Latrobe Elementary

Project trip distribution was based on the El Dorado County TDM, observed counts, prior studies in the vicinity of the Project, and consultation with El Dorado County staff. Additional adjustments were made to reflect school trips to Latrobe Elementary based on student generation statistics published by the school district. Trip distribution is shown in **Figure ES-5**.

[1] 2020 is used rather than 2023 because the process of purchasing the land and de-annexing it from the business park meant that no new employment on this portion of the model TAZ occurred as of that year.

Table ES-1. 918 Single-family dwelling units trip generation

Land Use	Quantity	Metric	Daily	AM Peak Hour			PM Peak Hour		
				Total	Inbound	Outbound	Total	Inbound	Outbound
Single Family Detached Housing (ITE Use 210)	918 DU (1)	Notes	Average Rate	Average Rate for Peak Hour of Generator			Average Rate for Peak Hour of Generator		
		Rate	9.43	0.75	26%	74%	0.99	64%	36%
		Trips	8657	689	179	510	909	582	327
Coffee/Donut Shop with Drive-Thru Window (ITE Use 937)	2.4 ksf (2)	Notes	Average Rate	Average Rate for Peak Hour of Generator			Average Rate for Peak Hour of Generator		
		Rate	533.57	101.27	50%	50%	43.65	50%	50%
		Trips	1281	243	122	121	105	52	53
		Pass-by (3)	0	-110	-55	-55	-70	-35	-35
Fast Casual Restaurant (ITE Use 930)	1.5 ksf (2)	Notes	Average Rate	Average Rate for Peak Hour of Generator			Average Rate for Peak Hour of Generator		
		Rate	97.14	5.71	63%	37%	18.57	62%	38%
		Trips	146	9	5	4	28	17	11
		Pass-by (4)	0	0	0	0	-12	-6	-6
High-Turnover (Sit-Down) Restaurant (ITE Use 932)	1.5 ksf (2)	Notes	Average Rate	Average Rate for Peak Hour of Generator			Average Rate for Peak Hour of Generator		
		Rate	107.2	13.68	57%	43%	16.35	51%	49%
		Trips	161	21	12	9	25	13	12
		Pass-by (4)	0	0	0	0	-10	-5	-5
Total residential trips			8657	689	179	510	909	582	327
Less 2% internalization based on Travel Demand Model			-173	-14	-4	-10	-18	-12	-7
Net new residential trips to assign			**8484**	**675**	**175**	**500**	**891**	**570**	**321**
Total commercial trips			1588	163	84	79	66	36	30
Less 2% internalization based on Travel Demand Model			-32	-4	-2	-2	-2	-1	-1
Net new commercial trips to assign			**1556**	**159**	**82**	**77**	**64**	**35**	**29**
Total New Project Trips			**10040**	**834**	**257**	**577**	**955**	**605**	**350**
Commercial pass by trips from Latrobe Road (for assignment to commercial driveways)			**0**	**110**	**55**	**55**	**92**	**46**	**46**

(1) DU = Dwelling unit
(2) ksf = 1000 square feet
(3) Pass-by trips based on Land use 934 (Fast Food with Drive-Thru) which has an average 45.4% pass-by rate in the AM and 68% in the PM.
(4) Pass-by trips based on Land use 932 (High-Turnover (Sit-Down) Restaurant) which has an average 43% pass-by rate
Source: ITE (2021) Trip Generation Manual, 11th Ed., Institute of Transportation Engineers, Washington DC.



Figure ES-4. Creekside Village is 62% of available land in TAZ 612

Table ES-2. TDM employment assumptions and avoided trips

	2020	2040 without Project	2040 with Project	Notes
Employment				
Retail	224	433	304	Creekside Village is 62% of remaining land in TAZ 612. Housing is assumed to replace 62% of employment growth. (With Project there are 2097 fewer employees.)
Non-Retail	2115	5355	3387	
Total	2339	5788	3691	
Avoided Trips AM (PM) [Daily]				
in			526 (311) [4735]	
Out			207 (518) [4680]	



Figure ES-5. Creekside Village Project trip distribution

FINDINGS

Trip Generation Findings

The 918 dwelling unit Project with 5,400 sqft of neighborhood commercial space is anticipated to generate 834 AM peak hour trips, 955 PM peak hour trips, and 10,040 daily trips. Those trips are largely offset by 2040 through forgone commercial development on the 207.9 ac project site which the travel demand model anticipated would have generated 733 AM peak hour trips, 829 PM peak hour trips, and 9,415 daily trips. Net, the Project therefore adds only 101 AM peak hour trips during the AM peak hour, 126 trips during the PM peak hour, and 625 daily trips over what was assumed in travel demand model horizon year. Trip Generation is discussed in more detail in **Section 5.1**.

CEQA Findings

VMT: The 918 dwelling unit residential component of the Project is anticipated to have home based VMT per capita of 13.6 in 2023 and 13.1 in 2040, compared to a significance threshold (calculated using the same methodology and data as the Project impacts) of 17.3. Therefore the residential component of the Project has a **less-than significant** impact on VMT. The 5,400 sqft neighborhood commercial local serving retail component of the Project offers improved destination choices for local residents and can be assumed to have a **less-than significant** impact on VMT. The VMT analysis is discussed in **Section 3.4** and **Section 11**.

Transit: The Project does not interfere with existing or proposed transit service and has a **less-than-significant** impact on transit. Transit impacts are briefly discussed in **Section 12**.

Bicycles and Pedestrians: The Project enhances bicycle and pedestrian access to the El Dorado Hills Business Park and does not interfere with existing or planned bicycle and pedestrian facilities. The Project includes a variety of bike and pedestrian amenities providing connections both within the planned community and externally to the existing bike and pedestrian facilities along Latrobe Road and Royal Oaks Dr. Therefore, the Project has a **less-than-significant** impact on bicycle and pedestrian facilities. Bicycles and pedestrian impacts are briefly discussed in **Section 12**.

General Plan Level-of-Service and Queue Length Findings

Deficiencies that are caused or worsened by the Project, and abatement measures to address said deficiencies, are identified for existing 2023 plus Project, Existing Plus Approved Projects (EPAP) 2033 plus Project, and cumulative 2040 plus Project conditions.

Throughout this document, segment deficiencies are numbered using the segment number (i through v) and a year code (2023 = “A”, 2033 = “B”, and 2040 = “C”). Intersection abatement measures are numbered using the intersection number (1-27) and the year code (A, B, or C). Locations with project causes new or worsen existing deficiencies are listed in **Table ES-2**. The first occurrence of an abatement measure is listed in **bold red** font, subsequent applications of an abatement measure are listed in a regular typeface. Abatement measures for existing 2023 plus Project conditions are described in more detail in **Section 6.3**, EPAP 2033 plus Project conditions in **Section 8.3**, and Cumulative 2040 plus Project in **Section 10.3**.

Table ES-2 Study area

ID	Location	2023 Plus Project	2033 Plus Project	2040 Plus Project	Related CIP Project
Arterial segments with worsened or new Project related deficiencies:					
ii	Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south)	**(ii)A: Widen**	Implement (ii)A	Implement (ii)A	"Latrobe 72"
v	White Rock Rd between Valley View Pkwy to Silva Valley Pkwy	n/a	**(v)B: Widen**	n/a	36105042
Locations have preexisting level-of-service and/or queueing deficiencies which are worsened by the Project:					
2	El Dorado Hills Blvd/Saratoga Way	**2A: SB right pocket, adjust timing**	**2B: Implement 2A plus extend NB and SB left turn pockets, adjust timing**	n/a	36105076 and 36105035
3	El Dorado Hills Blvd/US 50 WB	**3A: Adjust timing**	Implement 3A	Implement 3A	"Traffic Signals Intersection"
4	El Dorado Hills Blvd/US 50 EB	n/a	**4B: Construct 3rd EB right turn lane**	Implement 4B	36104001
5	Latrobe Road/Town Center Boulevard	**5A: Extend WB left pocket, adjust timing**	Implement 5A	Implement 5A	"Traffic Signals Intersection"
6	Latrobe Road/White Rock Road	**6A: Adjust timing**	Implement 6A	Implement 6A	36105069
7	Latrobe Road/Golden Foothill Parkway (N)	n/a	**7B: Add SB right pocket**	n/a	36105069
8	Latrobe Rd/Suncast Ln	**8A: Restripe EB approach**	n/a	n/a	"Traffic Signals Intersection"
9	Latrobe Road/ Golden Foothill Parkway (S)	**9A: Restripe EB approach and add EB right pocket, adjust timing**	**9B: Implement 9A plus: restripe WB approach, add WB left pocket, add NB right pocket, extend NB left pocket, Add SB right pocket, adjust timing**	Implement 9B	"Latrobe 72"
10	(10) Latrobe Road/Investment Boulevard	**10A: Stripe EB approach as left and a shared left-right in a pocket**	Implement 10A	Implement 10A	"Latrobe 72"
13	Golden Foothill Parkway (S)/Robert J Mathews Pkwy	**13A: Construct roundabout**	Implement 13A	n/a	Anticipated
18	White Rock Road/Carson Crossing Road	**18A: Signalize**	Implement 18A	n/a	36105041
21	White Rock Road/Valley View Parkway	**21A: Add EB right pocket, extend EB left pocket, add WB right pocket, extend WB left pocket**	**21B: Implement 21A plus additional lengthening of WB left pocket.**	n/a	36105042
Locations where the Project is anticipated to cause new deficiencies:					
11	Latrobe Road/Avanti Drive	**11A: Add 100-foot NB and SB left turn pockets on Latrobe Rd, and add a 100-foot NB receiving lane on Latrobe Rd for EB left turns**	Implement 11A	Implement 11A	n/a
12	Latrobe Road/Royal Oaks Drive	**12A: Signalize, add SB right pocket, EB 3-lane approach (left, left-thru, right)**	Implement 12A	Implement 12A	n/a

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Figure 1. Project location map

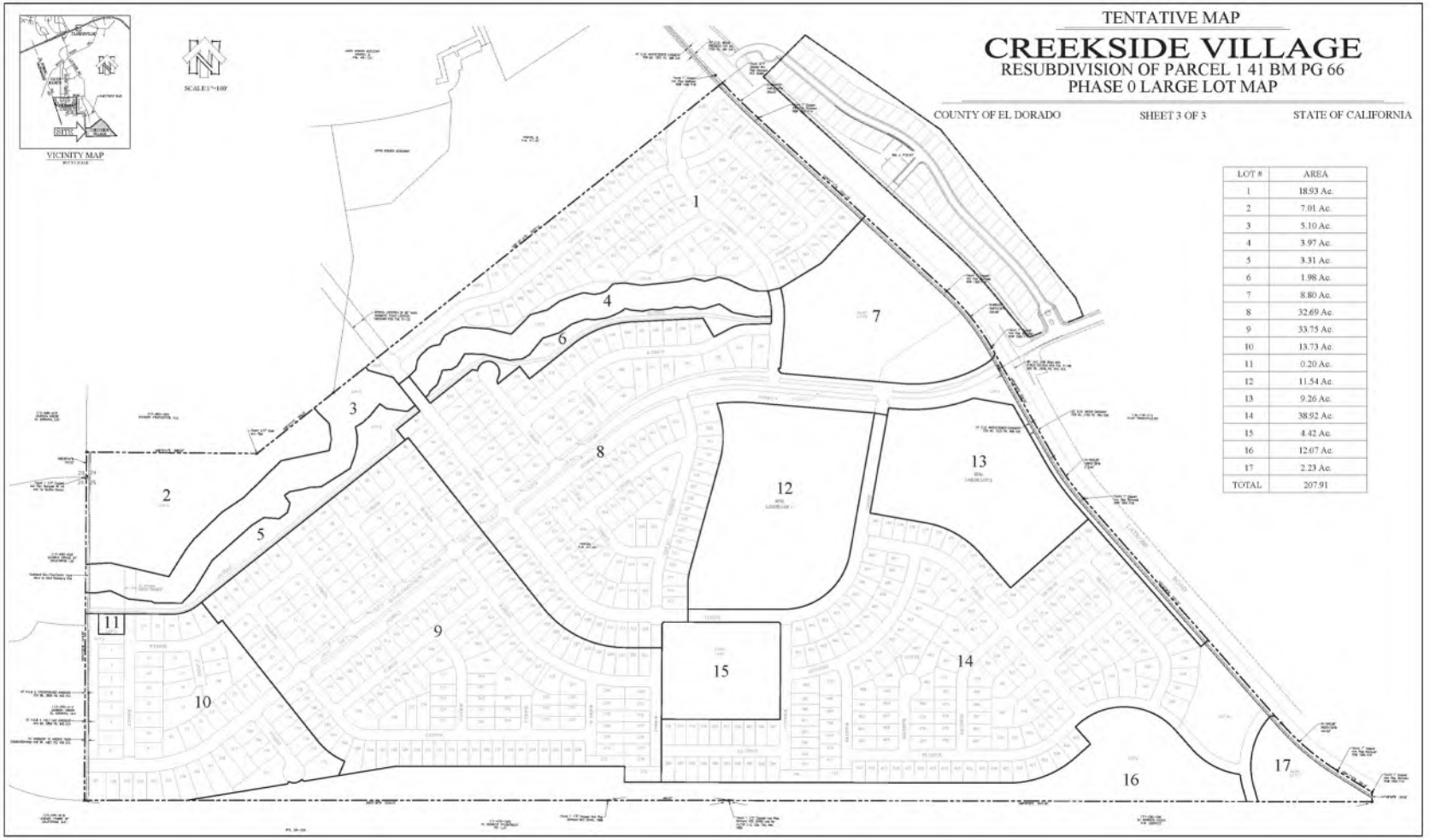


Figure 2. Preliminary Project site plan

- The first secondary access road is an extension of Avanti Dr. The intersection is proposed as full access with side-street-stop-control.
- The second secondary access is via a connection to Wetsel-Oviatt Road.
- A right-in/right-out (RIRO) commercial driveway is proposed providing the neighborhood commercial site with direct access to southbound Latrobe Rd. The commercial driveway would be located just north of the existing Latrobe Rd/Royal Oaks Dr intersection.
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Traffic is distributed across the driveways based on the rough proximity of each land use to the access points.

General Plan Consistency Considerations for Cumulative Impact Analysis

Projects that are consistent with the General Plan, and cumulative travel demand model assumptions, may rely upon the General Plan EIR's cumulative analysis. The Project parcel is currently designated as industrial and R&D in the General Plan and zoned accordingly. The Project requires a general plan amendment and rezoning to accommodate the proposed residential uses and is therefore not consistent with the General Plan or its related CEQA documents. Project-level cumulative analysis is included in this TIS.

2.0 STUDY AREA

The TIS area (**Figure 3**), which includes portions of White Rock Road, Latrobe Road, El Dorado Hills Boulevard, Silva Valley Parkway and US 50 in El Dorado County, California, was selected with consideration of the requirements of CEQA and General Plan policies TC-Xd and TC-Xe. Specifically, the study was selected to include El Dorado County locations where Project traffic would constitute:

D. A two percent increase in traffic during the AM peak hour, PM peak hour, or daily; or,
E. The addition of 100 or more daily trips; or,
F. The addition of 10 or more trips during the AM peak hour or the PM peak hour.

2.1 Project Area Roadways

The following are descriptions of the primary roadways in the project vicinity.

- **El Dorado Hills Boulevard** is a north-south arterial roadway that extends from Green Valley Road on the north to US 50 on the south where it continues as Latrobe Road. North of Green Valley Road it continues as Salmon Falls Road. Between US 50 and Saratoga Way El Dorado Hills Boulevard is a six-lane urban arterial, between Saratoga Way and Serrano Parkway it is a five-lane urban arterial, north of Serrano Parkway it continues as a four-lane urban arterial until Governor Drive, and then as a two-lane urban arterial northward to Green Valley Road. Just north of US 50, El Dorado Hills Boulevard carries approximately 28,000 vehicles per day.

- **Latrobe Road** is a north-south arterial roadway that provides a primary connection to US-50 for western El Dorado County. It extends from US 50, where it continues as El Dorado Hills Boulevard, to State Route 16. It is a six-lane urban arterial road between US 50 and White Rock Road. Latrobe Road is a four-lane urban arterial road between White Rock Road and Golden Foothill Parkway (south). It is a two-lane urban road from Golden Foothill Parkway (south) to Investment Boulevard and a two-lane rural road south of Investment Boulevard. North of White Rock Road, Latrobe Road carries approximately 32,500 vehicles per day with three through travel lanes in each direction. South of US 50, El Dorado Hills Boulevard becomes Latrobe Road.

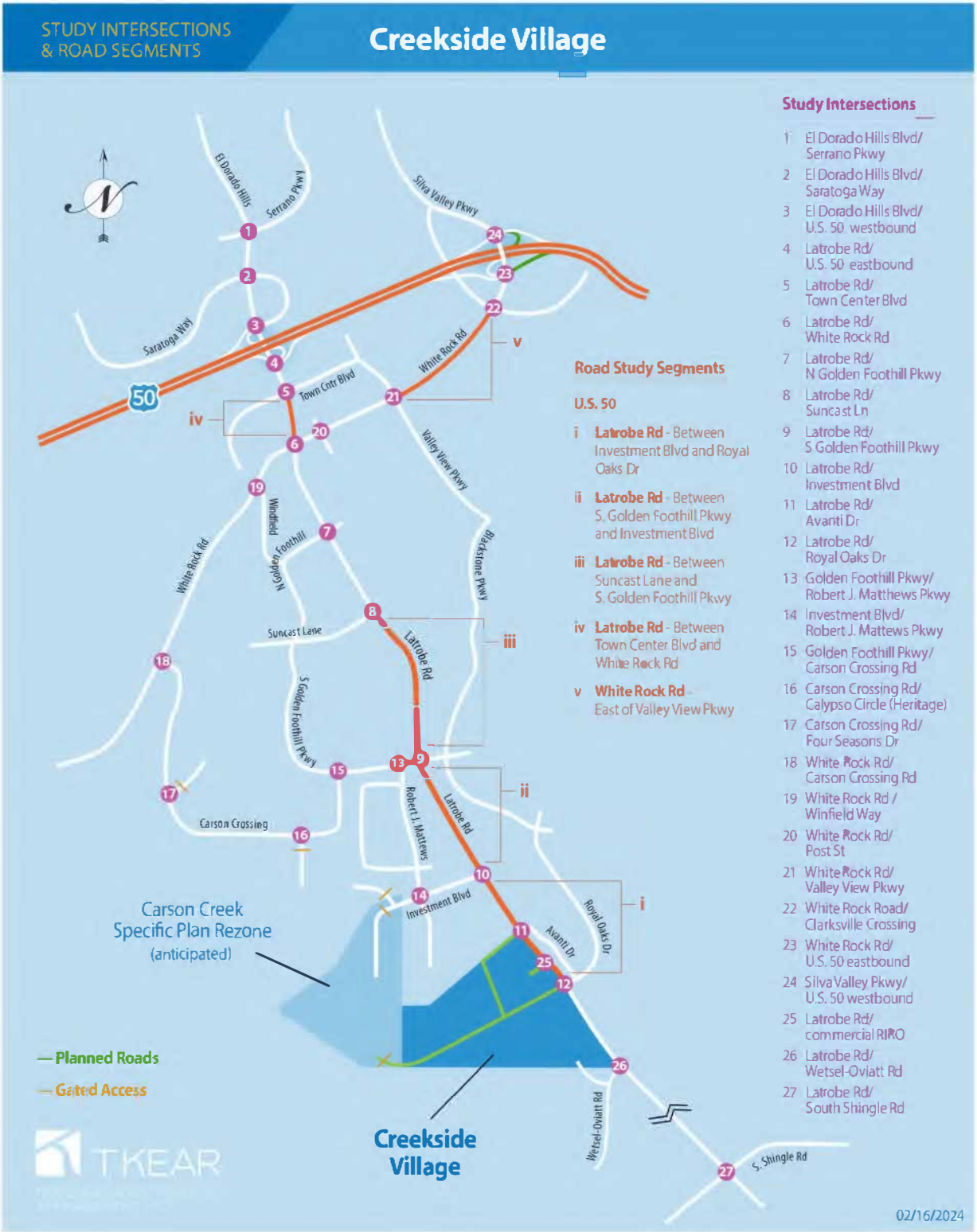


Figure 3. Study area

- **Park Drive** is a two-lane local roadway serving the shopping center located north of US 50 at the El Dorado Hills Boulevard interchange. Park Drive intersects El Dorado Hills Boulevard at two locations, opposite the reconstructed US 50 westbound ramps and then approximately 1000 feet to the north where Saratoga Way intersects El Dorado Hills Boulevard. Park Drive serves about 12,000 vehicles per day east of El Dorado Hills Boulevard.

- **Silva Valley Parkway** is a north-south roadway that generally runs parallel to El Dorado Hills Boulevard north of US 50. The General Plan identifies Silva Valley Parkway as a four-lane divided road. A new US 50 interchange at Silva Valley/White Rock Road opened in 2016, which provides a realigned Silva Valley Parkway that connects to the existing four-lane Silva Valley Parkway to the north and the existing two-lane White Rock Road on the south. The new interchange is located east of the existing underpass, which will be preserved for bike and pedestrian access. Silva Valley Parkway serves about 17,000 vehicles per day north of US 50.

- **White Rock Road** is an east-west arterial that extends through several jurisdictions from Silva Valley Parkway in El Dorado County to International Drive in Rancho Cordova. Within El Dorado County, it is a two-lane urban arterial road from the Sacramento County – El Dorado County line to Manchester Drive, a four-lane urban arterial between Manchester Drive and Post Street, and a two-lane urban arterial road between Post Street and Silva Valley Parkway. White Rock Road carries approximately 8,000 vehicles per day at the Sacramento County – El Dorado County Line and 17,000 vehicles per day just west (south) of the Silva Valley Parkway Interchange.

- **Investment Boulevard:** Is a two-lane local road, running east-west within the El Dorado Hills Business Park. It connects the eastern edge of the CCSP to Robert J. Mathews Parkway and Latrobe Road. Curb and gutter are provided. There are no bike lanes or sidewalks. Twenty-five-foot Lane widths are provided within the business park.

- **Robert J Mathews Parkway:** Is a two-lane local road, running north-south within the El Dorado Hills Business Park. It connects Investment Boulevard to Golden Foothill Parkway on the north. Curb and gutter are provided. There are no bike lanes or sidewalks. Twenty-five-foot Lane widths are provided within the business park. The Project includes an access connecting to Robert J. Mathews Parkway, to encourage residents to walk and bike to the plethora of schools, gyms, service and retail businesses and to minimize local traffic's use of Latrobe Road.

- **Royal Oaks Drive:** is a two-lane collector road within the Blackstone neighborhood of the Valley View Specific Plan. It provides the southernmost access for Blackstone to Latrobe Road. Royal Oaks Drive includes class 2 bike lanes, curb and gutter, and sidewalks fronting developed parcels.

2.2 Transit Service

El Dorado Transit is the primary public transit service provider in El Dorado County and provides local transit services within and between community areas of the county including Placerville and

Cameron Park. Within the study area, El Dorado Transit provides commuter service connecting a park-and-ride lot, located at the intersection of Latrobe Road and White Rock Road, with downtown Sacramento employment, and several locations in Folsom including the Iron Point Light Rail Station, Ingersoll Way & Parker Drive, Intel, Kaiser Permanente, and Folsom Lake College. Dial-a-ride services are also provided within many portions of El Dorado County, including El Dorado Hills.

2.3 Bicycle Facilities

There are existing class II bike lanes along White Rock Road, Silva Valley Parkway, Latrobe Road, Valley View Parkway, and Blackstone Parkway. A class 1 bike trail fronts the east side of Latrobe Road within the Valley View Specific Plan area between Royal Oaks Drive and the El Dorado Irrigation water treatment plant (4625 Latrobe Road). A short section of Class I trail also connects the Carson Crossing specific plan area to the El Dorado Hills Business Park.

The 2020 Active Transportation Plan[2] calls for a pedestrian overcrossing of US 50 connecting Class 1 bike and pedestrian trails through the Town Center shopping district with the bike and pedestrian trails adjacent to the Raley's shopping center north of US 50. There are also plans for a class 1 shared use path along the Placerville & Sacramento Valley Railroad rail line running to the Southeast from the City of Folsom and skirting the southwestern edge of the Carson Creek Specific Plan area.

2.4 Study Intersections and Segments

The following intersections are included in this evaluation and are marked in the preceding **Figure 3**:

1. El Dorado Hills Blvd/Serrano Pkwy
2. El Dorado Hills Blvd/Saratoga Way
3. El Dorado Hills Blvd/US 50 WB
4. El Dorado Hills Blvd/US 50 EB
5. Latrobe Road/Town Center Boulevard
6. Latrobe Road/White Rock Road
7. Latrobe Road/Golden Foothill Parkway (N)
8. Latrobe Road/Suncast Lane
9. Latrobe Road/ Golden Foothill Parkway (S)
10. Latrobe Road/Investment Boulevard
11. Latrobe Road/Avanti Drive
12. Latrobe Road/Royal Oaks Drive
13. Golden Foothill Pkwy/Robert J. Mathews Pkwy
14. Investment Boulevard/Robert J. Mathews Pkwy
15. Golden Foothill Parkway/Carson Crossing Road
16. Carson Crossing Road/Calypso Circle
17. Carson Crossing Road/Four Seasons Drive

[2] El Dorado County Transportation Commission (2020) El Dorado County Active Transportation Plan, https://www.edctc.org/atp-plans.

18. White Rock Road/Carson Crossing Road
19. White Rock Road/Windfield Way
20. White Rock Road/Post Street
21. White Rock Road/Valley View Parkway
22. White Rock Road/Clarksville Crossing
23. Silva Valley Parkway/US 50 EB ramps
24. Silva Valley Parkway/US 50 WB ramps
25. Latrobe Road/Commercial RIRO driveway
26. Latrobe Road/Wetsel-Oviatt Road
27. Latrobe Road/South Shingle Road

Merge/diverge/weave analysis for traffic entering and exiting US 50 will be conducted on US 50 at the following locations:

Westbound US 50

1. Bass Lake Rd to Silva Valley Pkwy (basic)
2. Silva Valley Pkwy offramp (diverge)
3. Silva Valley Pkwy offramp to the (future) loop onramp (basic)
4. (Future) Silva Valley loop onramp (merge)
5. Silva Valley Pkwy slip onramp to El Dorado Hills Blvd offramp (weave)
6. El Dorado Hills Blvd offramp to onramp (basic)
7. El Dorado Hills Blvd onramp (merge)
8. El Dorado Hills Blvd to EDC line (basic)

Eastbound US 50

9. EDC line to Latrobe Rd (basic)
10. Latrobe Rd slip offramp (diverge)
11. Latrobe Rd loop offramp (diverge)
12. Latrobe Rd offramp to onramp (basic)
13. Latrobe Rd to Silva Valley Pkwy (weave)
14. Silva Valley Pkwy offramp to loop onramp (basic)
15. Silva Valley Pkwy onramp (merge)
16. (Future) Silva Valley slip onramp (merge)
17. Silva Valley Pkwy to Bass Lake Rd (basic)

Arterial segment analysis was conducted for the portion of Latrobe Road and White Rock Road:

i. Latrobe Rd between Royal Oaks Dr and Investment Blvd
ii. Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south)
iii. Latrobe Rd between Golden Foothill Pkwy (south) and Suncast Ln)
iv. Latrobe Rd between White Rock Rd and Town Center Blvd
v. White Rock Rd between Valley View Pkwy to Silva Valley Pkwy

2.5 Study Scenarios

Six scenarios were identified for inclusion in this Traffic Impact Analysis through consultation with the development team and El Dorado County staff. The study determines the weekday AM peak

hour and PM peak hour level-of-service at the study intersections and segments under the following scenarios:

1. Existing 2023 (without Project);
2. Existing 2023 Plus Proposed Project;
3. Existing Plus Approved Projects (EPAP) 2033 (without project);
4. EPAP 2033 Plus Proposed Project;
5. Cumulative 2040 (without project); and
6. Cumulative 2040 Plus Proposed Project.

Existing 2023, and Existing 2023 Plus Proposed Project Scenarios

An analysis of the existing condition, which reflects the traffic volumes and roadway geometry at the time the study was initiated. This scenario is analyzed both with and without Project traffic to identify any Project related traffic deficiencies.

EPAP 2033, and EPAP 2033 Plus Proposed Project Scenarios

These scenarios, with and without the Project, will analyze conditions ten years from the current year calculated using a straight-line interpolation from existing traffic levels to the General Plan's 2040 traffic projections. These scenarios will expressly include an interpolated level of traffic from all projects with development agreements and approved tentative maps.

Cumulative 2040, and Cumulative 2040 Plus Proposed Scenarios

The Cumulative 2040 scenario reflects market rate buildout of the nearby specific plan areas and approved tentative maps in the El Dorado Hills area. This scenario was analyzed both with and without Project traffic to identify any Project related traffic deficiencies.

CEQA VMT analysis was performed for the existing and cumulative analysis scenarios.

3.0 TRAFFIC IMPACT ANALYSIS METHODOLOGY

This section provides a process overview, discusses traffic forecasting, and describes the methods/criteria used to evaluate level-of-service. A discussion of the criteria for conformity with General Plan level-of-service policies is included. California Environmental Quality Act (CEQA) analysis of transportation is limited to vehicle miles of travel (VMT). A discussion of CEQA significance thresholds for VMT is also included.

3.1 Process Overview

The overall analysis process was structured to identify potential adverse Project traffic effects relative to either conformity to General Plan level-of-service policies, or CEQA VMT impacts.

- Traffic counts collected in 2023 and crosschecked against historic 2017 and 2018 counts.
- Traffic volumes and turning movements for the Existing 2023 conditions were determined from traffic counts. Future-year volume forecasts were based on growth estimates from the El Dorado County travel demand mode (TDM)[3] applied to the observed count data. The NCHRP 255 procedure[4] was used to refine forecasted turning movements.
- Study intersections, arterial segments, and the US 50 segments were analyzed both with and without the proposed Project to identify potential Project impacts.
- General Plan level-of-service thresholds were based on El Dorado County General Plan, Transportation and Circulation Element policies TC-Xa (Measure Y and Measure E policies), TC-Xd and TC-Xe.
- CEQA thresholds of significance for VMT are based on guidance adopted by the Board of Supervisors on October 6, 2020.

3.2 Traffic Forecasting Methodology

The TDM catalog "EDC_CAT_082118" was used to generate existing and future traffic volume estimates for calculation of growth factors, and to estimate the distribution for trips generated by the Project. The TDM includes a 2018 baseline and 2040 cumulative scenario. Straight line interpolation was applied to estimate incremental growth from the base year through 2023, 2030, and 2040.

TDM Segment Level Calibration

The TDM was calibrated to local roadways by estimating and applying link level adjustment factors based on the difference between traffic counts and a 2023 TDM scenario. That calibration factor is applied to the 2023, 2033, and 2040 TDM results to improve the accuracy of the volume forecasts at each intersection. The NCHRP 255 process was used in combination with observed turning movements, and the calibrated 2020, 2030, and 2040 model volumes, to refine turning movements for no-Project conditions.

[3] El Dorado Travel Demand Model version "EDC_CAT_082118".
[4] Transportation Research Board (1982) National Cooperative Highway Research Program Report 255, Washington D.C.

Baseline 2016 TDM Network

The TDM network within the Folsom Ranch area for the 2018 baseline model runs assumed that traffic crossing the El Dorado County Line on White Rock Road would use Scott Road (AKA East Bidwell Street) for US 50 access. Placerville Road and Alder Creek Parkway to East Bidwell Street provides a more direct path. This shorter route exists today and Folsom's General Plan update (adopted 8/28/2018) preserves that Placerville Road-Alder Creek Parkway route through the Folsom Plan Area. Therefore, these network links were connected and turned on for the baseline 2018 model runs.

2040 Traffic Forecasts and Interpolation of 2030 Link Volumes

Growth in traffic for the EPAP scenario was based on linear interpolation of segment volumes between the Baseline 2018 scenario (with the Saratoga Way extension), and a cumulative (2040) TDM scenario. Land use was checked to ensure that it reflected a reasonable degree of buildout of the nearby specific plan areas and to ensure that interpolation of that land use would account for all approved tentative maps in the El Dorado Hills area.

- The model reflects buildout of the Carson Creek Specific Plan housing. There are 1,700 age-restricted dwelling units currently allowed within the CCSP. Age restricted dwelling units have lower trip generation than traditional homes[5] and the TDM reflects this by coding the land use as a smaller number of traditional homes. The 1,700 age-restricted homes would be reflected as 765 traditional single-family homes in the TDM. The model includes 1,042 homes in the CCSP area (reflecting approximately 2315 age-restricted homes). The County's buildout estimate is conservatively high and was not adjusted.
- Buildout of the El Dorado Hills Specific Plan is included in the 2040 model land use.
- Buildout of Promontory is included in the 2040 model land use.
- Buildout of Valley View Specific Plan (VVSP) (Blackstone) White Rock Village and West Valley Village is included in the 2040 model land use.
- Bass Lake Hills is a little under 85% built out (1,217 DUs out of 1,448) by 2040. Based on the rate of buildout of the Bass Lake Hills Specific Plan area the assumption of 85% buildout appears conservative and was not increased.

The 2040 model network was also updated to include the Mangini Parkway connection between Placerville Road and East Bidwell Street in the Folsom Plan area.

3.3 Intersection Turn Movement Forecast Methodology

Directional link level volume estimates from the 2018 and 2040 TDM model forecasts were used to scale traffic counts using the NCHRP 255 methodology. The methodology was applied through the TurnsW32 v2.0 software[6]. TDM result plots are provided in **Appendix C**. The Furness reports

[5] Age restricted housing generates about 45% of the daily trips of traditional housing, 33% of the AM peak hour trips, and 30% of the PM peak hour trips (Source: ITE Trip Generation Manual, 10th edition).
[6] Dowling Associates (2002), http://sites.kittelson.com/kittelsondownloads/Downloads/Download/12544.

for the AM and PM peak hour turn movement forecasts under EPAP 2033 and Cumulative 2040 conditions are provided in **Appendix D**.

3.4 VMT Modeling Methodology and CEQA Significance Thresholds

VMT was analyzed based on extracting information from an unmodified version of the El Dorado County TDM. Before discussing the specific approach, background information on how the El Dorado County TDM works is appropriate. The TDM is a traditional trip based four-step travel demand model (trip generation, distribution, mode choice and assignment) with a 2018 base year and 2040 horizon year. Trip productions and attractions are estimated at the transportation analysis zone (TAZ) level. Within developed portions of the County, TAZs are roughly neighborhood size areas for which population socioeconomic data is tabulated. (TAZs are larger in less populated rural portions of the County). Trips are estimated by trip purpose based on eight purposes:

- Home based work,
- Home based shop,
- Home based school,
- Home based other,
- Work other,
- Other-other,
- Commercial two axle, and
- Commercial 3+ axle

As trips are estimated and processed by the model, they are converted from productions and attractions by purpose to origins and destinations by class (single occupancy, shared ride, commercial two-axle and commercial three-plus-axle. Trips are then assigned to the network by class using the origin-destination data. Through trips are also assigned based on an external origin-destination table. Both the production-attraction and origin-destination data are preserved in large matrices which can be leveraged to disaggregate the model's VMT estimates into VMT by trip purpose for evaluating the residential portion of the Project.

There are 674 TAZs in the model (25 of which represent external gateways) connected by 7,171 road segments. Each Taz is represented by a centroid corresponding to the approximate center of travel activity with the TAZ. Each road segments includes relevant characteristics (location, uncongested speed, number of lanes, capacity, etc.) that allow the model to estimate travel times as trips are assigned to the network. **Figure 4** depicts the model road network with dots reflecting the centroid of each TAZ and red dots reflecting the model gateways. TAZ 612 where the project is located is represented by a red star. **Figure 5** then shows the shape and extent of TAZ's near the Project site, with TAZ 612 (where the Project is located) and adjacent residential TAZes which are predominantly residential (167 and 611) labeled.

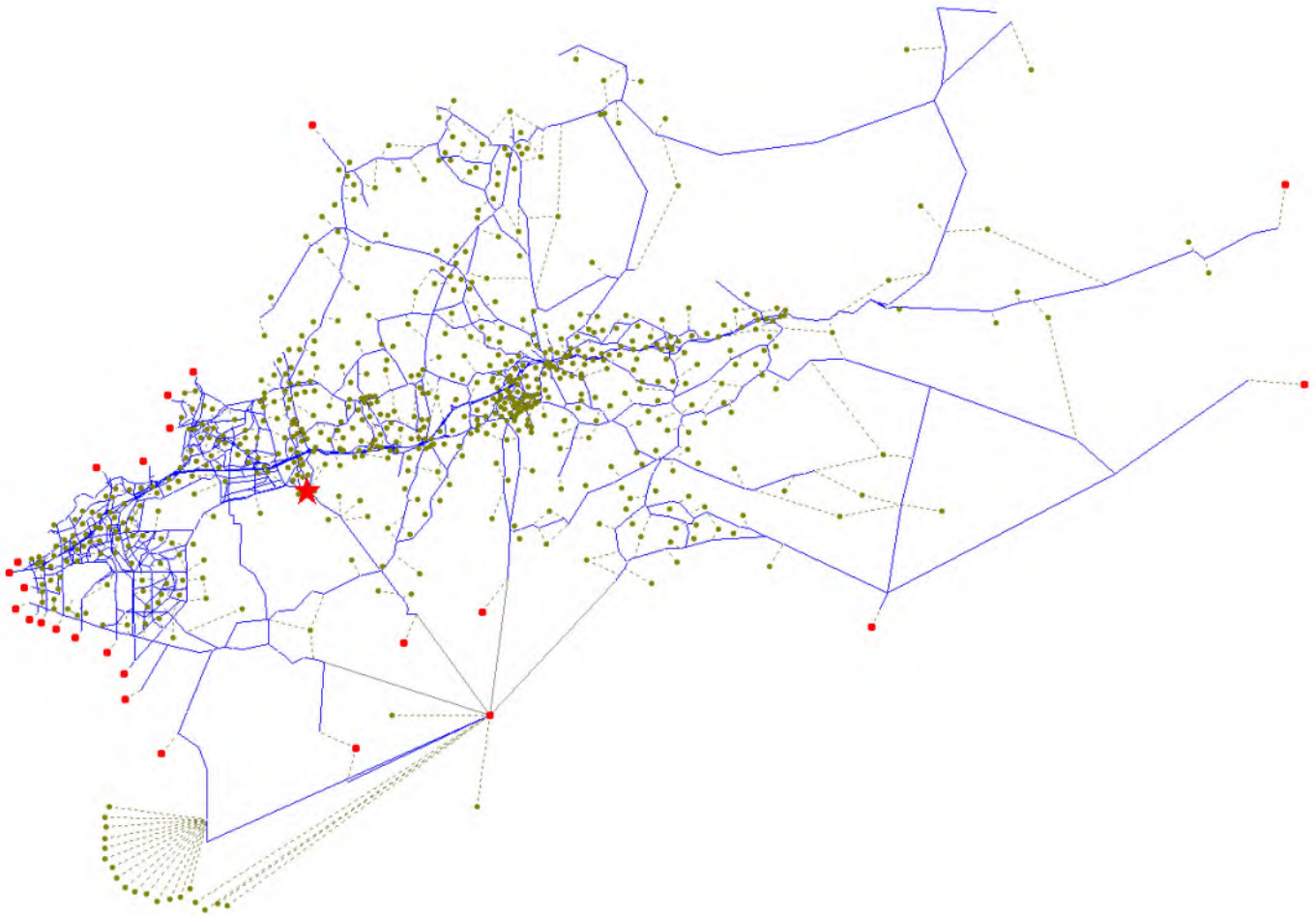


Figure 4. Travel demand model network and zone layout, Project TAZ (#612) shown as a star

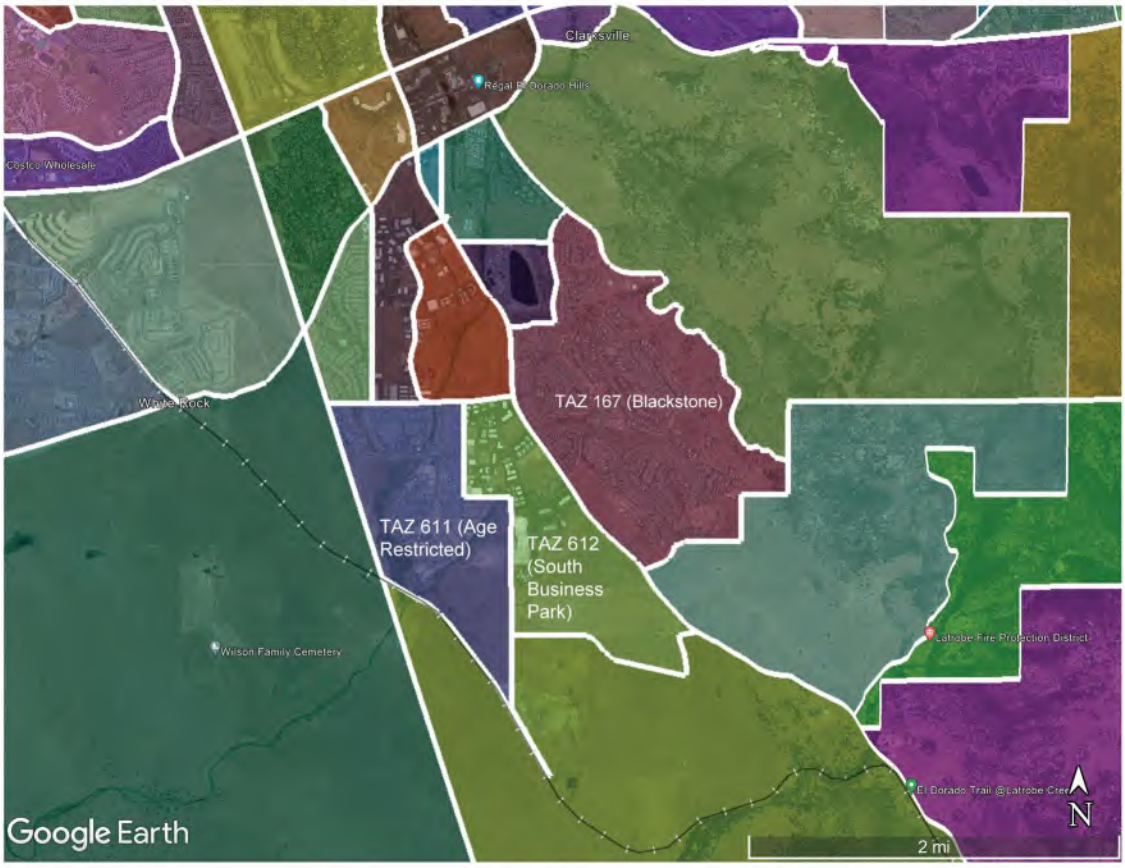


Figure 5. TAZ layout in the Project vicinity.

A three-step process for the baseline and cumulative analysis years was used to estimate per capita home based VMT.

Step 1. This step estimated TAZ[7]-to-TAZ distances from TDM skims, then combined those data with the number of TAZ-to-TAZ trips from the model's OD tables to estimate TAZ-to-TAZ VMT for drive along, shared ride, and commercial vehicles. Using the loaded networks accounts for any increases in trip distance that may result from congestion. In this step, model gateway trip lengths were adjusted based on **Table 1**. Those adjustments reflect the anticipated trip lengths for travel to/from El Dorado County from other parts of the region and state. This adjustment ensures that the TDM accounts for the full length of trips entering and exiting the County. The lengths for intrazonal trips (which have their origin and destination within the same TAZ) were estimated as half of the length of the

[7] TAZs are "transportation analysis zones", which are typically neighborhood size regions for which land use and demographic details, such as housing, employment, and population data are tabulated. The El Dorado County TDM has 674 TAZs.

TAZ's shortest centroid connector, which is the industry standard practice, and consistent with the County's VMT estimates.

Table 1. Average trip-length adjustments for TDM gateways

ID	Gateway Location	Average Additional Travel Distance (miles)	
		Internal to External (IX) Trips	External to Internal (XI) Trips
650	US 50 (to/from the west)	12.41	13.08
651	Dillard Rd	4.11	3.96
652	Sloughhouse Rd	0.00	0.00
653	Grant Line Rd/Sunrise Blvd	31.33	20.39
654	Excelsior Rd	11.07	10.38
655	Bradshaw Rd	11.32	8.80
656	Mayhew Rd	0.00	0.00
657	Jackson Rd (SR 16)	6.91	6.40
658	Local access between Bradshaw Rd and Excelsior Rd	0.00	0.00
659	Eagles Nest Rd	0.00	0.00
660	Folsom Blvd	7.73	7.19
661	Kiefer Blvd	8.88	8.54
662	Sunrise Blvd	5.47	6.14
663	Hazel Ave	8.16	5.41
664	Folsom Auburn Rd	10.17	12.66
665	Greenback Ln	5.43	5.17
666	Oak Ave	6.97	7.44
667	SR 49 (to/from the south)	0.00	0.00
668	Jackson Rd/Latrobe Rd/SR 49/Omo Ranch Rd	15.96	14.21
669	Jackson Rd	0.00	0.00
670	Latrobe Rd	0.00	0.00
671	SR 49 (to/from the north)	18.61	16.28
672	SR 88	0.00	0.00
673	N. South Rd	3.73	3.82
674	US 50 (to/from the east)	19.21	18.38

Note: Internal to External (IX) trips are trips that begin inside the El Dorado County model area and end outside. External to Internal (XI) trips are trips that begin outside the El Dorado County model area and end inside. Source: California Statewide Travel Demand Model.

Source: California Statewide Travel Demand Model as cited by Fehr and Peers in the Central El Dorado Hills Specific Plan VMT Analysis Memorandum dated January 5, 2021.

Step 2 This step estimated drive along, shared ride, and commercial vehicle trips by trip purpose from TDM trip production and attraction matrices. Then converted those data to the fraction of trip origins and destinations by trip purpose for each TAZ.

Step 2 The final step used the trip purpose data for each TAZ from task 2 to disaggregate the VMT data for each TAZ from task 1 into TAZ-to-TAZ VMT by trip purpose. Home based trips were assumed to consist of "home-based work", "home-based shop", "home-based school", "home-based other", and a portion of "other-other". Work-based trips were estimated as "work-other" and a portion of "other-other" trips. The other-other trips were allocated to the housing-based or work-based groups based on the ratio of home-other to work-other trips for each TAZ.

The resulting tables were summarized over unincorporated El Dorado County, and for TAZ 167 which was used as a surrogate for the Project[8]. TAZ 167 represents the Blackstone neighborhood across Latrobe Road from the Project. Blackstone was assumed to be the best available proxy for household size and income characteristics of the Project. It is likely a conservative comparison as the Project is envisioned to offer a wider variety of housing options with a diverse mix of housing styles and prices, where Blackstone was aimed at a higher income demographic. VMT per capita tends to increase as household income increases. The TDM is based in the CUBE software package by Bently Systems. Scripts used in each calculation step are provided **Appendix E**.

VMT Thresholds

The County's VMT thresholds set an identifiable metric by which the Project's effect on VMT will be determined to be significant or less-than-significant. Land use specific thresholds have been adopted as follows:

- Residential: 15% below baseline unincorporated countywide VMT per capita,
- Office: 15% below baseline unincorporated countywide VMT per capita,
- Retail: no net increase in VMT.

As noted by the Governor's Office of Planning and Research, adding local-serving retail into the urban fabric improves retail destination proximity. Local-serving retail development tends to shorten trips and reduce VMT. Thus, lead agencies may presume such development creates a less-than-significant impact. (Regional serving retail on the other hand can substitute longer trips for shorter ones, which may lead to a significant impact.)

[8] Using a nearby TAZ as a surrogate avoids the need to artificially manipulate the socioeconomic distribution assumptions for the affected population. When a new TAZ is used, the distribution of socioeconomic characteristics for the households is copied and scaled from a similar nearby TAZ (i.e., TAZ 167). Using the existing TAZ as a surrogate maintains the County wide population and employment control totals that were adopted by the Board of Supervisors when the travel demand model and major TIF update are adopted. Artificially inflating the county wide population and employment can have nonsensical impacts on the resulting per capita VMT estimates.

The Governor's Office of Planning and Research advises lead agencies evaluate each component of a mixed-use project independently and apply the significance threshold for each project type included (e.g., residential and retail). Alternatively, a lead agency may consider only the project's dominant use. In the analysis of each use, a project should take credit for internal capture. Combining different land uses and applying one threshold to those land uses may result in an inaccurate impact assessment.

For Creekside Village, the residential portion of the Project is evaluated based on the 15% reduction from baseline threshold listed above. The retail portion of the Project is considered local-serving retail and presumed to have a less-than-significant impact on VMT.

3.5 Level-of-Service Methodology

Level-of-service (LOS) is a qualitative indication of the level of delay and congestion experienced by motorists using an intersection. Levels-of-service are designated by the letters A through F, with "A" being the best conditions and "F" being the worst (high delay and congestion). Calculation methodologies, measures of performance, and thresholds for each letter grade differ for road segments, signalized intersections, and unsignalized intersections. LOS is analyzed only to demonstrate consistency with the General Plan. LOS is no longer the metric by which traffic impacts are analyzed for CEQA and the LOS discussion is not relevant to assessing impacts to the environment for purposes of CEQA.

Based on guidance from El Dorado County Community Development Agency staff, and the *County of El Dorado Department of Transportation – Traffic Impact Study Protocols and Procedures* (Dated November 2014), the following procedures described below for intersection traffic operations analysis were selected for this study.

Intersection Traffic Operations Analysis

Signalized Intersections

The methodology from Highway Capacity Manual (HCM) 7th Edition[9] are used to analyze signalized intersections. Level-of-service can be characterized for the entire intersection, each approach, or by lane group. Control delay alone (the weighted average delay for all vehicles entering the intersection) is used to characterize level-of-service for the entire intersection or an approach. Control delay and volume to capacity ratio are used to characterize level-of-service for lane groups. The average delay criteria used to determine the level-of-service at signalized intersections is presented in **Table 2**.

[9] TRB (2022) Highway Capacity Manual 7th Edition, Transportation Research Board, Washington D.C.

Table 2. Level-of-service criteria for signalized intersections

Level -of- Service	Description	Average Delay[1] (Sec. /Vehicle.)
A	Very Low Delay: This level-of-service occurs when progression is extremely favorable, and most vehicles arrive during a green phase. Most vehicles do not stop at all.	≤ 10.0
B	Minimal Delays: This level-of-service generally occurs with good progression, short cycle lengths, or both. More vehicles stop than at LOS A, causing higher levels of average delay.	10.1-20.0
C	Acceptable Delay: Delay increases due to only fair progression, longer cycle lengths, or both. Individual cycle failures (*to service all waiting vehicles*) may begin to appear at this level of service. The number of vehicles stopping is significant, though many still pass through the intersection without stopping.	20.1-35.0
D	Approaching Unstable/Tolerable Delays: The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	35.1-55.0
E	Unstable Operation/Significant Delays: This is considered by many agencies the upper limit of acceptable delays. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.	55.1-80.0
F	Excessive Delays: This level, considered to be unacceptable to most drivers, often occurs with oversaturation (i.e., when arrival flow rates exceed the capacity of the intersection). It may also occur at high v/c ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also contribute to such delay levels.	> 80.0 or v/c >1.0

Note 1: Weighted average of delay on all approaches. This is the measure used by the Highway Capacity Manual to determine level-of-service. Any movement with a volume to capacity ratio (v/c) greater than 1.0 is considered to be level-of-service "F".

Source: Transportation Research Board (2022) Highway Capacity Manual, 6th Edition, Washington D.C., Chapter 19;

Unsignalized Intersections

The methodology from HCM 7th Edition is used for the analysis of unsignalized intersections. For unsignalized intersections, most of the main street traffic is un-delayed, and, by definition, have acceptable conditions. The main street left-turn movements and the minor street movements are all susceptible to delay of varying degrees. Generally, the higher the main street traffic volumes, the higher the delay for the minor movements. Separate methods are utilized for two-way stop-controlled (TWSC) intersections, and all-way stop-controlled (AWSC) intersections.

- **TWSC**: The methodology for analysis of two-way stop-controlled intersections calculates an average total delay per vehicle for each minor street movement and for the major

street left-turn movements, based on the availability of adequate gaps in the main street through traffic. A level-of-service designation is assigned to individual movements or to combinations of movements (in the case of shared lanes) based upon delay, it is not defined for the intersection as a whole. Unsignalized intersection level-of-service reported herein is for each movement (or group of movements) based upon the respective average delay per vehicle. **Table 3** presents the average delay criteria used to determine the level-of-service at TWSC and at AWSC intersections.

- **AWSC:** At all-way stop-controlled intersections, the level-of-service is determined by the weighted average delay for all vehicles entering the intersection. The methodologies for these types of intersections calculate a single weighted average delay and level-of-service for the intersection, as a whole. The average delay criteria used to determine the level-of-service at all-way stop intersections is the same as that presented in **Table 3**. Level-of-service for specific movements can also be determined based on the TWSC methodology.

It is not unusual for some of the minor street movements at unsignalized intersections to have level-of-service D, E, or F conditions while the major street movements have level-of-service A, B, or C conditions. In such a case, the minor street traffic experiences delay that can be substantial for individual minor street vehicles, but the majority of vehicles using the intersection have very little delay. Usually in such cases, the minor street traffic volumes are relatively low. If the minor street volume is large enough, improvements to reduce the minor street delay may be justified, such as channelization, widening, roundabout, or signalization.

Table 3. Level-of-service criteria for unsignalized intersections

Level of Service (LOS)	Description	TWSC[1] Average Delay by Movement (seconds / vehicle)	AWSC[2] Intersection Wide Average Delay (seconds / vehicle)
A	Little or no delay	< 10	< 10
B	Short traffic delay	> 10 and < 15	> 10 and < 15
C	Average traffic delays	> 15 and < 25	> 15 and < 25
D	Long traffic delays	> 25 and < 35	> 25 and < 35
E	Very long traffic delays	> 35 and < 50	> 35 and < 50
F	Extreme delays potentially affecting other traffic movements in the intersection	> 50 (or, v/c >1.0)	> 50

Note 1: Two-way stop-control (TWSC) level-of-service is calculated separately for each minor street movement (or shared movement) as well as major street left turns using these criteria. Any movement with a volume to capacity ratio (v/c) greater than 1.0 is considered to be level-of-service F.

Note 2: All-way stop-control (AWSC) assessment of level-of-service at the approach and intersection levels is based solely on control delay.

Source: Transportation Research Board (2022) Highway Capacity Manual, 7th Edition, Washington D.C., Chapter 20 (TWSC) and Chapter 21 (AWSC).

Signal Warrants

At each unsignalized intersection, the potential need for a traffic signal was evaluated. Traffic signal warrants are a series of standards that provide guidelines for determining if a traffic signal is appropriate. Signal warrant analyses are typically conducted at intersections of uncontrolled major streets and stop sign-controlled minor streets. If one or more signal warrants are met, signalization of the intersection may be appropriate. However, a signal should not be installed if none of the warrants are met, since the installation of signals would increase delays on the previously uncontrolled major street and may increase the occurrence of particular types of accidents.

As stated in revision 8 of the 2014 California Edition of the Manual on Uniform Traffic Control Devices (California MUTCD 2014)[10], "*The investigation of the need for a traffic control signal shall include an analysis of factors related to the existing operation and safety at the study location and the potential to improve these conditions, and the applicable factors contained in the following traffic signal warrants:*

- *Warrant 1, Eight-Hour Vehicular Volume*
- *Warrant 2, Four-Hour Vehicular Volume*
- *Warrant 3, Peak Hour*
- *Warrant 4, Pedestrian Volume*
- *Warrant 5, School Crossing*
- *Warrant 6, Coordinated Signal System*
- *Warrant 7, Crash Experience*
- *Warrant 8, Roadway Network*
- *Warrant 9, Intersection Near a Grade Crossing*

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal."

Consistent with the industry standard of practice, this Traffic Impact Analysis did not evaluate the full panoply of warrants for traffic signals, but instead focused on the peak hour warrant. The MUTCD states that, "*This [peak hour] signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.*" So, the peak hour warrant is being used in this impact analysis study as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed the peak hour warrant are considered (for the purposes of this impact analysis) to be likely to meet one or more of the other signal warrants (such as the 4-hour or 8-hour warrants). This peak hour analysis is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction.

[10] Caltrans (2024) California Manual on Uniform Traffic Control Devices - FHWA's MUTCD 2009 Edition as amended for use in California - 2014 Edition - Revision 8, January 11, 2024. Section 4C.

Unsignalized intersections were evaluated using the Peak Hour Volume Warrant (Warrant No. 3) in the California MUTCD 2014. The Peak Hour Volume Warrant was applied where the minor street experiences long delays in entering or crossing the major street for at least one hour in a day.

Even if the Peak Hour Volume Warrant is met, a more detailed signal warrant study is recommended before a signal is installed. The more detailed study should consider volumes during the daily peak hours of roadway traffic, pedestrian traffic, and accident histories.

El Dorado County Roadway Segments

Several methods are available to evaluate roadway segments. The methodology selected for this analysis was chosen to be consistent with the 2014 El Dorado County Transportation Impact Study Guidelines.

Table 1 of that document contains the maximum flow rates for each level-of-service grade as a function of roadway classification. Those level-of-service criteria are shown in **Table 4**.

Table 4. Level-of-service criteria for county roadway segments

		HCM 2010 Planning Level Volumes[1]				
Code	**Functional Class Codes (Updated to HCM 2010)**	**A**	**B**	**C**	**D**	**E**
2A	Two-Lane Arterial	-	-	850	1,540	1,650
4AU	Four-Lane Arterial, Undivided	-	-	1,760	3,070	3,130
4AD	Four-Lane Arterial, Divided	-	-	1,850	3,220	3,290
6AD	Six-Lane Arterial, Divided	-	-	2,760	4,680	4,710
4M	Four-Lane Multi-Highway (Two Dir.)	-	2,240	3,230	4,250	4,970
2F	Two Freeway Lanes (One Dir.)	-	2,070	2,880	3,590	4,150
2FA	Two Freeway Lanes + Auxiliary Lane (One Dir.)	-	2,610	3,630	4,520	5,230
3F	Three Freeway Lanes (One Dir.)	-	3,100	4,320	5,380	6,230
3FA	Three Freeway Lanes + Auxiliary Lane (One Dir.)	-	3,640	5,070	6,320	7,310
4F	Four Freeway Lanes (One Dir.)	-	4,140	5,760	7,180	8,310

1 *Freeway LOS based on HCM 2010, Exhibit 10-8, Urban Area, Rolling Terrain, K-factor of 0.09, and D-factor of 0.60*

2-lane highway (and arterial 2-lane) LOS based on HCM 2010, Exhibit 15-30, Class II Rolling, .09 K-factor, and D-factor of 0.6

Arterial LOS based on HCM 2010, Exhibit 16-14, K-factor of 0.09, posted speed 45 mi/h

Volumes are for both directions unless noted

Caltrans Merge/Diverge/Weave Level-of-Service Analysis

Freeway merge/diverge segments, basic segments, and weaving segments were analyzed utilizing the methodologies outlined in Chapters 12-14 of the Highway Capacity Manual, 7th Edition (HCM 2016)[11]. Freeway operations and level-of-service is defined by density (passenger cars per mile per lane) which depends upon traffic volumes and the ramp characteristics. These characteristics include the length and type of acceleration/deceleration lanes; free-flow speeds; number of lanes;

[11] Transportation Research Board (2022) Highway Capacity Manual, 7th Edition, Washington, D.C.

grade; and types of facilities. **Table 5** through **Table 7** shows the relationship of level-of-service to freeway density. Note that the Leisch Method[12], which Caltrans prefers for weaving segments, was not applied because the State of California no longer considers level-of-service under CEQA, and the Leisch Method is not relevant to adopted General Plan policies.

Table 5. Level-of-Service Criteria – Basic freeway segment

Level of Service	Maximum Density (passenger vehicles per mile per lane)
A	0-11
B	>11-18
C	>18-26
D	>26-35
E	>35-45
F	>45, or demand exceeds capacity

Source: Transportation Research Board (2022) Highway Capacity Manual, Chapters 12, Washington, D.C.

Table 6. Level-of-Service Criteria - Freeway ramp merge/diverge areas

Level of Service	Maximum Density (passenger vehicles per mile per lane)
A	0-10
B	>10-20
C	>20-28
D	>28-35
E	> 35
F	Demand exceeds capacity

Source: Transportation Research Board (2022) Highway Capacity Manual, Chapters 14, Washington, D.C.

Table 7. Level-of-service criteria - freeway weaving areas

Level of Service	Maximum Density (passenger vehicles per mile per lane)
A	0-10
B	>10-20
C	>20-28
D	>28-35
E	> 35-43
F	>43, or demand exceeds capacity

Source: Transportation Research Board (2022) Highway Capacity Manual, Chapters 13, Washington, D.C.

[12] Caltrans (2012) Highway Design Manual, Index 504.7

3.6 General Plan Level-of-Service Standards

Conformity to General Plan level-of-service policies for the Project were determined based on the methods described above and identified as either "significant" or "less-than-significant" in accordance with El Dorado County protocols and procedures[13] . However, level-of-service is only applicable to General Plan conformity. Delay and level-of-service is not a significant impact under CEQA.

General Plan Circulation Policy TC-Xd provides that level-of-service for county-maintained roads and state highways within the unincorporated areas of the county shall not be worse than level-of-service E in the community regions or level-of-service D in the rural centers and rural regions, unless specifically exempted as shown in **Table 8**.

Table 8. General plan exceptions to level-of-service standards

El Dorado County Roads Allowed to Operate at Level-of-Service F[a] (Through December 31, 2029)		
Road Segments		**Max. v/c[b]**
Cambridge Road	Country Club Drive to Oxford Road	1.07
Cameron Park Drive	Robin Lane to Coach Lane	1.11
Missouri Flat Road	US 50 to Mother Lode Drive	1.12
	Mother Lode Drive to China Garden Road	1.20
Pleasant Valley Road	El Dorado Road to State Route 49	1.28
US 50	Canal Street to junction of State Route 49 (Spring Street)	1.25
	Junction of State Route 49 (Spring Street) to Coloma Street	1.59
	Coloma Street to Bedford Avenue	1.61
	Bedford Avenue to beginning of freeway	1.73
	Beginning of freeway to Washington overhead	1.16
	Ice House Road to Echo Lake	1.16
State Route 49	Pacific/Sacramento Street to new four-lane section	1.31
	US 50 to State Route 193	1.32
	State Route 193 to county line	1.51

Note a: Roads improved to their maximum width given right-of-way and physical limitations
Note b: Volume-to-capacity ratio.
Source: 2004 General Plan (amended January 2009) Table TC-2

All but two study intersections are within the El Dorado Hills community region and shall operate at level-of-service E or better. Intersection #22 (White Rock Rd/Clarksville Crossing) and #23 (White Rock Road/US 50 EB) are outside of the community region and shall operate at level-of-service D or better. If a project causes the peak hour level-of-service or volume/capacity ratio on a county road or state highway that would otherwise meet the county standards (without the project) to exceed the values listed in the above tables and text, then the impact shall be considered significant. Because this Traffic Impact Analysis is not a CEQA document, facilities and intersections will be noted as having deficient level-of-service rather than an impact.

[13] Traffic Impact Study Protocols and Procedures, County of El Dorado, Department of Transportation, 2008.

If any county road or state highway fails to meet the above listed county standards for peak hour level-of-service or volume/capacity ratios under without Project conditions, and the Project will "significantly worsen" conditions on the road or highway, then the impact shall be considered significant. The term, "significantly worsen" is defined for the purpose of this paragraph according to General Plan Policy TC-Xe as follows:

A. A two percent increase in traffic during the AM peak hour, PM peak hour, or daily; or,

B. The addition of 100 or more daily trips; or,

C. The addition of 10 or more trips during the AM peak hour or the PM peak hour.

Though not explicitly stated in the General Plan policies, 95% left turn queues that exceed available storage lengths are considered to operate deficiently. The highway capacity manual calculations assume that left turn queues do not typically spill out of turn pockets to block through traffic. In keeping with the state of the practice, where the Project adds less than one car length (25 feet) to 95% left turn queues that exceed available storage, that addition is considered to de minimis.

3.7 Analysis Tools

El Dorado County Travel Demand Model (TDM)

As noted in prior sections, The El Dorado County Travel Demand Model (version EDC_CAT_082118) was utilized to estimate VMT and forecast growth in traffic volumes on study area roadways.

NCHRP 255 Adjustment

The NCHRP 255[14] adjustment procedure was used to improve turning movement forecasts for EPAP 2030 and Cumulative 2040 conditions.

Macroscopic Intersection Analysis

Control delay and level-of-service for study intersections were calculated using PTV Vistro[15] traffic analysis software (Version 2024, SP 0-2). Vistro is a complete traffic analysis software package used for evaluating development impacts, optimizing traffic signal timings, and evaluating intersection levels of service. It implements the methodologies of the HCM 2000, 2010, and 6th Ed. for signalized and unsignalized intersections, and requires data on road characteristics (geometric), traffic counts, and the signal timing data for each analysis intersection.

When calculating intersection control delay and level-of-service for all study intersections, default parameters were used, except for locations where specific field data were available (e.g., peak-hour factors). Heavy vehicle percentages during the peak-hour of 2% were assumed.

[14] Transportation Research Board (1982) National Cooperative Highway Research Program Report 255, Washington D.C.
[15] PTV Vistro (2017), Portland OR.

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4.0 EXISTING (2023) CONDITIONS

4.1 Data Sources

The analysis tools require a variety of data to generate the evaluation criteria. The following sections describe data collection procedures for Existing Conditions. There were three primary data elements (roadway characteristics, intersection turning movement counts, and traffic control data); and two supplementary elements (other recent studies, and field data) that comprised the data collection program for this traffic analysis.

Roadway Geometry and Usage Characteristics

The geometry and usage data for the analysis were collected using aerial photographs, field visits, and prior studies. Current intersection geometry was field validated. **Table 9** shows the key items included in the geometric data and the source for each item.

Table 9. Key items and sources for geometry and usage data

Key Item	Source
Lane configurations & width	Aerial photographs and field visits
Lane utilization	Prior studies, aerial photographs, and field visits
Intersection spacing	Aerial photographs and field visits
Length of storage bays	Aerial photographs and field visits
Transit stops and routes	Transit schedules, aerial photographs, and field visits
Turn prohibitions or allowance	Aerial photographs and field visits
Signal timing	Timing sheets provided by El Dorado County

Lane configurations and width – These data specify the number of lanes and the width of the roadway in each direction, and the directional turns that are allowed from each lane.

Lane utilization – These data specify how lanes are used by drivers, such as traffic distribution between lanes on a multi-lane roadway.

Intersection spacing – These data refer to the distance between intersections, which is recorded in feet.

Length of storage bays – These data refer to the length (feet) of available storage for left- or right-turning vehicles where exclusive turn lanes are available. These data are collected for right-turn lanes when the parking lane is used as a right- turn lane.

Transit stops and routes – A transit stop is an area where passengers await, board, alight, and transfer between transit vehicles. A transit route is the roadway that transit vehicles operate on.

Turn prohibitions or allowance – This data specifies if right turns on red (RTOR) are allowed on the roadway.

Intersection Turning Movement Counts

Existing morning and evening peak-period vehicle and pedestrian turning movement counts collected in April 2023 were used for this study. Historic 2017 and 2018 counts were also used as a “floor” to ensure that there were no COVID related reductions in the 2023 counts. Traffic count

data sheets are provided in **Appendix A** of this report. Traffic volumes between intersections were balanced where differences could not reasonably be attributed to a vehicle platoon being held at one of the lights, driveway access between intersections, or shifts in the time of the peak hour from one intersection to another. All balancing was done by adding vehicle trips to the 2023 turning movements. Observed intersection peak hour factors (PHF) were applied. **Figure 6** provides a summary of the intersection lane geometry and peak period turning movements under Existing 2023 conditions.

Segment Counts

Turning movement counts can significantly overstate segment volumes. The practice of balancing traffic flows between adjacent intersections when counts may have been collected on different days and/or the corresponding intersections experience slightly different peak-hours can make those counts too conservative to apply to the segments.

Segment counts collected by El Dorado County on multiple days in 2023 and the development team were used to analyze road segments. Segment counts are summarized in **Table 12** below. Raw count data can be found in **Appendix A.**

4.2 Existing Condition Intersection and Segment Level-of-Service

Table 10 through **Table 12** present a summary of level-of-service results for the study intersections and segments under Existing 2023 conditions. Intersection control is listed as signal, two-way stop-controlled (TWSC), or all-way stop-control (AWSC). Both the estimated delay and level-of-service (LOS) is provided. At TWSC intersections, the movement with the worst delay is shown in parentheses. Ninety-fifth percentile left turn queues are also listed. Entries shown in **bold black** typeface denote deficient traffic operations, and unsignalized intersections that meet the peak hour signal warrant are denoted with an asterisk and shading.

The results indicate fourteen study intersections operate deficiently with level-of-service F conditions and/or 95% left turn queues that exceed available storage lengths.

- (1) El Dorado Hills Blvd/Serrano Pkwy AM;
- (2) El Dorado Hills Blvd/Saratoga Way: AM and PM;
- (3) El Dorado Hills Blvd/US 50 WB AM and PM;
- (5) Latrobe Road/Town Center Boulevard: PM;
- (6) Latrobe Road/White Rock Road AM and PM;
- (7) Latrobe Road/Golden Foothill Parkway (N): PM;
- (8) Latrobe Rd/Suncast Ln PM;
- (9) Latrobe Road/ Golden Foothill Parkway (S): AM and PM;
- (10) Latrobe Road/Investment Boulevard: PM;
- (13) Golden Foothill Parkway (S)/Robert J. Mathewsws Pkwy PM;
- (18) White Rock Road/Carson Crossing Road PM;
- (19) White Rock Road/Windfield Way AM and PM;
- (20) White Rock Road/Post Street: AM and PM; and
- (21) White Rock Road/Valley View Parkway: AM and PM.

Calculation sheets for delay and level-of-service are provided in **Appendix B**. The remainder of the study intersections, all of the US 50 study segments, and arterial study segments were found to operate acceptably.

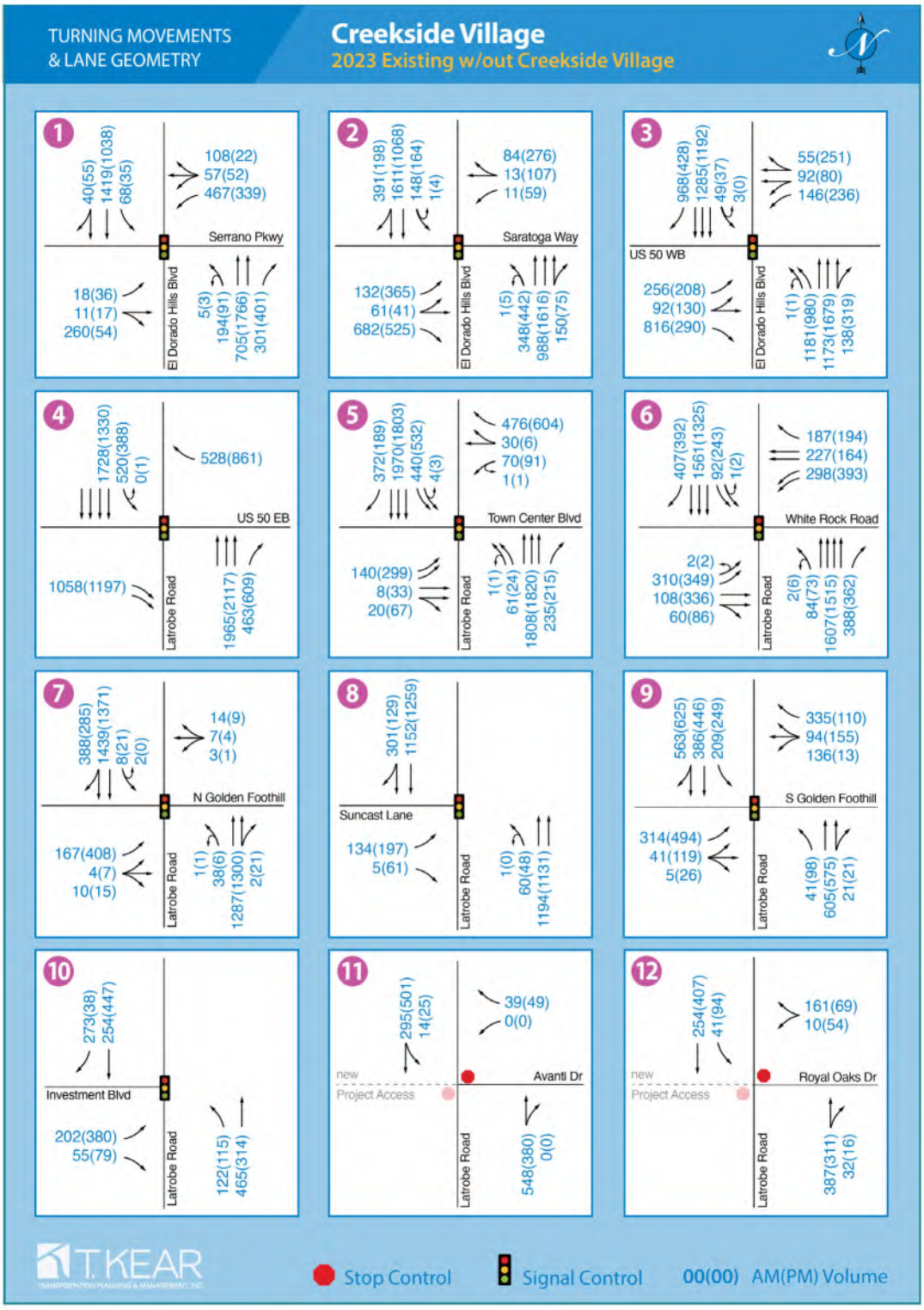


Figure 6. Existing 2023 conditions lane geometry and turning movements

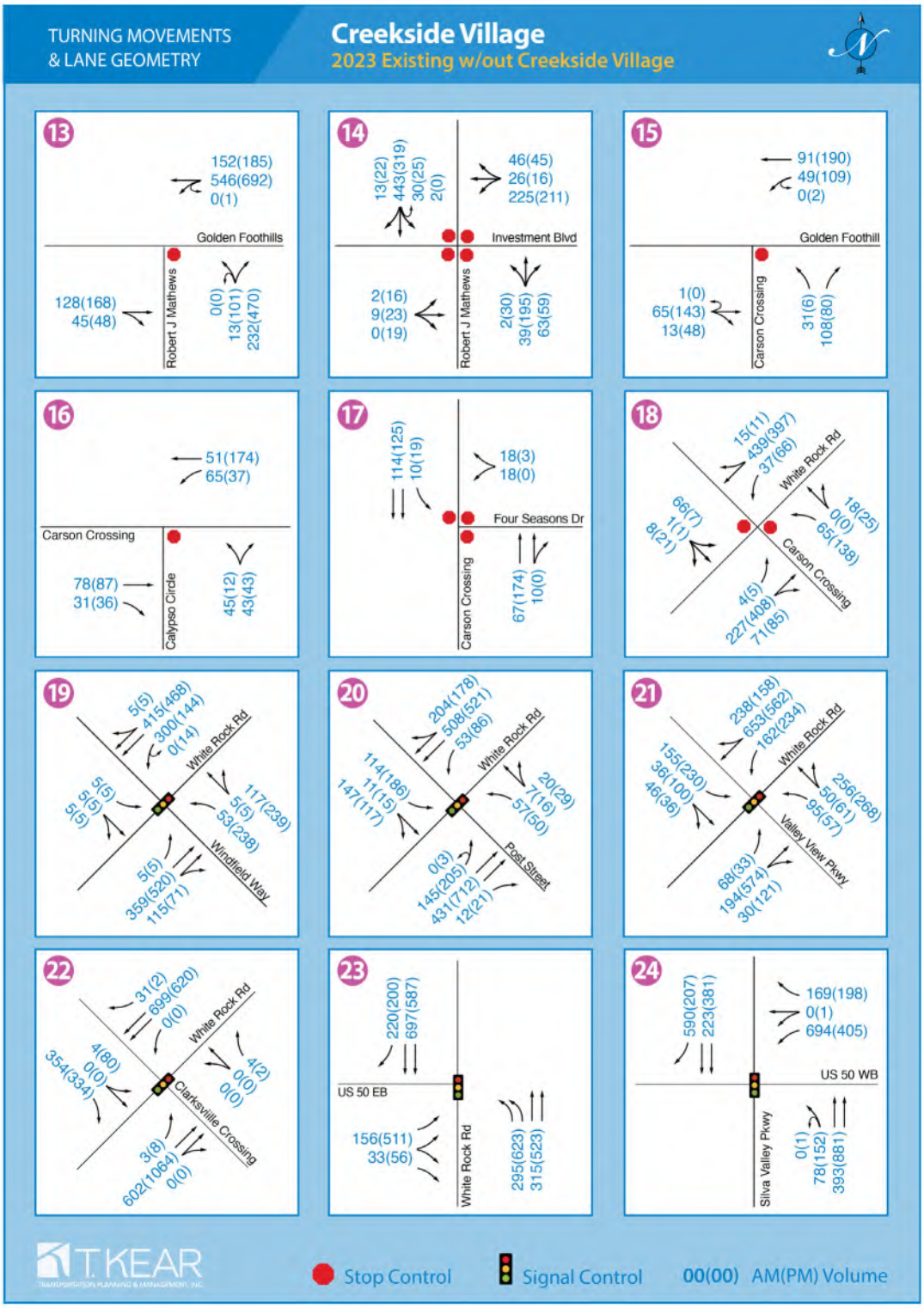


Figure 6. Existing 2023 conditions lane geometry and turning movements (continued)

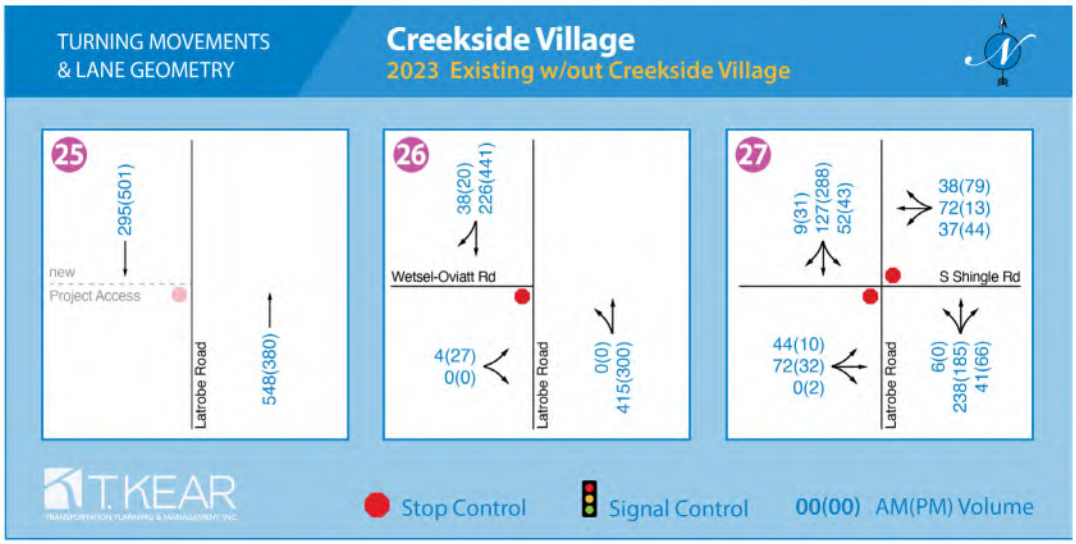


Figure 6. Existing 2023 conditions lane geometry and turning movements (continued)

Table 10. Existing 2023 intersection delay and level-of-service without the Project

ID	Intersection	Control	Left Turn Storage		2023 AM Peak No Project				2023 PM Peak No Project			
					Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)
1	El Dorado Hills Blvd/Serrano Pkwy	Signal	NB	260	**118.3**	**F**	NB	**296**	46.8	D	NB	91
			SB	110			SB	110			SB	38
			EB	100			EB	25			EB	34
			WB	430			WB	423			WB	197
2	El Dorado Hills Blvd/Saratoga Way	Signal	NB	230	**147.8**	**F**	NB	**712**	**107.8**	**F**	NB	**1334**
			SB	100			SB	**202**			SB	**252**
			EB	150			EB	116			EB	**290**
			WB	N/A			WB	N/A			WB	N/A
3	El Dorado Hills Blvd/US 50 WB (Note EBL queueing reported even though there is not a left - turn pocket, it is 250' to end of right-turn pocket.)	Signal	NB	N/A	**94.1**	**F**	NB	N/A	47.9	D	NB	N/A
			SB	220			SB	95			SB	68
			EB	N/A			EB	262			EB	297
			WB	150			WB	**175**			WB	**277**
4	El Dorado Hills Blvd/US 50 EB (Note: EB and WB right queue reported as EB and WB. EB slip offramp is 1725 feet long)	Signal	NB	N/A	23.0	C	NB	N/A	22.8	C	NB	N/A
			SB	570			SB	363			SB	298
			EB	N/A			EB	271			EB	445
			WB	N/A			WB	0			WB	0
5	Latrobe Road/Town Center Boulevard	Signal	NB	220	21.1	C	NB	29	38.1	D	NB	13
			SB	330			SB	198			SB	**472**
			EB	300			EB	65			EB	156
			WB	100			WB	59			WB	86
6	Latrobe Road/White Rock Road	Signal	NB	270	33.0	C	NB	172	51.0	D	NB	157
			SB	260			SB	86			SB	227
			EB	360			EB	275			EB	306
			WB	160			WB	**266**			WB	**507**
7	Latrobe Road/Golden Foothill Parkway (N)	Signal	NB	200	20.9	C	NB	35	20.9	C	NB	7
			SB	200			SB	11			SB	24
			EB	100			EB	79			EB	**180**
			WB	N/A			WB	N/A			WB	N/A
8	Latrobe Road/Suncast Lane	Signal	NB	280	9.3	A	NB	39	10.8	B	NB	32
			SB	N/A			SB	N/A			SB	N/A
			EB	100			EB	91			EB	**127**
9	Latrobe Road/ Golden Foothill Parkway (S)	Signal	NB	220	26.0	C	NB	32	37.5	D	NB	86
			SB	530			SB	157			SB	253
			EB	100			EB	**130**			EB	**309**
			WB	N/A			WB	N/A			WB	N/A
10	Latrobe Road/Investment Boulevard	Signal	NB	180	10.8	B	NB	35	18.0	B	NB	66
			SB	N/A			SB	N/A			SB	N/A
			EB	100			EB	68			EB	**232**
11	Latrobe Road/Avanti Drive	TWSC	NB	N/A	(WB) 12.7	B	NB	N/A	(WB) 11.1	B	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A
12	Latrobe Road/Royal Oaks Drive	TWSC	NB	320	(WB) 14.0	B	NB	0	(WB) 21.8	C	NB	0
			SB	320			SB	4			SB	7
			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A
13	Golden Foothill Pkwy/Robert J. Mathews Pkwy	TWSC	NB	N/A	(NB) 18.3	C	NB	N/A	**(NB) 2479.7 ***	**F**	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A

Table 10. Existing 2023 intersection delay and level-of-service without the Project (continued)

ID	Intersection	Control	Left Turn Storage		2023 AM Peak No Project				2023 PM Peak No Project			
					Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)
14	Investment Boulevard/Robert J. Mathews Pkwy	AWSC	NB	N/A	25.0	C	NB	N/A	19.6	C	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A
15	Golden Foothill Parkway/Carson Crossing Road	TWSC	NB	N/A	(NBL) 10.5	B	NB	N/A	(NBL) 14.8	B	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
			WB	220			WB	3			WB	8
16	Carson Crossing Road/Calypso Circle	TWSC	NB	N/A	(NB) 10.2	B	NB	N/A	(NB) 9.5	A	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
			WB	190			WB	4			WB	2
17	Carson Crossing Road/4 Seasons Drive	AWSC	NB	N/A	7.9	A	NB	N/A	8.1	A	NB	N/A
			SB	100			SB	1			SB	2
			WB	N/A			WB	N/A			WB	N/A
18	White Rock Road/Carson Crossing Road	TWSC	NB	N/A	(NBL) 22.0	C	NB	N/A	**(NBL) 69.3**	**F**	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	200			EB	0			EB	0
			WB	300			WB	2			WB	5
19	White Rock Road/Windfield Way	Signal	NB	150	25.8	C	NB	80	29.1	C	NB	**331**
			SB	100			SB	10			SB	10
			EB	200			EB	10			EB	10
			WB	200			WB	**363**			WB	**222**
20	White Rock Road/Post Street	Signal	NB	N/A	39.2	D	NB	N/A	70.4	E	NB	N/A
			SB	100			SB	**319**			SB	**683**
			EB	100			EB	**245**			EB	**327**
			WB	120			WB	99			WB	**158**
21	White Rock Road/Valley View Parkway	Signal	NB	100	75.0	E	NB	**106**	54.2	D	NB	70
			SB	100			SB	**206**			SB	**304**
			EB	100			EB	92			EB	50
			WB	100			WB	**206**			WB	**321**
22	White Rock Road/Clarksville Crossing	Signal	NB	N/A	23.4	C	NB	N/A	23.4	C	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	460			EB	6			EB	10
			WB	290			WB	0			WB	0
23	Silva Valley Parkway/US 50 EB ramps	Signal	NB	500	16.9	B	NB	172	31.7	C	NB	316
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A
24	Silva Valley Parkway/US 50 WB ramps	Signal	NB	550	34.2	C	NB	98	19.3	B	NB	192
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A
25	Latrobe Road/Commercial RIRO driveway	RIRO TWSC	NB	N/A	Does not exist				Does not exist			
			SB	N/A								
			EB	N/A								
26	Latrobe Road/Wetsel-Oviatt Road	TWSC	NB	N/A	(EB) 13.5	B	NB	N/A	(EB) 15.2	C	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
27	Latrobe Road/S. Shingle Road	TWSC	NB	N/A	(EB) 18.1	C	NB	N/A	(EB) 16.4	C	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A

Table 11. Existing 2023 freeway facility density and level-of-service without the Project

No	Segment	Segment Type	Method	2023 No Project AM	2023 No Project PM
Westbound US 50					
1	Bass Lake Rd to Silva Valley Pkwy	basic	HCM 7th Ed.	22.1/C	16.8/B
2	Silva Valley offramp	diverge	HCM 7th Ed.	18.7/B	13.2/B
3	Silva Valley offramp to future loop onramp	basic	HCM 7th Ed.	15.2/B	12.6/B
4	Future Silva Valley loop onramp	merge	HCM 7th Ed.	n/a	n/a
5	Silva Valley Pkwy to Latrobe Rd	weave	HCM 7th Ed.	15.1/B	11.1/B
6	El Dorado Hills Blvd offramp to onramp	basic	HCM 7th Ed.	11.8/B	10.8/A
7	El Dorado Hills Blvd onramp	merge	HCM 7th Ed.	28.4/D	22.9/C
8	El Dorado Hills Blvd to EDC Line *	basic	HCM 7th Ed.	29.5/D	21.9/B
Eastbound US 50					
9	EDC Line to Latrobe Rd	basic	HCM 7th Ed.	10.9/A	18.4/C
10	Latrobe slip offramp	diverge	HCM 7th Ed.	20.8/C	29.6/D
11	Latrobe loop offramp	diverge		20.0/C	28.8/D
12	El Dorado Hills Blvd offramp to Latrobe Rd onramp	basic	HCM 7th Ed.	3.7/A	8.8/A
13	Latrobe Rd onramp to Silva Valley Pkwy offramp	weave	HCM 7th Ed.	7.2/A	11.8/B
14	Silva Valley Pkwy offramp to onramp	basic	HCM 7th Ed.	7.3/A	10.7/A
15	Silva Valley Pkwy onramp	merge	HCM 7th Ed.	13.8/B	19./B
16	Future Silva Valley Pkwy slip onramp	merge	HCM 7th Ed.	n/a	n/a
17	Silva Valley Pkwy to Bass Lake Rd	basic	HCM 7th Ed.	9.7/A	14.5/B

Density in units of passenger cars per mile per lane.

*Prior to the opening of the Saratoga Way extension, Caltrans has reported occasional LOS F conditions during the morning peak for this segment based on planning methods rather than counts.

Table 12. Existing 2023 arterial level-of-service check without the Project

Arterial Segment	Description	2023 AM No Project	2023 PM No Project
Latrobe Rd between Royal Oaks Dr and Investment Blvd	2-lane arterial (threshold 1650)	593	655
Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south)	2-lane arterial (threshold 1650)	1015	932
Latrobe Rd between Golden Foothill Pkwy (south) and Suncast Ln)	4-lane divided arterial (threshold 3290)	1998	2030
Latrobe Rd between White Rock Rd and Town Center Blvd	8-lane divided arterial (threshold 6280, extrapolated from 6-lane divided arterial)	2931	3018
White Rock Rd between Valley View Pkwy to Silva Valley Pkwy	2-lane arterial (threshold 1650)	1194	1440

5.0 ASSESSMENT OF PROPOSED CREEKSIDE VILLAGE PROJECT

5.1 Proposed Project Trip Generation

Anticipated Traffic generation by the Project reflects both trips generated by the Project itself, and, avoided trips in 2033 and 2040 from the commercial land uses that the El Dorado County TDM assumes will take place on the Project parcels.

Project Trips

Anticipated trips are based on Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition (2021). **Table 13** shows anticipated Project Trip Generation. To be conservative, trip generation estimates are generally based on the higher rates for the peak hour of the generator rather than the peak hour of adjacent street traffic. The higher of either the average trip generation rate or equation-based trip generation rate was also used. Use of these higher rates has historically been preferred by El Dorado County. Pass by trip estimates for the commercial uses are based on both the ITE Trip Generation Manual 11th Edition's electronic appendices and the more detailed ITE Trip Generation Handbook 3rd Edition[16] The ITE data was parsed to better reflect the Project. Specifically pass-by rates for the morning were limited to locations where data was available for the 7-9 AM period (which eliminates the 68% rate from Kentucky, resulting in a lower pass-by rate). That Kentucky rate was for 6-9 AM, and for a larger store (3.3 ksf). The AM pass-by rate also included the 44% pass-by rate from Chicago which is in the 3rd Ed of the Trip Gen Handbook, but not in the newer electronic appendices. For the evening peak we only considered the studies reflecting 4-6 PM for sites that are no larger than the proposed use of 2.4 ksf. The resulting rate was 67.5% (the table footnote says 68%). Note that one needs to look at both the Trip Generation Handbook and the Trip Generation Manual to identify the time periods that the data in the electronic appendix reflect.

Trip Distribution with Adjustment for Latrobe Elementary

Project trip distribution was based on the El Dorado County TDM, observed counts, prior studies in the vicinity of the Project, and consultation with El Dorado County staff. Additional adjustments were made to reflect school trips to Latrobe Elementary based on student generation statistics published by the school district. Trip distribution is shown in **Figure 7**. Assignment of the Project trips to study intersections is shown in **Figure 8**.

[16] ITE (2017) Trip Generation Handbook, 3rd Ed. Institute of Transportation Engineers, Washington DC.

Table 13. 926 Single-family dwelling units trip generation

Land Use	Quantity	Metric	Daily	AM Peak Hour			PM Peak Hour		
				Total	Inbound	Outbound	Total	Inbound	Outbound
Single Family Detached Housing (ITE Use 210)	918 DU (1)	Notes	Average Rate	Average Rate for Peak Hour of Generator			Average Rate for Peak Hour of Generator		
		Rate	9.43	0.75	26%	74%	0.99	64%	36%
		Trips	8657	689	179	510	909	582	327
Coffee/Donut Shop with Drive-Thru Window (ITE Use 937)	2.4 ksf (2)	Notes	Average Rate	Average Rate for Peak Hour of Generator			Average Rate for Peak Hour of Generator		
		Rate	533.57	101.27	50%	50%	43.65	50%	50%
		Trips	1281	243	122	121	105	52	53
		Pass-by (3)	0	-110	-55	-55	-70	-35	-35
Fast Casual Restaurant (ITE Use 930)	1.5 ksf (2)	Notes	Average Rate	Average Rate for Peak Hour of Generator			Average Rate for Peak Hour of Generator		
		Rate	97.14	5.71	63%	37%	18.57	62%	38%
		Trips	146	9	5	4	28	17	11
		Pass-by (4)	0	0	0	0	-12	-6	-6
High-Turnover (Sit-Down) Restaurant (ITE Use 932)	1.5 ksf (2)	Notes	Average Rate	Average Rate for Peak Hour of Generator			Average Rate for Peak Hour of Generator		
		Rate	107.2	13.68	57%	43%	16.35	51%	49%
		Trips	161	21	12	9	25	13	12
		Pass-by (4)	0	0	0	0	-10	-5	-5
Total residential trips			8657	689	179	510	909	582	327
Less 2% internalization based on Travel Demand Model			-173	-14	-4	-10	-18	-12	-7
Net new residential trips to assign			**8484**	**675**	**175**	**500**	**891**	**570**	**321**
Total commercial trips			1588	163	84	79	66	36	30
Less 2% internalization based on Travel Demand Model			-32	-4	-2	-2	-2	-1	-1
Net new commercial trips to assign			**1556**	**159**	**82**	**77**	**64**	**35**	**29**
Total New Project Trips			**10040**	**834**	**257**	**577**	**955**	**605**	**350**
Commercial pass by trips from Latrobe Road (for assignment to commercial driveways)			**0**	**110**	**55**	**55**	**92**	**46**	**46**

(1) DU = Dwelling unit
(2) ksf = 1000 square feet
(3) Pass-by trips based on Land use 934 (Fast Food with Drive-Thru) which has an average 45.4% pass-by rate in the AM and 68% in the PM.
(4) Pass-by trips based on Land use 932 (High-Turnover (Sit-Down) Restaurant) which has an average 43% pass-by rate
Source: ITE (2021) Trip Generation Manual, 11th Ed., Institute of Transportation Engineers, Washington DC.



Figure 7. Creekside Village Project trip distribution

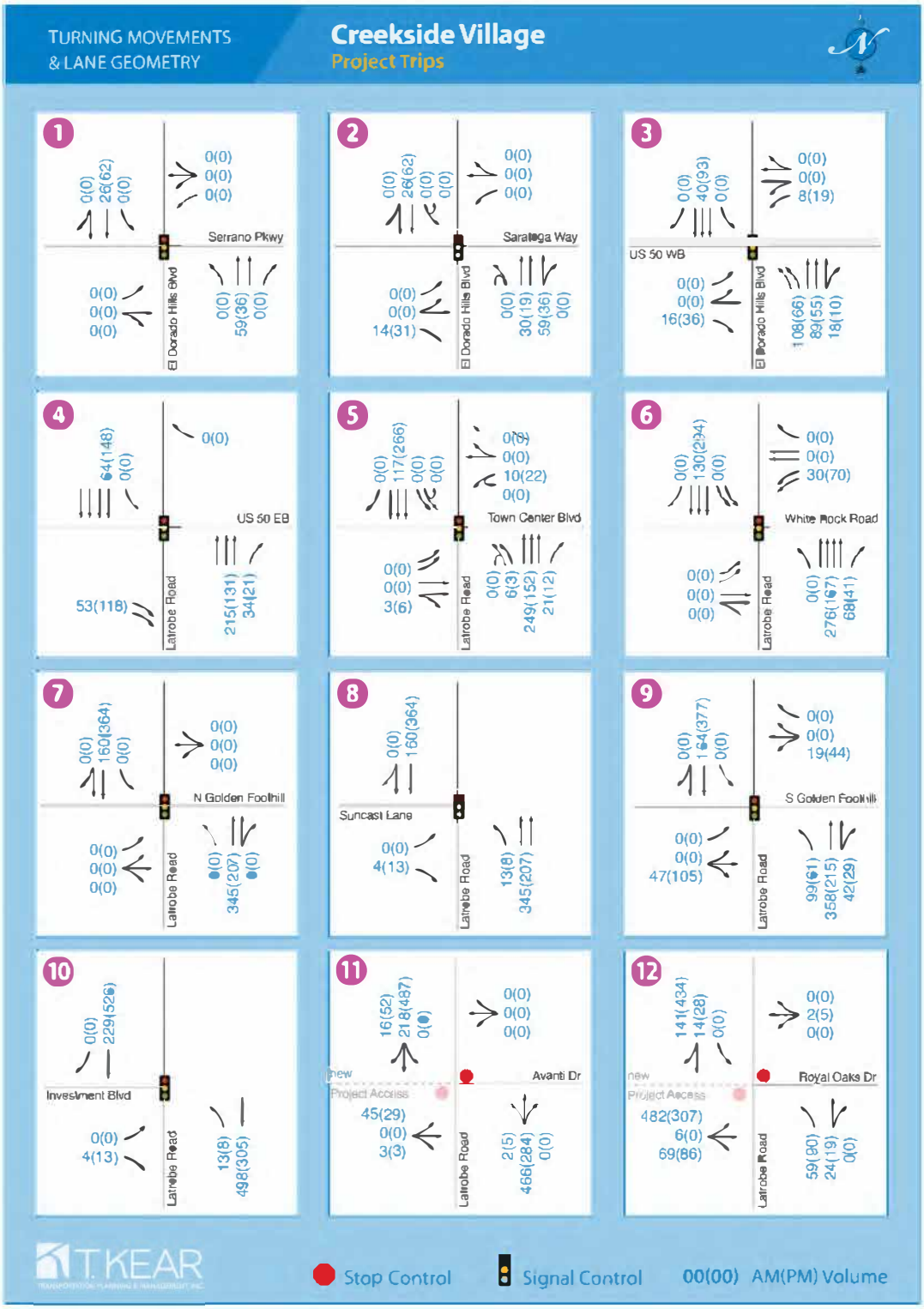


Figure 8. Project trip assignment for 918 dwelling units

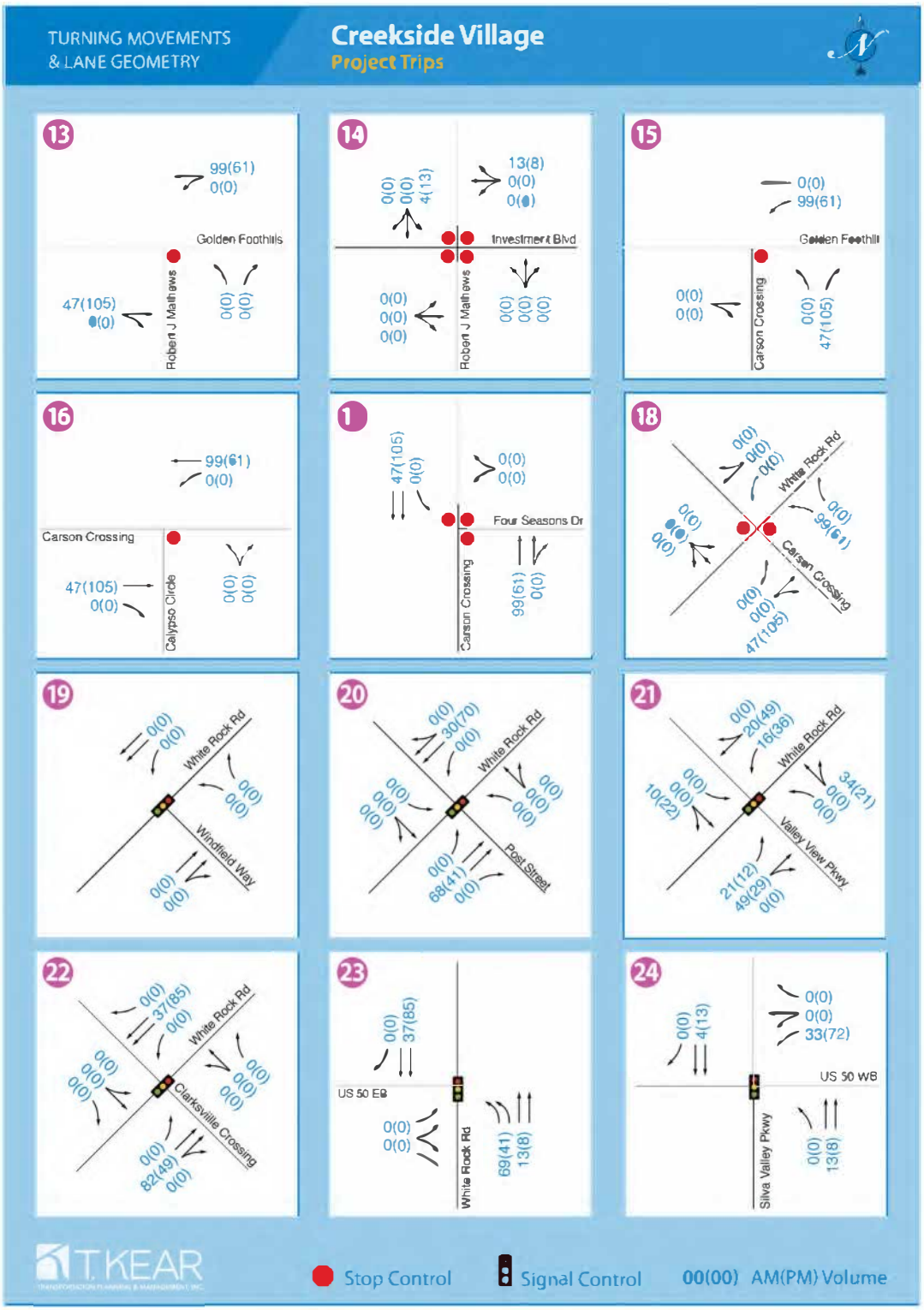


Figure 8. Project trip assignment for 918 dwelling units (continued)

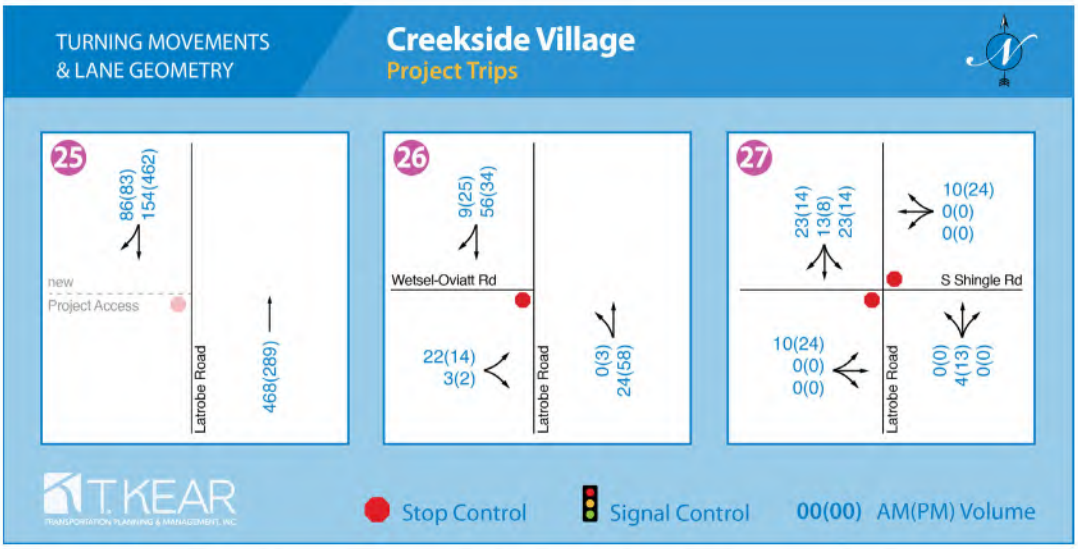


Figure 8. Project trip assignment for 918 dwelling units (continued)

Avoided Trips

Avoided trips are additional peak hour trips that the TDM assumes in the future from growth within the Project TAZ. These avoided trips were estimated by running the TDM with and without assumed 2020[17] through 2040 employment growth for the effected portion of the Project's transportation analysis zone (TAZ 612). Creekside Village replaces 62% of the available land in TAZ 612 (**Figure 9**), therefor 62% of the employment growth was eliminated from TAZ 612 when estimating the number of avoided trips using the TDM. TDM employment assumptions for TAZ 612 are shown in **Table 14** below, along with the resulting avoided trips. Avoided trips for 2040 are shown in **Figure 10**. Using straight line interpolation, 2033 avoided trips reflect the 13 years of unrealized growth from 2020.

[17] 2020 is used rather than 2023 because the process of purchasing the land and de-annexing it from the business park meant that no new employment on this portion of the model TAZ occurred as of that year.



Figure 9. Creekside Village is 62% of available land in TAZ 612

Table 14. TDM employment assumptions and avoided trips

	2020	2040 without Project	2040 with Project	Notes
Employment				
Retail	224	433	304	Creekside Village is 62% of remaining land in TAZ 612. Housing is assumed to replace 62% of employment growth. (With Project there are 2097 fewer employees.)
Non-Retail	2115	5355	3387	
Total	2339	5788	3691	
Avoided Trips AM (PM) [Daily]				
in			526 (311) [4735]	
Out			207 (518) [4680]	

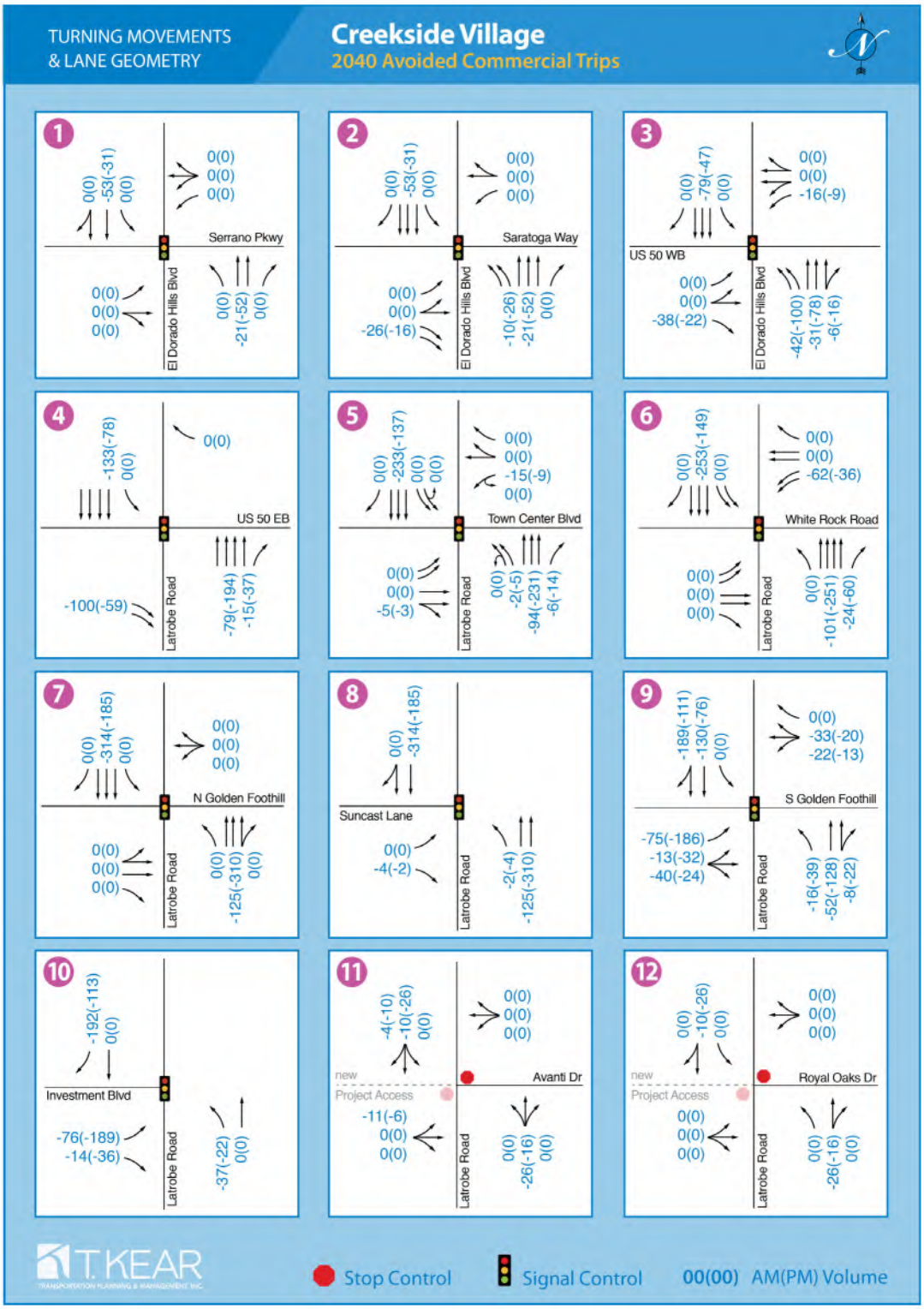


Figure 10. Creekside Village avoided industrial and R&D trips in 2040

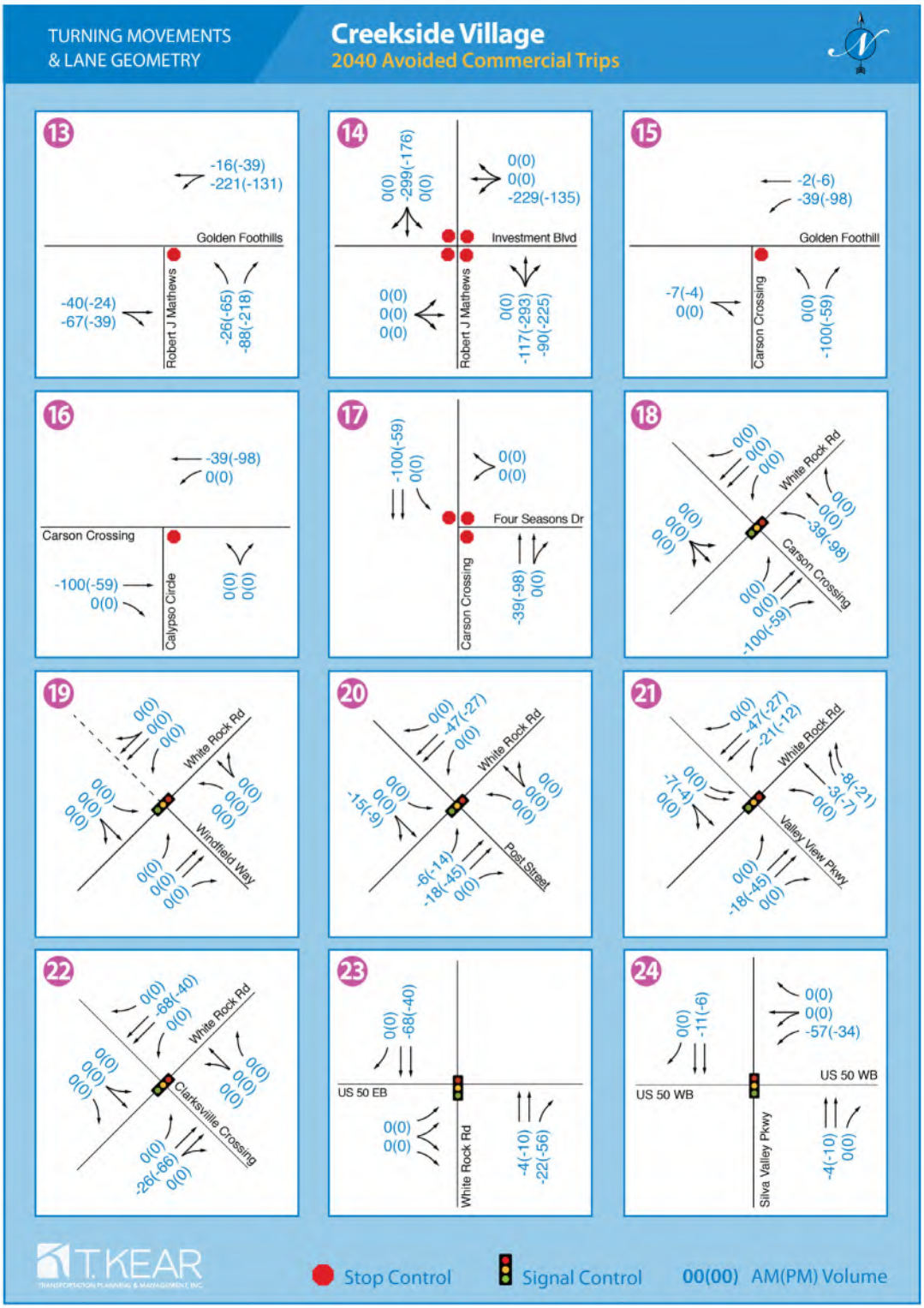


Figure 10. Creekside Village avoided industrial and R&D trips in 2040 (continued)

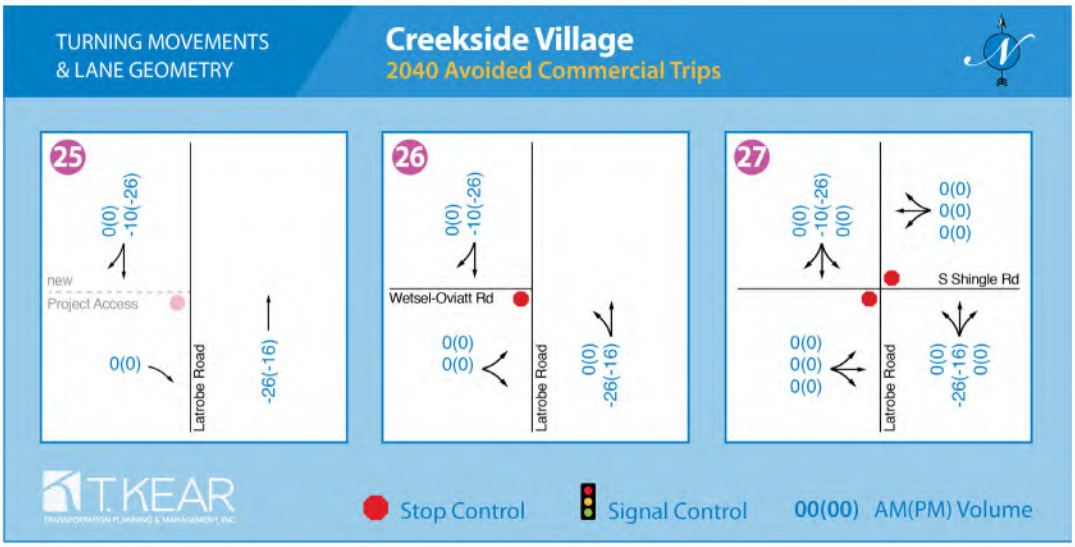


Figure 10. Creekside Village avoided industrial and R&D trips in 2040 (continued)

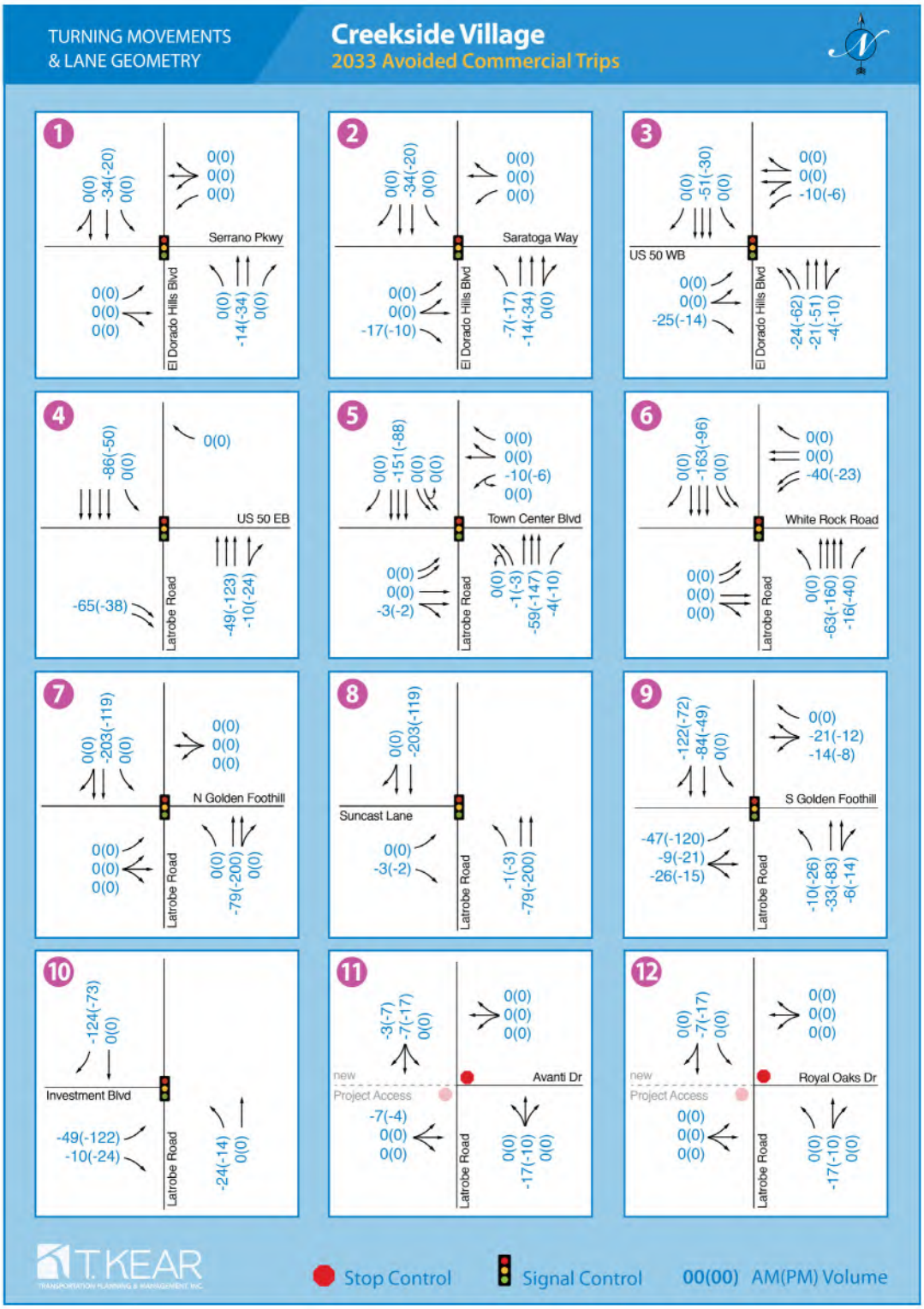


Figure 11. Creekside Village avoided industrial and R&D trips in 2033

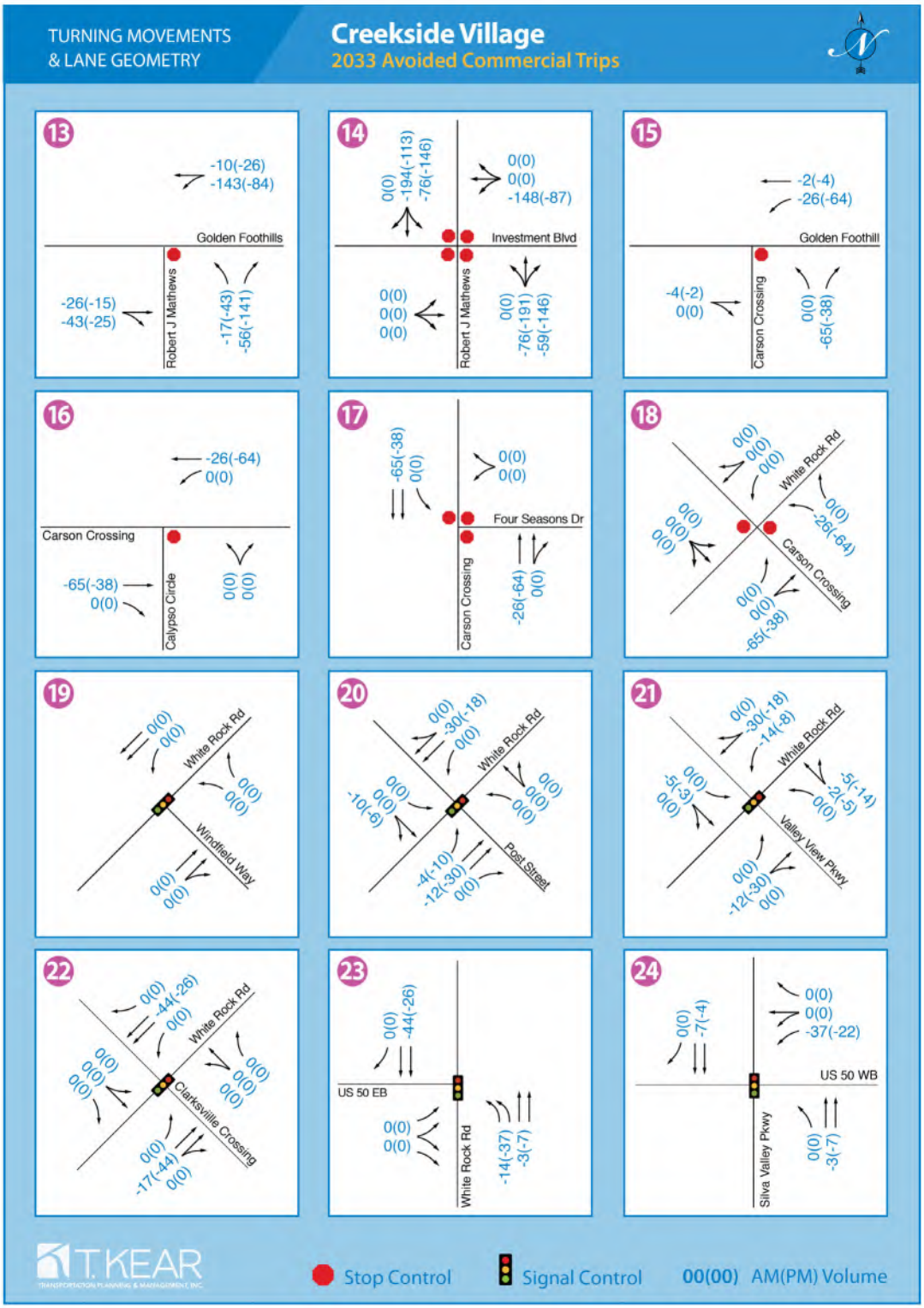


Figure 11. Creekside Village avoided industrial and R&D trips in 2033 (continued)

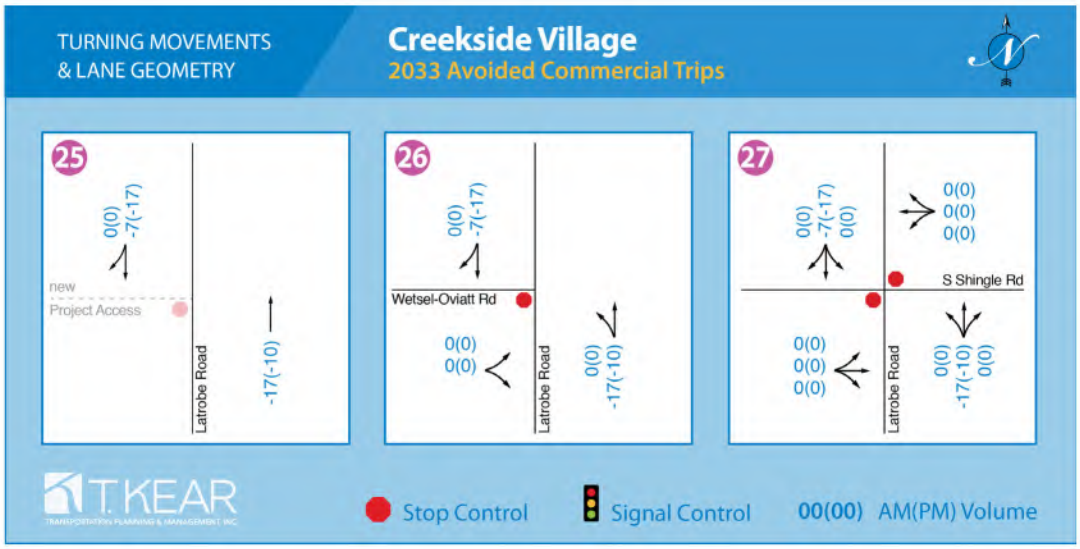


Figure 11. Creekside Village avoided industrial and R&D trips in 2033 (continued)

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6.0 EXISTING 2023 PLUS PROPOSED PROJECT CONDITIONS

6.1 Traffic Volumes

Peak hour traffic associated with the proposed Project was added to the Existing 2023 Condition scenario's traffic volumes, delay and level-of-service were determined at the study intersections and segments. **Figure 12** summarizes the turning movements and lane configurations for the Existing 2023 Plus Proposed Project scenario.

6.2 Level-of-Service

Table 15 through **Table 17** present a summary of level-of-service results for the study intersections and segments under Existing 2023 conditions with and without Project traffic. Intersection control is listed as signal, two-way stop-controlled (TWSC), or all-way stop-control (AWSC). Both the estimated delay and level-of-service (LOS) is provided. At TWSC intersections, the movement with the worst delay is shown in parentheses. Ninety-fifth percentile left turn queues are also listed. Entries shown in **Bold black** text in **Table 15** through **Table 17** denote locations with preexisting deficiencies that the Project is not anticipated to worsen. **Bold red** text denotes locations where the Project is anticipated to create new or worsen preexisting deficiencies. Unsignalized intersections that meet the peak hour signal warrant are shaded and denoted with an asterisk.

One arterial segment (Latrobe Road between Golden Foothill Pkwy (south) and Investment Blvd) is anticipated to operate at level-of-service F. Sixteen intersections are anticipated to have level-of-service and/or queue spillback deficiencies.

4 Locations that are deficient with or without the Project that are not worsened:

- (1) El Dorado Hills Blvd/Serrano Pkwy AM;
- (7) Latrobe Road/Golden Foothill Parkway (N): PM;
- (19) White Rock Road/Windfield Way AM and PM; and
- (20) White Rock Road/Post Street: AM and PM.

10 Locations that are deficient with or without the Project that are worsened:

- (2) El Dorado Hills Blvd/Saratoga Way: AM and PM;
- (3) El Dorado Hills Blvd/US 50 WB AM and PM;
- (5) Latrobe Road/Town Center Boulevard: PM;
- (6) Latrobe Road/White Rock Road AM and PM;
- (8) Latrobe Rd/Suncast Ln AM and PM;
- (9) Latrobe Road/ Golden Foothill Parkway (S): AM and PM;
- (10) Latrobe Road/Investment Boulevard: AM and PM;
- (13) Golden Foothill Parkway (S)/Robert J. Mathewsws Pkwy PM;
- (18) White Rock Road/Carson Crossing Road PM; and
- (21) White Rock Road/Valley View Parkway: AM and PM.

2 Locations where the Project is anticipated to cause new deficiencies:

- (11) Latrobe Road/Avanti Drive AM and PM; and
- (12) Latrobe Road/Royal Oaks Drive AM and PM.

Calculation sheets for delay and level-of-service are provided in **Appendix B**. the remainder of the study intersections, all of the US 50 study segments, and arterial study segments were found to operate acceptably.

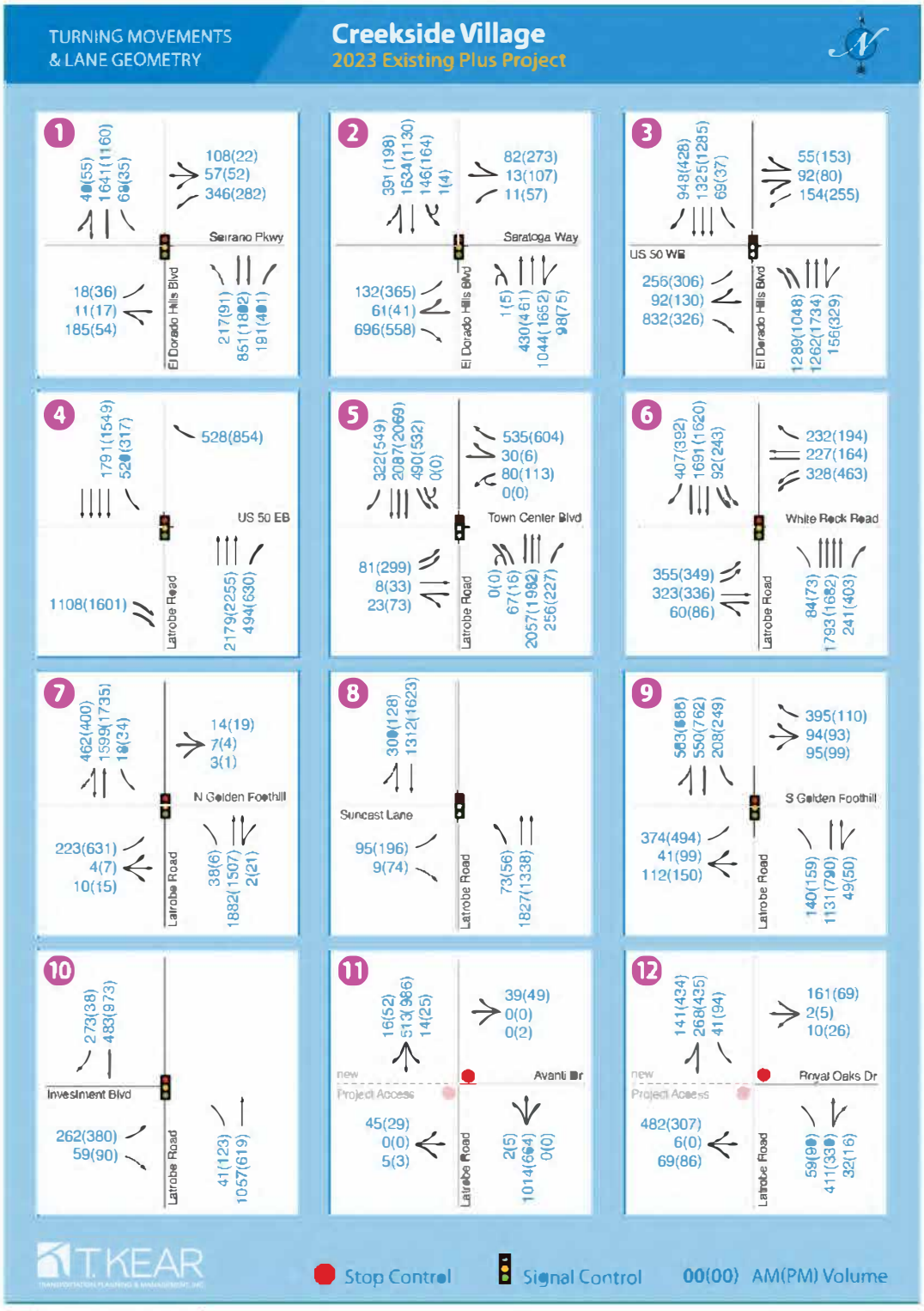


Figure 12. Existing 2023 plus project lane geometry and turning movements

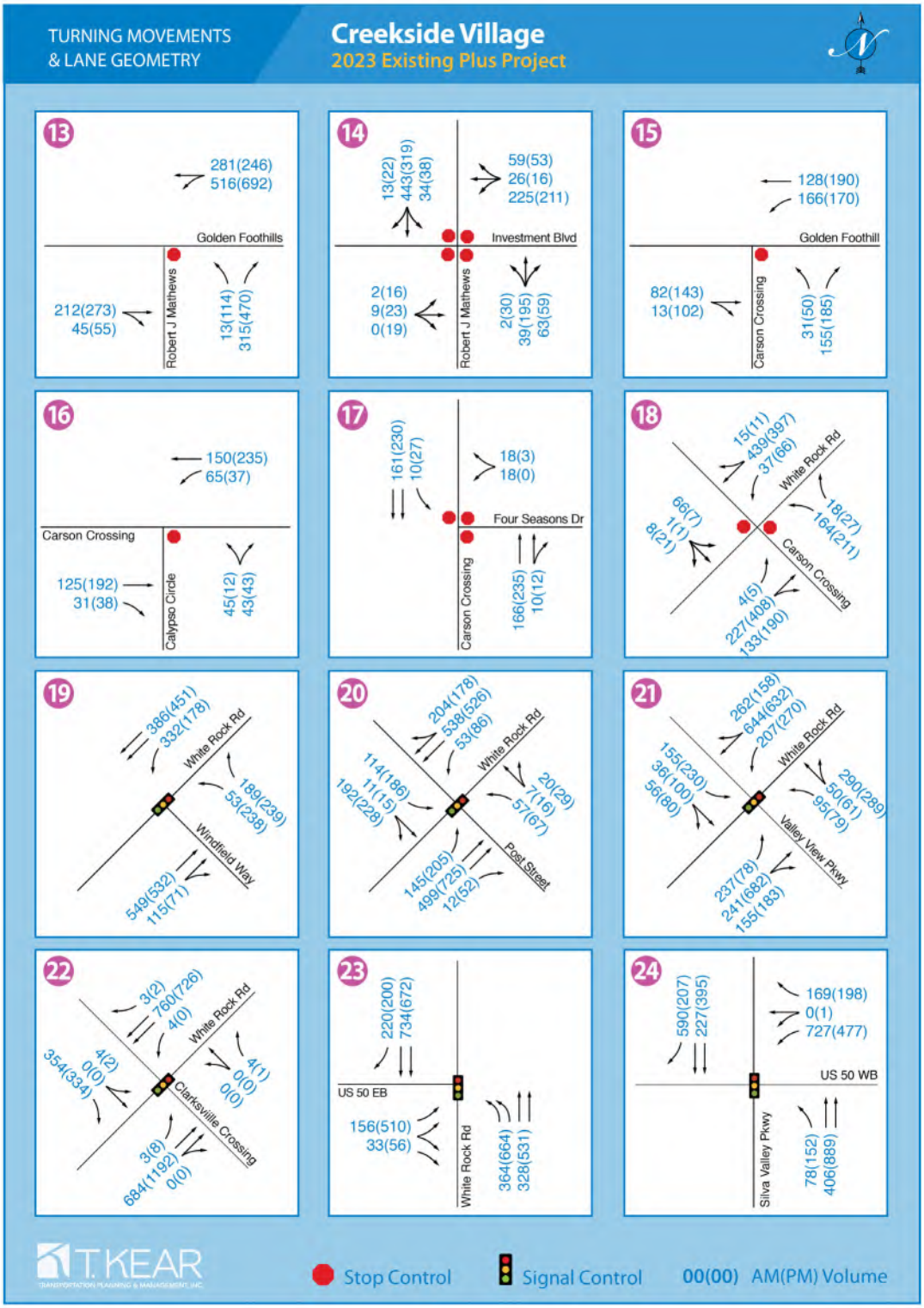


Figure 12. Existing 2023 plus project lane geometry and turning movements (continued)

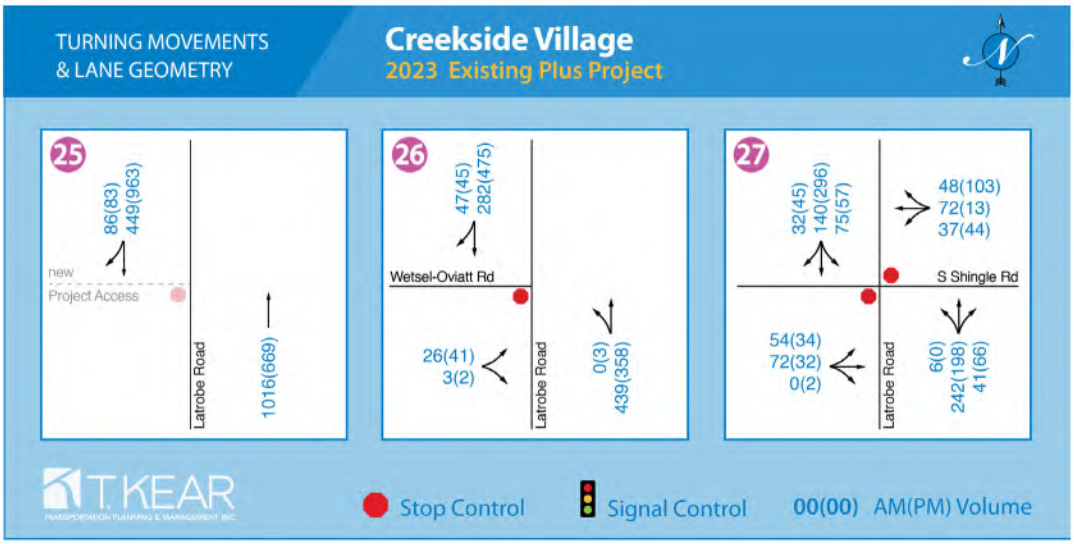


Figure 12. Existing 2023 plus project lane geometry and turning movements (continued)

Table 15. Existing 2023 intersection delay and level-of-service with and without the Project

ID	Intersection	Control	Left Turn Storage	2023 AM Peak No Project			2023 PM Peak No Project			2023 AM Peak with Project			2023 PM Peak with Project		
				Delay (Sec.)	LOS	Left Turn 95% Queue Spillback / 95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback / 95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback / 95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback / 95% Queue Length (Ft.)
1	El Dorado Hills Blvd/Serrano Pkwy	Signal	NB 260 SB 110 EB 100 WB 430	**118.3**	**F**	NB **296** SB 110 EB 25 WB 423	46.8	D	NB 91 SB 38 EB 34 WB 197	**116.7**	**F**	NB **296** SB 110 EB 25 WB 423	51.7	D	NB 91 SB 38 EB 35 WB 197
2	El Dorado Hills Blvd/Saratoga Way	Signal	NB 230 SB 100 EB 150 WB N/A	**147.8**	**F**	NB **712** SB **202** EB 116 WB N/A	**107.8**	**F**	NB **1334** SB **252** EB **290** WB N/A	**155.9**	**F**	NB **855** SB **202** EB 116 WB N/A	**119.4**	**F**	NB **1458** SB **257** EB **296** WB N/A
3	El Dorado Hills Blvd/US 50 WB (Note EBL queueing reported even though there is not a left - turn pocket, it is 250' to end of right-turn pocket.)	Signal	NB N/A SB 220 EB N/A WB 150	**94.1**	**F**	NB N/A SB 95 EB 262 WB **175**	47.9	D	NB N/A SB 68 EB 297 WB **277**	**113.3**	**F**	NB N/A SB 95 EB 262 WB **179**	57.6	E	NB N/A SB 68 EB 297 WB **301**
4	El Dorado Hills Blvd/US 50 EB (Note: EB and WB right queue reported as EB and WB. EB slip offramp is 1725 feet long)	Signal	NB N/A SB 570 EB N/A WB N/A	23.0	C	NB N/A SB 363 EB 271 WB 0	22.8	C	NB N/A SB 298 EB 445 WB 0	36.7	D	NB N/A SB 363 EB 310 WB 0	32.1	C	NB N/A SB 298 EB 671 WB 0
5	Latrobe Road/Town Center Boulevard	Signal	NB 220 SB 330 EB 300 WB 100	21.1	C	NB 29 SB 198 EB 65 WB 59	38.1	D	NB 13 SB **472** EB 156 WB 86	23.4	C	NB 38 SB 231 EB 79 WB 83	47.4	D	NB 17 SB **615** EB 182 WB **129**
6	Latrobe Road/White Rock Road	Signal	NB 270 SB 260 EB 360 WB 160	33.0	C	NB 172 SB 86 EB 275 WB **266**	51.0	D	NB 157 SB 227 EB 306 WB **507**	32.9	C	NB 172 SB 86 EB 275 WB **287**	59.8	E	NB 157 SB 227 EB **306** WB **696**
7	Latrobe Road/Golden Foothill Parkway (N)	Signal	NB 200 SB 200 EB 100 WB N/A	20.9	C	NB 35 SB 11 EB 79 WB N/A	20.9	C	NB 7 SB 24 EB **180** WB N/A	31.9	C	NB 35 SB 11 EB 80 WB N/A	44.00	D	NB 7 SB 23 EB **188** WB N/A
8	Latrobe Road/Suncast Lane	Signal	NB 280 SB N/A EB 100	9.3	A	NB 39 SB N/A EB 91	10.8	B	NB 32 SB N/A EB **127**	10.8	B	NB 56 SB N/A EB **103**	15.8	B	NB 47 SB N/A EB **161**
9	Latrobe Road/ Golden Foothill Parkway (S)	Signal	NB 220 SB 530 EB 100 WB N/A	26.0	C	NB 32 SB 157 EB **130** WB N/A	37.5	D	NB 86 SB 253 EB **309** WB N/A	51.8	D	NB 149 SB 257 EB **211** WB N/A	**106.6**	**F**	NB 167 SB 352 EB **610** WB N/A
10	Latrobe Road/Investment Boulevard	Signal	NB 180 SB N/A EB 100	10.8	B	NB 35 SB N/A EB 68	18.0	B	NB 66 SB N/A EB **232**	15.0	B	NB 70 SB N/A EB **117**	74.5	E	NB 157 SB N/A EB **468**
11	Latrobe Road/Avanti Drive	TWSC	NB N/A SB N/A EB N/A WB N/A	(WB) 12.7	B	NB N/A SB N/A EB N/A WB N/A	(WB) 11.1	B	NB N/A SB N/A EB N/A WB N/A	**(EB) 180.5**	**F**	NB N/A SB N/A EB N/A WB N/A	**(EB) 206.4**	**F**	NB N/A SB N/A EB N/A WB N/A
12	Latrobe Road/Royal Oaks Drive	TWSC	NB 320 SB 320 EB N/A WB N/A	(WB) 14.0	B	NB 0 SB 4 EB N/A WB N/A	(WB) 21.8	C	NB 0 SB 7 EB N/A WB N/A	**(EB) 1678.4 ***	**F**	NB 4 SB 3 EB N/A WB N/A	**(EB) 1959.5 ***	**F**	NB 12 SB 7 EB N/A WB N/A
13	Golden Foothill Pkwy/Robert J. Mathews Pkwy	TWSC	NB N/A SB N/A EB N/A WB N/A	(NB) 18.3	C	NB N/A SB N/A EB N/A WB N/A	**(NB) 2479.7 ***	**F**	NB N/A SB N/A EB N/A WB N/A	(NB) 25.18	D	NB N/A SB N/A EB N/A WB N/A	**(NB) 4762.1 ***	**F**	NB N/A SB N/A EB N/A WB N/A

Table 15. Existing 2023 intersection delay and level-of-service with and without the Project (continued)

ID	Intersection	Control	Left Turn Storage	2023 AM Peak No Project			2023 PM Peak No Project			2023 AM Peak with Project			2023 PM Peak with Project		
				Delay (Sec.)	LOS	Left Turn 95% Queue Spillback / 95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback / 95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback / 95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback / 95% Queue Length (Ft.)
14	Investment Boulevard/Robert J. Mathews Pkwy	AWSC	NB N/A SB N/A EB N/A WB N/A	25.0	C	NB N/A SB N/A EB N/A WB N/A	19.6	C	NB N/A SB N/A EB N/A WB N/A	26.6	D	NB N/A SB N/A EB N/A WB N/A	21.2	C	NB N/A SB N/A EB N/A WB N/A
15	Golden Foothill Parkway/Carson Crossing Road	TWSC	NB N/A SB N/A EB N/A WB 220	(NBL) 10.5	B	NB N/A SB N/A EB N/A WB 3	(NBL) 14.8	B	NB N/A SB N/A EB N/A WB 8	(NBL) 12.9	B	NB N/A SB N/A EB N/A WB 5	(NBL) 17.8	C	NB N/A SB N/A EB N/A WB 14
16	Carson Crossing Road/Calypso Circle	TWSC	NB N/A SB N/A EB N/A WB 190	(NB) 10.2	B	NB N/A SB N/A EB N/A WB 4	(NB) 9.5	A	NB N/A SB N/A EB N/A WB 2	(NB) 11.2	B	NB N/A SB N/A EB N/A WB 4	(NB) 10.5	B	NB N/A SB N/A EB N/A WB 2
17	Carson Crossing Road/4 Seasons Drive	AWSC	NB N/A SB 100 WB N/A	7.9	A	NB N/A SB 1 WB N/A	8.1	A	NB N/A SB 2 WB N/A	8.3	A	NB N/A SB 1 WB N/A	8.6	A	NB N/A SB 2 WB N/A
18	White Rock Road/Carson Crossing Road	TWSC	NB N/A SB N/A EB 200 WB 300	(NBL) 22.0	C	NB N/A SB N/A EB 0 WB 2	**(NBL) 69.3**	**F**	NB N/A SB N/A EB 0 WB 5	(NBL) 38.7	E	NB N/A SB N/A EB 0 WB 2	**(NBL) 193 ***	**F**	NB N/A SB N/A EB 0 WB 6
19	White Rock Road/Windfield Way	Signal	NB 150 SB 100 EB 200 WB 200	25.8	C	NB 80 SB 10 EB 10 WB **363**	29.1	C	NB **331** SB 10 EB 10 WB **222**	25.8	C	NB 80 SB 10 EB 10 WB **363**	29.1	C	NB **331** SB 10 EB 10 WB **222**
20	White Rock Road/Post Street	Signal	NB N/A SB 100 EB 100 WB 120	39.2	D	NB N/A SB **319** EB **245** WB 99	70.4	E	NB N/A SB **683** EB **327** WB **158**	37.7	D	NB N/A SB **318** EB **245** WB 99	67.9	E	NB N/A SB **683** EB **327** WB **158**
21	White Rock Road/Valley View Parkway	Signal	NB 100 SB 100 EB 100 WB 100	75.0	E	NB **106** SB **206** EB 92 WB **206**	54.2	D	NB 70 SB **304** EB 50 WB **321**	**91.5**	**F**	NB **109** SB **215** EB **125** WB **232**	68.8	E	NB 72 SB **318** EB 72 WB **398**
22	White Rock Road/Clarksville Crossing	Signal	NB N/A SB N/A EB 460 WB 290	23.4	C	NB N/A SB N/A EB 6 WB 0	23.4	C	NB N/A SB N/A EB 10 WB 0	24.1	C	NB N/A SB N/A EB 6 WB 0	23.9	C	NB N/A SB N/A EB 10 WB 0
23	Silva Valley Parkway/US 50 EB ramps	Signal	NB 500 SB N/A EB N/A WB N/A	16.9	B	NB 172 SB N/A EB N/A WB N/A	31.7	C	NB 316 SB N/A EB N/A WB N/A	18.1	B	NB 207 SB N/A EB N/A WB N/A	32.1	C	NB 339 SB N/A EB N/A WB N/A
24	Silva Valley Parkway/US 50 WB ramps	Signal	NB 550 SB N/A EB N/A WB N/A	34.2	C	NB 98 SB N/A EB N/A WB N/A	19.3	B	NB 192 SB N/A EB N/A WB N/A	36.1	D	NB 98 SB N/A EB N/A WB N/A	20.4	C	NB 192 SB N/A EB N/A WB N/A
25	Latrobe Road/Commercial RIRO driveway	RIRO TWSC	NB N/A SB N/A EB N/A	Does not exist			Does not exist			0.0	A	NB N/A SB N/A EB N/A	0.0	A	NB N/A SB N/A EB N/A
26	Latrobe Road/Wetsel-Oviatt Road	TWSC	NB N/A SB N/A EB N/A	(EB) 13.5	B	NB N/A SB N/A EB N/A	(EB) 15.2	C	NB N/A SB N/A EB N/A	(EB) 14.6	B	NB N/A SB N/A EB N/A	(EB) 17.4	C	NB N/A SB N/A EB N/A
27	Latrobe Road/S. Shingle Road	TWSC	NB N/A SB N/A EB N/A WB N/A	(EB) 18.1	C	NB N/A SB N/A EB N/A WB N/A	(EB) 16.4	C	NB N/A SB N/A EB N/A WB N/A	(EB) 22.4	C	NB N/A SB N/A EB N/A WB N/A	(EB) 20.8	C	NB N/A SB N/A EB N/A WB N/A

* Denotes intersections where the peak-hour signal warrant is met.

Table 16. Existing 2023 freeway facility density and level-of-service with and without the Project

No	Segment	Segment Type	Method	2023 No Project AM	2023 No Project PM	2023 Plus Project AM	2023 Plus Project PM
Westbound US 50							
1	Bass Lake Rd to Silva Valley Pkwy	Basic	HCM 7th Ed.	22.1/C	16.8/B	22.5/C	17.7/B
2	Silva Valley offramp	Diverge	HCM 7th Ed.	18.7/B	13.2/B	19.2/B	14.1/B
3	Silva Valley offramp to future loop onramp	Basic	HCM 7th Ed.	15.2/B	12.6/B	15.3/B	12.8/B
4	Future Silva Valley loop onramp	Merge	HCM 7th Ed.	n/a	n/a	n/a	n/a
5	Silva Valley Pkwy to Latrobe Rd	Weave	HCM 7th Ed.	15.1/B	11.1/B	15.2/B	11.3/B
6	El Dorado Hills Blvd offramp to onramp	Basic	HCM 7th Ed.	11.8/B	10.8/A	11.8/B	10.8/A
7	El Dorado Hills Blvd onramp	Merge	HCM 7th Ed.	28.4/D	22.9/C	28.4/D	23.4/C
8	El Dorado Hills Blvd to EDC Line *	Basic	HCM 7th Ed.	29.5/D	21.9/B	29.5/D	22.5/C
Eastbound US 50							
9	EDC Line to Latrobe Rd	Basic	HCM 7th Ed.	10.9/A	18.4/C	11.2/B	19.1/C
10	Latrobe slip offramp	Diverge	HCM 7th Ed.	20.8/C	29.6/D	21.3/C	30.6/D
11	Latrobe loop offramp	Diverge		20.0/C	28.8/D	20.3/C	29.3/D
12	El Dorado Hills Blvd offramp to Latrobe Rd onramp	Basic	HCM 7th Ed.	3.7/A	8.8/A	3.7/A	8.8/A
13	Latrobe Rd onramp to Silva Valley Pkwy offramp	Weave	HCM 7th Ed.	7.2/A	11.8/B	7.3/A	11.9/B
14	Silva Valley Pkwy offramp to onramp	Basic	HCM 7th Ed.	7.3/A	10.7/A	7.5/A	10.8/A
15	Silva Valley Pkwy onramp	Merge	HCM 7th Ed.	13.8/B	19./B	14.5/B	20.0/C
16	Future Silva Valley Pkwy slip onramp	Merge	HCM 7th Ed.	n/a	n/a	n/a	n/a
17	Silva Valley Pkwy to Bass Lake Rd	Basic	HCM 7th Ed.	9.7/A	14.5/B	10.1/A	14.7/B

Density in units of passenger cars per mile per lane.
*Prior to the opening of the Saratoga Way extension, Caltrans has reported occasional LOS F conditions during the morning peak for this segment based on planning methods rather than counts.

Table 17. Existing 2023 arterial level-of-service check with and without the Project

Arterial Segment	Description	2023 AM No Project	2023 PM No Project	2023 AM Plus Project	2023 PM Plus Project
Latrobe Rd between Royal Oaks Dr and Investment Blvd	2-lane arterial (threshold 1650)	593	655	1336	1507
Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south)	2-lane arterial (threshold 1650)	1015	932	**1744**	**1763**
Latrobe Rd between Golden Foothill Pkwy (south) and Suncast Ln)	4-lane divided arterial (threshold 3290)	1998	2030	2529	2880
Latrobe Rd between White Rock Rd and Town Center Blvd	8-lane divided arterial (threshold 6280, extrapolated from 6-lane divided arterial)	2931	3018	4572	4483
White Rock Rd between Valley View Pkwy to Silva Valley Pkwy	2-lane arterial (threshold 1650)	1194	1440	1312	1574

6.3 Existing 2023 Plus Project General Plan Deficiency Findings

Level-of-service and queueing impacts are not considered significant under CEQA. Intersections and/or segments where Project traffic creates new or worsens existing exceedances of General Plan policy thresholds are referred to as having a "Project deficiency." There are ten intersections and one arterial segment where the Project is anticipated to create new or worsen existing deficiencies under existing 2023 conditions.

There are two sections that follow describing the segment level abatement measures and intersection level abatement measures. Throughout this document, segment deficiencies are numbered using the segment number (i through v) and a year code (2023 = "A", 2033 = "B", and 2040 = "C"). Intersection abatement measures are numbered using the intersection number (1-27) and the year code (A, B, or C).

All deficiencies and abatements described below include the deficiency number/abatement number and location as a title, followed by a description of the deficiency, the abatement, findings, responsibility, and timing. For certain abatements, a building permit trigger has been analyzed and included to determine the necessary timing for the improvement. For all other abatements, it is assumed the timing would be prior to issuance of the first building permit. If desired, a building permit trigger could also be determined for those abatements.

2023 Segment Deficiencies and Abatement Measures

(ii)A. Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south) in 2023 (CIP Project Latrobe 72)

Deficiency: Level-of-service is anticipated to worsen to F with the addition of Project traffic during the AM and PM peak-hours.

Abatement: Before issuance of the 658th residential building permit or the first commercial building permit, the CIP project Latrobe 72 (widen Latrobe Rd to four-lanes between Investment Blvd and Royal Oaks Dr) shall be included in the 10-year CIP. Latrobe 72 consists of widening Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south) from two-lanes to four-lanes, and all associated improvements at the intersections of Latrobe Rd/Investment Blvd and Latrobe Rd/Golden Foothill Pkwy (south).

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 18** presents the segment level-of-service results with this abatement.

Project Responsibility: The Project is responsible for its fair share of the cost of these off-site improvements which would be addressed by payment of fees after Latrobe 72 is added to the 10-year CIP. Addition of these improvements to the CIP will provide the mechanism to ensure the Project is responsible for its fair share.

Timing: Prior to issuance of the 658th residential building permit or the first commercial building permit. Note the 658th unit constraint is based on the cumulative 2040 scenario which is the most constrained scenario for this deficiency.

Table 18. Existing 2023 arterial level-of-service check with and without the abated Project

Arterial Segment	Description	2023 AM No Project	2023 PM No Project	2023 AM Plus Project	2023 PM Plus Project
Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south)	**Un Abated** 2-lane arterial (threshold 1650)	1015	932	**1744**	**1763**
	Limit Project to 658 dwelling units: 2-lane arterial (threshold 1650)	1015	932	1438	1488
	Add Widening to CIP: 4-lane divided arterial (threshold 3290)	1015	932	1744	1763

2023 Intersection Deficiencies and Abatement Measures

2A. El Dorado Hills Blvd/Saratoga Way in 2023

Deficiency: Level-of-service is F prior to addition of Project traffic, with northbound left-turn queues spilling out of the turn pocket. Project traffic is anticipated to worsen level-of-service and northbound left-turn queues.

Abatement: Construct a 300-foot southbound right turn pocket and adjust signal timing.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 19** at the end of this section presents intersection level-of-service results with this abatement.

Project Responsibility: This abatement partially implements Project #36105076 in the 10-year Capital Improvement Program (CIP). The Project may satisfy this requirement through payment of applicable fees under the El Dorado County traffic impact Fee (TIF) program.

Timing: Prior to issuance of 1st building permit.

Cross reference: See abatement 2B, which builds on abatement 2A.

3A. El Dorado Hills Blvd/US 50 WB in 2023

Deficiency: Existing AM peak-hour level-of-service is F prior to addition of Project traffic. Project traffic is anticipated to worsen level-of-service.

Abatement: Adjust signal splits.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 19** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: Project is responsible for its fair-share of signal timing adjustment. The CIP includes funding for intersection and safety improvements at “to be determined” locations. The Project may satisfy this requirement through payment of applicable fees under the El Dorado County traffic impact Fee (TIF) program.

Timing: Prior to issuance of 1st building permit.

5A. Latrobe Road/Town Center Boulevard in 2023

Deficiency: The southbound left turn queue spills back out of its pocket during the PM peak-hour under existing conditions prior to the addition of Project traffic. Project traffic is anticipated to worsen the southbound left turn queue spillback and cause the westbound left turn queue to exceed its pocket length.

Abatement: Adjust signal splits and extend the westbound left-turn pocket from 100 feet to 140 feet.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 19** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: The Project is responsible for its fair share of these intersection improvements. These improvements could be addressed through the line item in the CIP for intersection improvements and the Project would contribute its fair share through payment of the TIF. Because a discrete CIP project is not approved or anticipated for the specific improvement, these intersections improvements were included within the area of potential effect (APE) for the Project.

Timing: Prior to issuance of 1st building permit.

6A. Latrobe Road/White Rock Road in 2023

Deficiency: The westbound left-turn queue spills back out of its turn pocket under existing conditions without the Project. Project traffic is anticipated to worsen that queue spillback.

Abatement: Adjust signal splits.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 19** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: This abatement partially implements Project #36105069 in the 20-year Capital Improvement Program (CIP). The Project is responsible for its fair share of modification of signal timing, which may be addressed through payment of fees if the CIP project is moved to the 10-year CIP.

Timing: Prior to issuance of 1st building permit.

8A. Latrobe Road/Suncast Lane in 2023

Deficiency: The eastbound left turn queue spills-back out of its pocket during the PM peak-hour under existing conditions prior to the addition of Project traffic. Project traffic is anticipated to worsen the existing deficiency.

Abatement: Restripe the eastbound approach to have a left and a shared left-right lane.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 19** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: Project is responsible for its fair-share of restriping. The CIP includes funding for intersection and safety improvements at "to be determined" locations. The Project may satisfy this requirement through payment of applicable fees under the El Dorado County traffic impact Fee (TIF) program.

Timing: Prior to issuance of 1st building permit.

9A. Latrobe Road/ Golden Foothill Parkway (south) in 2023

Deficiency: Project traffic is anticipated to create a new intersection level-of-service deficiency during the PM peak-hour, and worsen existing queue spillback from the eastbound left turn during both the AM and PM peak-hours.

Abatement: Stripe eastbound approach as 2-lanes between Robert J. Mathewsws Pkwy and Latrobe Rd and widen to three lanes at the intersection by constructing a 200-foot eastbound right turn pocket. Label the eastbound approach lanes as left, left, thru-right. Adjust cycle length and splits. These improvements are consistent with intersection improvements that would be constructed under Abatement (ii)A ("Latrobe 72") above. Therefore, addition of LATROBE 72 to the 10-year CIP would address the Project's fair share cost of these improvements as well.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 19** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: The Project is responsible for its fair share of the cost of these off-site improvements which would be addressed by payment of fees after Latrobe 72 is added to the 10-year CIP.

Timing: Prior to issuance of 1st building permit.

Cross reference: See abatement 9B, which builds on abatement 9a.

10A. Latrobe Road/Investment Boulevard in 2023

Deficiency: Project traffic is anticipated to cause the northeast bound (Investment Blvd) left turn queue to spill out of its left-turn pocket during the AM peak-hour, and worsen existing queue spill back for that same movement during the PM peak-hour.

Abatement: Stripe eastbound approach as left, shared left-right in 180-foot pocket. Adjust cycle length and splits. These improvements are consistent with intersection improvements that would be constructed under Abatement (ii)A ("Latrobe 72") above. Therefore, addition of LATROBE 72 to the 10-year CIP would address the Project's fair share cost of these improvements as well.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 19** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: The Project is responsible for its fair share of the cost of these off-site improvements which would be addressed by payment of fees after Latrobe 72 is added to the 10-year CIP.

Timing: Prior to issuance of 1st building permit.

11A. Latrobe Road/Avanti Drive in 2023

Deficiency: Project traffic is anticipated to cause this intersection to operate at level-of-service F.

Abatement: Construct 100-foot left turn pockets on Latrobe (NB and SB). Construct 100-foot receiving lane on NB Latrobe for EB left turns from Project. This intersection is a Project access point and these improvements can likely be done as part of the Project's frontage improvements.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 19** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: The Project is responsible for construction of these intersection improvements.

Timing: Prior to issuance of 1st building permit.

12A. Latrobe Road/Royal Oaks Drive in 2023

Deficiency: Project traffic is anticipated to worsen the intersection to level-of-service F.

Abatement: Reconstruct the intersection as a signal-controlled intersection. The eastbound approach should be constructed as a three-lane approach with a left-turn lane in a 220-foot pocket, a shared left-thru, and a right turn lane in a 100-foot pocket. This intersection is a Project access point and these improvements can likely be done as part of the Project's frontage improvements.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 19** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: The Project is responsible for construction of these intersection improvements.

Timing: Prior to issuance of 1st building permit.

13A. Golden Foothill Pkwy/Robert J. Mathews Pkwy in 2023

Deficiency: Project traffic is anticipated to worsen existing level-of-service F conditions.

Abatement: Reconstruct as a roundabout. Construct as follows:

- Northbound approach - a shared left-right lane and a right-turn lane in a 100-foot pocket.
- Westbound approach - a left-turn lane and a through lane.
- Eastbound approach – a shared through-right lane.

Figure 13 provides the traffic model's representation of this geometry and its relation to the adjacent intersection of Latrobe Rd/Golden foothill Pkwy (south) with abatement 9A implemented.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 19** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: The Project is responsible for its fair share of the cost of these off-site improvements which would be addressed by payment of fees after the roundabout is added to the 10-year CIP.

Timing: Prior to issuance of 1st building permit.



Figure 13. Golden Foothill Pkwy (south)/Robert J. Mathews Pkwy roundabout 2023 geometry

18A. White Rock Road/Carson Crossing Road in 2023

Deficiency: Project traffic is anticipated to worsen existing level-of-service F conditions and cause the peak-hour signal warrant to be met.

Abatement: Signalize the intersection utilizing existing geometry.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 19** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: This off-site improvement partially implements 20-year CIP project 36105041 (White Rock Road Widening 2 to 4 Lanes - Windfield Way to Sacramento County Line) and it should be advanced to the 10-year CIP. The Project is responsible for its fair share of cost, which would be met through payment of the TIF program fee.

Timing: Prior to issuance of 1st building permit.

21A. White Rock Road/Valley View Parkway in 2023

Deficiency: Project traffic is anticipated to worsen level-of-service to F and worsen existing left-turn queue spillback on eastbound and westbound White Rock Rd.

Abatement: Reconstruct White Rock Rd through the intersection as follows:

- Eastbound approach: restripe the left turn pocket to 400-feet, restripe the shared through-right lane as a through lane, construct a right-turn lane in a 220-foot pocket.
- Westbound approach (White Rock Rd): Widen to construct a right-turn lane in a 220-foot pocket and extend the left-turn pocket to 400-feet. Restripe the shared through-right lane as a through lane.

Widening should be done to the south or Latrobe Rd to avoid high voltage lines. Eastbound-westbound Lane alignment may require additional space.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 19** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: CIP Project 36105042 (White Rock Road Widening 2 to 4 lanes - Post Street to South of Silva Valley Parkway) includes funding for improvements to this intersection in both the 10-year and 20-year CIPs and all components should be advanced to 10-year CIP. The Project's fair share responsibility for this improvement can be met through payment of TIF program fees.

Timing: Payment of TIF at issuance of each building permit.

Cross reference: See abatement 21B, which builds on abatement 21a.

Table 19. Existing 2023 intersection delay and level-of-service with and without the abated Project

ID	Intersection	Control	Left Turn Storage	2023 AM Peak No Project			2023 PM Peak No Project			2023 AM Peak with Project			2023 PM Peak with Project			Abatement Strategy	Left Turn Storage	Abated AM Peak (+ Proj)			Abated PM Peak (+ Proj)			Existing or Anticipated CIP Project
				Delay (Sec.)	LOS	Left Turn 95% Queue Spillback / 95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback / 95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback / 95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback / 95% Queue Length (Ft.)			Delay (Sec.)	LOS	Left Turn 95% Queue Spillback / 95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback / 95% Queue Length (Ft.)	
2	El Dorado Hills Blvd/Saratoga Way	Signal	NB 230 SB 100 EB 150 WB N/A	**147.8**	**F**	NB **712** SB **202** EB 116 WB N/A	**107.8**	**F**	NB **1334** SB **252** EB **290** WB N/A	155.9	F	NB 855 SB **202** EB 116 WB N/A	119.4	F	NB 1458 SB **257** EB **296** WB N/A	Construct 300' SBR Pocket. Adjust SBT/NBL splits	NB 230 SB 100 EB 150 WB N/A	**134.0**	**F**	NB **566** SB **202** EB 116 WB N/A	**99.5**	**F**	NB **1141** SB **258** EB **298** WB N/A	36105076 and 36105042
3	El Dorado Hills Blvd/US 50 WB (Note EBL queueing reported even though there is not a left-turn pocket, it is 250' to end of right-turn pocket.)	Signal	NB N/A SB 220 EB N/A WB 150	**94.1**	**F**	NB N/A SB 95 EB 262 WB **175**	47.9	D	NB N/A SB 68 EB 297 WB **277**	113.3	F	NB N/A SB 95 EB 262 WB **179**	57.6	E	NB N/A SB 68 EB 297 WB **301**	Adjust splits for AM only	NB N/A SB 220 EB N/A WB 150	89.7	F	NB N/A SB 94 EB 297 WB **178**	No Changes			"Traffic Signals Intersection"
5	Latrobe Road/Town Center Boulevard	Signal	NB 220 SB 330 EB 300 WB 100	21.1	C	NB 29 SB 198 EB 65 WB 59	38.1	D	NB 13 SB **472** EB 156 WB 86	23.4	C	NB 38 SB 231 EB 79 WB 83	47.4	D	NB 17 SB 615 EB 182 WB 129	Adjust splits for PM only, extend westbound left pocket to 140 feet	NB 220 SB 330 EB 300 WB 140	no changes			37.5	D	NB 18 SB 284 EB 180 WB 124	"Traffic Signals Intersection"
6	Latrobe Road/White Rock Road	Signal	NB 270 SB 260 EB 360 WB 160	33.0	C	NB 172 SB 86 EB 275 WB **266**	51.0	D	NB 157 SB 227 EB 306 WB **507**	32.9	C	NB 172 SB 86 EB 275 WB **287**	59.8	E	NB 157 SB 227 EB **306** WB 696	Adjust splits for PM only	NB 270 SB 260 EB 360 WB 140	no changes			43.3	D	NB 160 SB 229 EB 310 WB **387**	36105069
8	Latrobe Road/Suncast Lane	Signal	NB 280 SB N/A EB 100	9.3	A	NB 39 SB N/A EB 91	10.8	B	NB 32 SB N/A EB **127**	10.8	B	NB 56 SB N/A EB **103**	15.8	B	NB 47 SB N/A EB 161	Restripe EB: L,L-R	NB 280 SB N/A EB 100	9.2	A	NB 51 SB N/A EB 49	16.8	B	NB 43 SB N/A EB **95**	"Traffic Signals Intersection"
9	Latrobe Road/ Golden Foothill Parkway (S)	Signal	NB 220 SB 530 EB 100 WB N/A	26.0	C	NB 32 SB 157 EB **130** WB N/A	37.5	D	NB 86 SB 253 EB **309** WB N/A	51.8	D	NB 149 SB 257 EB 211 WB N/A	106.6	F	NB 167 SB 352 EB 610 WB N/A	Stripe EB approach as 2-lanes between Robert J Mathews Pkwy and Latrobe Rd. Construct a 200' EB right turn pocket. Label as left, left, thru-right. Adjust cycle length and splits.	NB 220 SB 530 EB N/A WB N/A	45.1	D	NB 142 SB 194 EB N/A WB N/A	75.7	E	NB 154 SB 219 EB N/A WB N/A	"Latrobe 72"
10	Latrobe Road/Investment Boulevard	Signal	NB 180 SB N/A EB 100	10.8	B	NB 35 SB N/A EB 68	18.0	B	NB 66 SB N/A EB **232**	15.0	B	NB 70 SB N/A EB 117	74.5	E	NB 157 SB N/A EB 468	EB: Stripe EB approach as left, shared left-right in 180' pocket. Adjust cycle length and splits.	NB 180 SB N/A EB 200	11.0	B	NB 44 SB N/A EB 47	50.2	D	NB 91 SB N/A EB 192	"Latrobe 72"
11	Latrobe Road/Avanti Drive	TWSC	NB N/A SB N/A EB N/A WB N/A	(WB) 12.7	B	NB N/A SB N/A EB N/A WB N/A	(WB) 11.1	B	NB N/A SB N/A EB N/A WB N/A	(EB) 180.5	F	NB N/A SB N/A EB N/A WB N/A	(EB) 206.4	F	NB N/A SB N/A EB N/A WB N/A	Construct 100' left t turn pockets on Latrobe (NB and SB). Construct 100' receiving lane on NB Latrobe for EB left turns from Project.	NB 100 SB 100 EB N/A WB N/A	(EB) 37.1	E	NB 0 SB 2 EB N/A WB N/A	(EB) 35.0	D	NB 0 SB 2 EB N/A WB N/A	n/a
12	Latrobe Road/Royal Oaks Drive	TWSC	NB 320 SB 320 EB N/A WB N/A	(WB) 14.0	B	NB 0 SB 4 EB N/A WB N/A	(WB) 21.8	C	NB 0 SB 7 EB N/A WB N/A	(EB) 1678.4 *	F	NB 4 SB 3 EB N/A WB N/A	(EB) 1959.5 *	F	NB 12 SB 7 EB N/A WB N/A	Signalize with second SB right in 200' pocket. Construct 3-lane EB approach as left, shared left-thru, and right, with EB left in 200' pocket and EB right in 100' pocket.	NB 320 SB 320 EB 220 WB N/A	19.4	B	NB 32 SB 22 EB 124 WB N/A	17.9	C	NB 45 SB 47 EB 70 WB N/A	n/a
13	Golden Foothill Pkwy/Robert J. Mathews Pkwy	TWSC	NB N/A SB N/A EB N/A WB N/A	(NB) 18.3	C	NB N/A SB N/A EB N/A WB N/A	(NB) 2479.7 *	F	NB N/A SB N/A EB N/A WB N/A	(NB) 25.18	D	NB N/A SB N/A EB N/A WB N/A	(NB) 4762.1 *	F	NB N/A SB N/A EB N/A WB N/A	Construct roundabout NB: Two lane approach , one in a 100' right turn pocket, one labeled as right and one labeled as left. Two circulating lanes. EB: One lane approach. One circulating lane. WB: Two lane approach, one in a 150' thru pocket, one labeled as thru and one labeled as left. Two circulating lanes.	NB N/A SB N/A EB N/A WB N/A	(EB) 9.2	A	NB N/A SB N/A EB N/A WB N/A	(EB) 18.1	B	NB N/A SB N/A EB N/A WB N/A	Anticipated
18	White Rock Road/Carson Crossing Road	TWSC	NB N/A SB N/A EB 200 WB 300	(NBL) 22.0	C	NB N/A SB N/A EB 0 WB 2	(NBL) 69.3	F	NB N/A SB N/A EB 0 WB 5	(NBL) 38.7	E	NB N/A SB N/A EB 0 WB 2	(NBL) 193 *	F	NB N/A SB N/A EB 0 WB 6	Signalize	NB N/A SB N/A EB 200 WB 300	14.6	B	NB N/A SB N/A EB 4 WB 15	15.0	B	NB N/A SB N/A EB 5 WB 34	36105041
21	White Rock Road/Valley View Parkway	Signal	NB 100 SB 100 EB 100 WB 100	75.0	E	NB 106 SB 206 EB 92 WB **206**	**54.2**	**D**	NB 70 SB **304** EB 50 WB **321**	91.5	F	NB 109 SB 215 EB 125 WB 232	68.8	E	NB 72 SB **318** EB 72 WB 398	EB: L,T,R (EBR turn pocket 220') WB: L,T,R (WBR pocket 220') Extend left turn pockets on Latrobe to 400' Widening to south or Latrobe to avoid high voltage lines. NEB and SWB lane alignment may require additional space.	NB 100 SB 100 EB 400 WB 400	166.3	F	NB 149 SB 297 EB 383 WB 590	50.3	D	NB 71 SB **311** EB 70 WB 387	36105042

* Denotes intersections where the peak-hour signal warrant is met.

2/17/2024

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7.0 EPPAP 2033 CONDITIONS

The EPAP 2033 conditions analysis started with lane configurations from Existing 2023 conditions, turning movements derived from existing traffic counts, growth factors from the Travel Demand Model, and the NCHRP 255 adjustment procedure[18].

Several volume and network adjustments were then made.

One Capital Improvement Program (CIP) project that effects study intersection geometry was accounted for:

- CIP Project 36105076: "El Dorado Hills Saratoga Way Turn Pockets" will construct a southbound right turn pocket and extend the northbound and southbound left turn pockets on El Dorado Hills Blvd. The southbound right pocket was modeled as a 300-foot right turn pocket. The northbound and southbound left turn pockets were modeled as 500-foot left turn pockets.

Traffic volumes from 2023 without the Project were used as a floor before traffic from the avoided trips (see **Figure 11**, page 47) was shifted from where the TDM loads it directly onto Carson Crossing Drive to Investment Blvd.

Traffic for the approved Carson Creek/Heritage Project was added. Note that because the Creekside Village project also has avoided R&D and industrial vehicle trips, some turning movements are lower in 2033 than they were in 2023.

Figure *14* summarizes the turning movements and lane configurations for the EPPAP 2033 conditions scenario.

Delay and level-of-service is presented in **Table 20** through **Table 22**. Intersection control is listed as signal, two-way stop-controlled (TWSC), or all-way stop-control (AWSC). Both the estimated delay and level-of-service (LOS) is provided. At TWSC intersections, the movement with the worst delay is shown in parentheses. Ninety-fifth percentile left turn queues are also listed. Entries shown in **bold black** typeface denote deficient traffic operations, and unsignalized intersections that meet the peak hour signal warrant are denoted with an asterisk and shading.

The results indicate that one study segment (White Rock Rd between Valley View Pkwy to Silva Valley Pkwy) and sixteen study intersections operate deficiency with level-of-service F conditions and/or 95% left turn queues that exceed available storage lengths.

[18] Transportation Research Board (1982) National Cooperative Highway Research Program Report 255, Washington D.C.

- (1) El Dorado Hills Blvd/Serrano Pkwy AM;
- (2) El Dorado Hills Blvd/Saratoga Way: AM and PM;
- (3) El Dorado Hills Blvd/US 50 WB AM and PM;
- (5) Latrobe Road/Town Center Boulevard: AM and PM;
- (6) Latrobe Road/White Rock Road AM and PM;
- (7) Latrobe Road/Golden Foothill Parkway (N): AM and PM;
- (8) Latrobe Road/Suncast Lane AM and PM;
- (9) Latrobe Road/ Golden Foothill Parkway (S): AM and PM;
- (10) Latrobe Road/Investment Boulevard: PM;
- (13) Golden Foothill Parkway (S)/Robert J. Mathewsws Pkwy AM and PM;
- (14) Investment Boulevard/Robert J. Mathews Pkwy AM and PM
- (18) White Rock Road/Carson Crossing Road PM;
- (19) White Rock Road/Windfield Way AM and PM;
- (20) White Rock Road/Post Street: AM and PM;
- (21) White Rock Road/Valley View Parkway: AM and PM; and
- (23) Silva Valley Parkway/US 50 EB ramps PM.

Calculation sheets for delay and level-of-service are provided in **Appendix B**. The remainder of the study intersections, all of the US 50 study segments, and arterial study segments were found to operate acceptably.

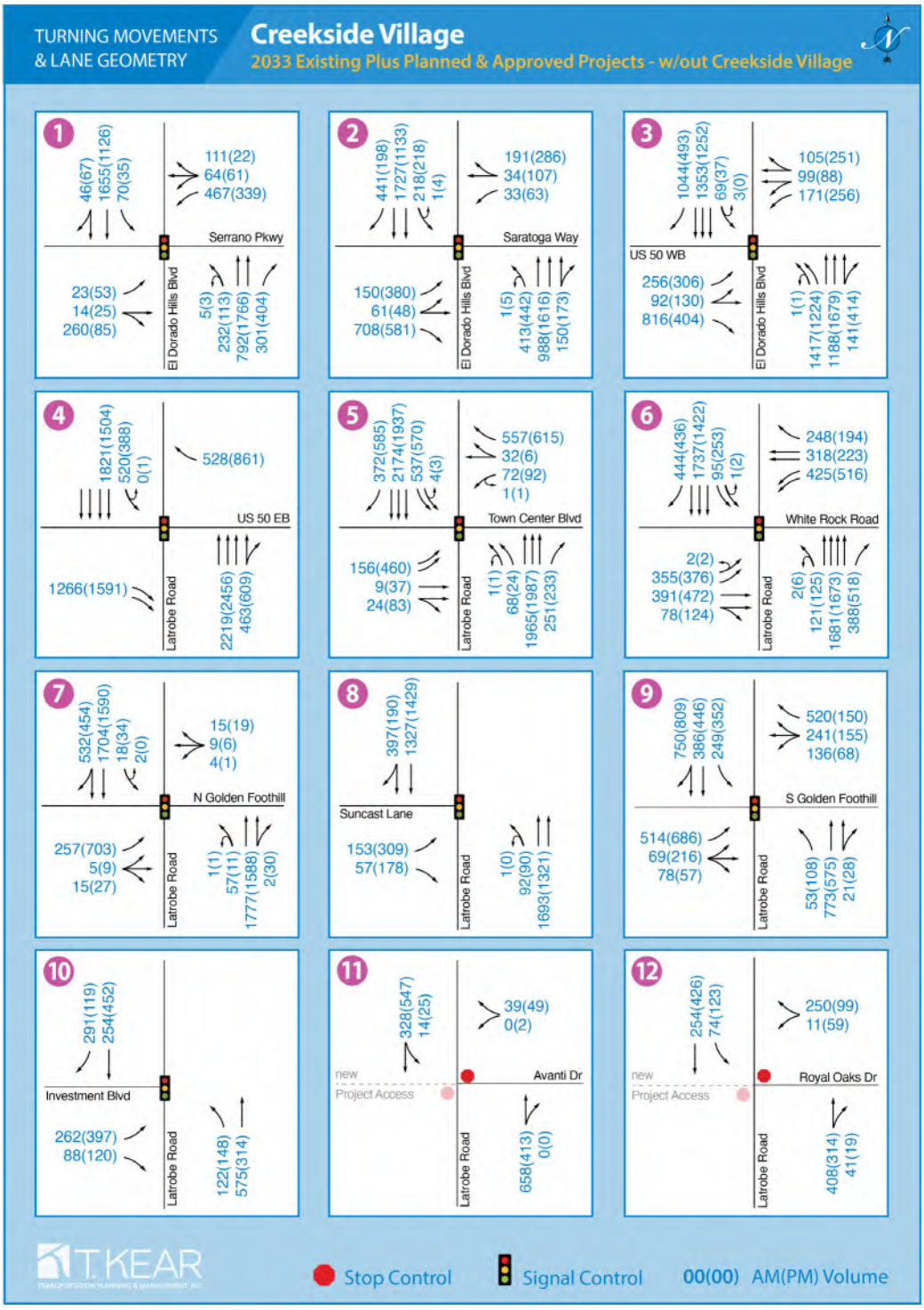


Figure 14. EPAP 2033 conditions lane geometry and turning movements

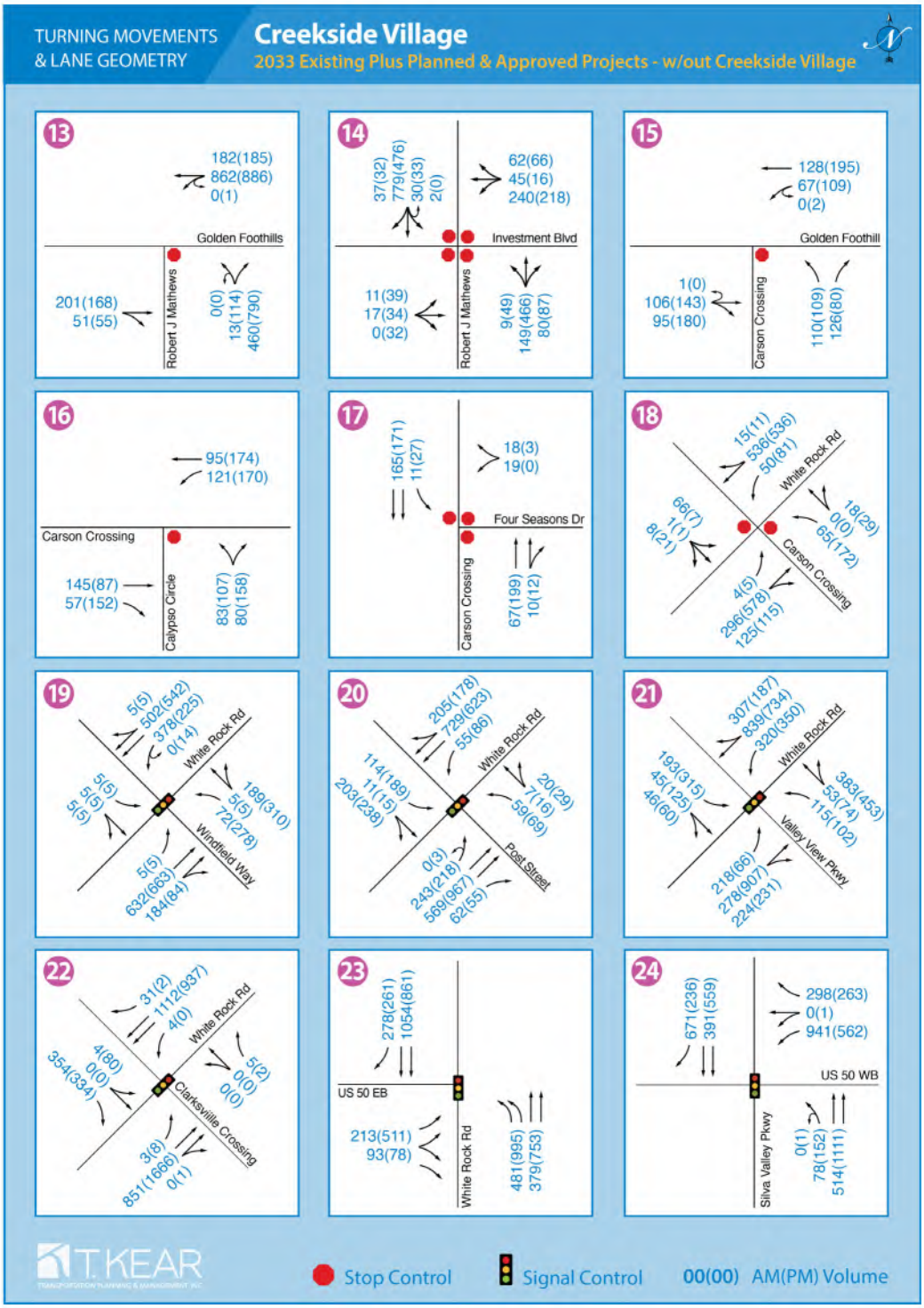


Figure 14. EPAP 2033 conditions lane geometry and turning movements (continued)

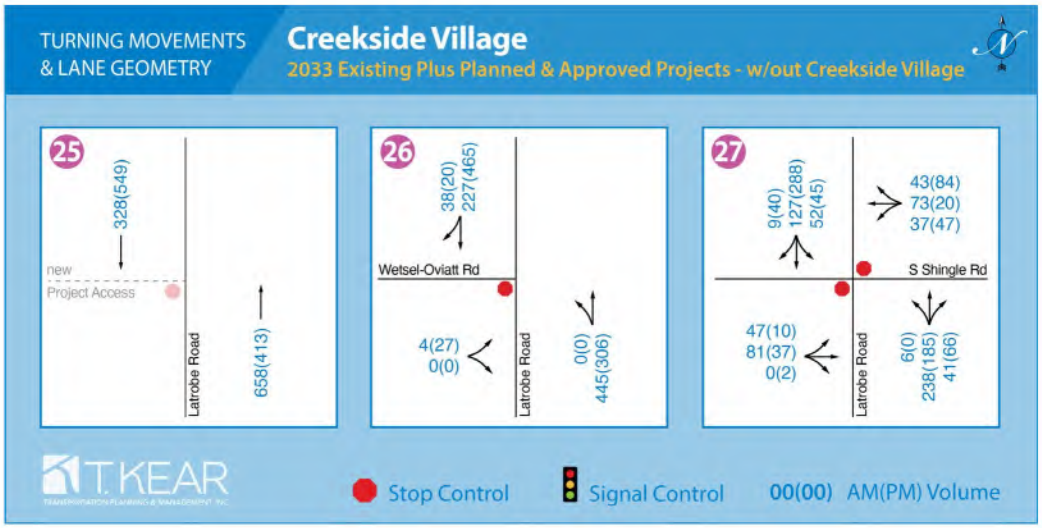


Figure 14. EPAP 2033 conditions lane geometry and turning movements (continued)

Table 20. EPAP 2033 intersection delay and level-of-service without the Project

ID	Intersection	Control	Left Turn Storage		2033 AM Peak No Project				2033 PM Peak No Project			
					Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)
1	El Dorado Hills Blvd/Serrano Pkwy	Signal	NB	260	**177.9**	**F**	NB	**382**	55.7	E	NB	115
			SB	110			SB	**119**			SB	40
			EB	100			EB	33			EB	52
			WB	430			WB	**457**			WB	207
2	El Dorado Hills Blvd/Saratoga Way	Signal	NB	500	**162.8**	**F**	NB	**1151**	**112.0**	**F**	NB	**1312**
			SB	500			SB	332			SB	341
			EB	150			EB	140			EB	**311**
			WB	N/A			WB	N/A			WB	N/A
3	El Dorado Hills Blvd/US 50 WB (Note EBL queueing reported even though there is not a left - turn pocket, it is 250' to end of right-turn pocket.)	Signal	NB	N/A	**92.6**	**F**	NB	N/A	50.7	D	NB	N/A
			SB	220			SB	113			SB	57
			EB	N/A			EB	227			EB	319
			WB	150			WB	**182**			WB	**238**
4	El Dorado Hills Blvd/US 50 EB (Note: EB and WB right queue reported as EB and WB. EB slip offramp is 1725 feet long)	Signal	NB	N/A	32.3	C	NB	N/A	58.1	E	NB	N/A
			SB	570			SB	363			SB	298
			EB	N/A			EB	549			EB	**1251**
			WB	N/A			WB	0			WB	0
5	Latrobe Road/Town Center Boulevard	Signal	NB	220	39.4	D	NB	41	52.3	D	NB	15
			SB	330			SB	**479**			SB	**679**
			EB	300			EB	93			EB	249
			WB	100			WB	74			WB	99
6	Latrobe Road/White Rock Road	Signal	NB	270	44.3	D	NB	253	79.6	E	NB	246
			SB	260			SB	89			SB	234
			EB	360			EB	306			EB	325
			WB	160			WB	**378**			WB	**840**
7	Latrobe Road/Golden Foothill Parkway (N)	Signal	NB	200	**84.0**	**F**	NB	56	80.0	E	NB	13
			SB	200			SB	22			SB	38
			EB	100			EB	**126**			EB	**416**
			WB	N/A			WB	N/A			WB	N/A
8	Latrobe Road/Suncast Lane	Signal	NB	280	13.7	B	NB	77	22.6	C	NB	85
			SB	N/A			SB	N/A			SB	N/A
			EB	100			EB	**127**			EB	**289**
9	Latrobe Road/ Golden Foothill Parkway (S)	Signal	NB	220	**90.2**	**F**	NB	66	**132.3**	**F**	NB	98
			SB	530			SB	475			SB	**786**
			EB	100			EB	**638**			EB	**1066**
			WB	N/A			WB	N/A			WB	N/A
10	Latrobe Road/Investment Boulevard	Signal	NB	180	12.2	B	NB	40	19.1	B	NB	**93**
			SB	N/A			SB	N/A			SB	N/A
			EB	100			EB	98			EB	251
11	Latrobe Road/Avanti Drive	TWSC	NB	N/A	(WB) 14.5	B	NB	N/A	(WB) 11.9	B	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A
12	Latrobe Road/Royal Oaks Drive	TWSC	NB	320	(WB) 17.4	B	NB	0	(WB) 26.5	D	NB	0
			SB	320			SB	6			SB	9
			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A
13	Golden Foothill Pkwy/Robert J. Mathews Pkwy	TWSC	NB	N/A	**(NB) 939.5 ***	**F**	NB	N/A	**(NB) 10000.0 * (v/c= 27)**	**F**	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A

Table 20. EPAP 2033 intersection delay and level-of-service without the Project (continued)

ID	Intersection	Control	Left Turn Storage	2033 AM Peak No Project				2033 PM Peak No Project			
				Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)
14	Investment Boulevard/Robert J. Mathews Pkwy	AWSC	NB N/A SB N/A EB N/A WB N/A	**203.9 ***	**F**	NB N/A SB N/A EB N/A WB N/A		**135.9 ***	**f**	NB N/A SB N/A EB N/A WB N/A	
15	Golden Foothill Parkway/Carson Crossing Road	TWSC	NB N/A SB N/A EB N/A WB 220	(NBL) 13.7	B	NB N/A SB N/A EB N/A WB 5		(NBL) 21.4	C	NB N/A SB N/A EB N/A WB 8	
16	Carson Crossing Road/Calypso Circle	TWSC	NB N/A SB N/A EB N/A WB 190	(NB) 13.2	B	NB N/A SB N/A EB N/A WB 8		(NB) 16.8	C	NB N/A SB N/A EB N/A WB 12	
17	Carson Crossing Road/4 Seasons Drive	AWSC	NB N/A SB 100 WB N/A	8.0	A	NB N/A SB 1 WB N/A		8.2	A	NB N/A SB 3 WB N/A	
18	White Rock Road/Carson Crossing Road	TWSC	NB N/A SB N/A EB 200 WB 300	(NBL) 34.5	D	NB N/A SB N/A EB 0 WB 4		**(NBL) 411.5***	**F**	NB N/A SB N/A EB 0 WB 8	
19	White Rock Road/Windfield Way	Signal	NB 150 SB 100 EB 200 WB 200	29.2	C	NB 105 SB **10** EB 10 WB **452**		32.9	C	NB **393** SB 10 EB 10 WB **309**	
20	White Rock Road/Post Street	Signal	NB N/A SB 100 EB 100 WB 120	40.1	D	NB N/A SB **318** EB **373** WB 102		67.2	E	NB N/A SB **702** EB **341** WB **158**	
21	White Rock Road/Valley View Parkway	Signal	NB 100 SB 100 EB 100 WB 100	**252.3**	**F**	NB **170** SB **324** EB **387** WB **708**		**259.5**	**F**	NB **152** SB **505** EB **125** WB **827**	
22	White Rock Road/Clarksville Crossing	Signal	NB N/A SB N/A EB 460 WB 290	35.7	D	NB N/A SB N/A EB 7 WB 8		37.9	D	NB N/A SB N/A EB 13 WB 0	
23	Silva Valley Parkway/US 50 EB ramps	Signal	NB 500 SB N/A EB N/A WB N/A	21.7	C	NB 257 SB N/A EB N/A WB N/A		49.9	D	NB **698** SB N/A EB N/A WB N/A	
24	Silva Valley Parkway/US 50 WB ramps	Signal	NB 550 SB N/A EB N/A WB N/A	69.7	E	NB 98 SB N/A EB N/A WB N/A		23.0	D	NB 192 SB N/A EB N/A WB N/A	
25	Latrobe Road/Commercial RIRO driveway	TWSC	NB N/A SB N/A EB N/A	Does not exist				Does not exist			
26	Latrobe Road/Wetsel-Oviatt Road	TWSC	NB N/A SB N/A EB N/A	(EB) 13.8	B	NB N/A SB N/A EB N/A		(EB) 15.7	C	NB N/A SB N/A EB N/A	
27	Latrobe Road/S. Shingle Road	TWSC	NB N/A SB N/A EB N/A WB N/A	(EB) 18.7	B	NB N/A SB N/A EB N/A WB N/A		(EB) 16.9	C	NB N/A SB N/A EB N/A WB N/A	

Table 21. EPAP 2033 freeway facility level-of-service without the Project

No	Segment	Segment Type	Method	2033 No Project AM	2333 No Project PM
Westbound US 50					
1	Bass Lake Rd to Silva Valley Pkwy	basic	HCM 7th Ed.	28.5/D	22.5/C
2	Silva Valley offramp	diverge	HCM 7th Ed.	24.1/C	19.1/B
3	Silva Valley offramp to future loop onramp	basic	HCM 7th Ed.	16.2/B	15.8/B
4	Future Silva Valley loop onramp	merge	HCM 7th Ed.	n/a	n/a
5	Silva Valley Pkwy to Latrobe Rd	weave	HCM 7th Ed.	16.5/B	13.7/B
6	El Dorado Hills Blvd offramp to onramp	basic	HCM 7th Ed.	13.3/B	12.6/B
7	El Dorado Hills Blvd onramp	merge	HCM 7th Ed.	30.1/D	27.5/C
8	El Dorado Hills Blvd to EDC Line *	basic	HCM 7th Ed.	32.5/D	28.0/D
Eastbound US 50					
9	EDC Line to Latrobe Rd	basic	HCM 7th Ed.	14.0/B	22.8/C
10	Latrobe slip offramp	diverge	HCM 7th Ed.	25.2/C	34.9/D
11	Latrobe loop offramp	diverge		23.7/C	32.2/D
12	El Dorado Hills Blvd offramp to Latrobe Rd onramp	basic	HCM 7th Ed.	5.9/A	10.4/A
13	Latrobe Rd onramp to Silva Valley Pkwy offramp	weave	HCM 7th Ed.	9.1/A	13.3/B
14	Silva Valley Pkwy offramp to onramp	basic	HCM 7th Ed.	9.0/A	12.3/B
B15	Silva Valley Pkwy onramp	merge	HCM 7th Ed.	17.3/B	24.5/C
16	Future Silva Valley Pkwy slip onramp	merge	HCM 7th Ed.	n/a	n/a
17	Silva Valley Pkwy to Bass Lake Rd	basic	HCM 7th Ed.	12.4/B	18.3/C

Notes:
Density in units of passenger cars per mile per lane.
*Prior to the opening of the Saratoga Way extension, Caltrans has reported occasional LOS F conditions during the morning peak for this segment based on planning methods rather than counts.

Table 22. EPAP 2033 arterial level-of-service check without the Project

Arterial Segment	Description	2033 AM No Project	2033 PM No Project
Latrobe Rd between Royal Oaks Dr and Investment Blvd	2-lane arterial (threshold 1650)	736	734
Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south)	2-lane arterial (threshold 1650)	1213	1035
Latrobe Rd between Golden Foothill Pkwy (south) and Suncast Ln	4-lane divided arterial (threshold 3290)	2756	2549
Latrobe Rd between White Rock Rd and Town Center Blvd	8-lane divided arterial (threshold 6280, extrapolated from 6-lane divided arterial)	3327	3354
White Rock Rd between Valley View Pkwy to Silva Valley Pkwy	2-lane arterial (threshold 1650)	**1856**	**2360**

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8.0 EPAP 2033 PLUS PROPOSED PROJECT CONDITIONS

8.1 Traffic Volumes

Peak hour Project trips (**Figure 8** page 40) and avoided R&D and industrial trips (**Figure 11** page 47) were added to the EPAP 2033 conditions traffic volumes. Delay and level-of-service were determined at the study intersections and segments. **Figure 15** summarizes the turning movements and lane configurations for the EPPAP 2033 Plus Proposed Project scenario.

8.2 Level-of-Service

Table 23 through **Table 25** present a summary of the level-of-service results for the study intersections and segments under EPAP 2033 Plus Proposed Project conditions. Intersection control is listed as signal, two-way stop-controlled (TWSC), or all-way stop-control (AWSC). Both the estimated delay and level-of-service (LOS) is provided. At TWSC intersections, the movement with the worst delay is shown in parentheses. Ninety-fifth percentile left turn queues are also listed. Entries shown in **Bold black** text in **Table 23** through **Table 25** denote locations with preexisting deficiencies that the Project is not anticipated to worsen. **Bold red** text denotes locations where the Project is anticipated to create new or worsen preexisting deficiencies. Unsignalized intersections that meet the peak hour signal warrant are shaded and denoted with an asterisk.

Two arterial segments are anticipated to have a preexisting deficiency worsened by Project traffic or a new deficiency caused by Project traffic. Eighteen intersections are anticipated to have level-of-service and/or queue spillback deficiencies.

<u>2 Arterial segments with worsened or new Project related deficiencies:</u>

- White Rock Rd between Valley View Pkwy to Silva Valley Pkwy AM and PM; and
- Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south) PM.

<u>6 Locations that are deficient with or without the Project that are not worsened:</u>

- (1) El Dorado Hills Blvd/Serrano Pkwy AM;
- (8) Latrobe Rd/Suncast Ln AM and PM;
- (14) Investment Boulevard/Robert J. Mathews Pkwy AM;
- (19) White Rock Road/Windfield Way AM and PM;
- (20) White Rock Road/Post Street AM and PM; and
- (23) Silva Valley Parkway/US 50 EB ramps AM.

<u>10 Locations that are deficient with or without the Project that are worsened:</u>

- (2) El Dorado Hills Blvd/Saratoga Way AM and PM;
- (3) El Dorado Hills Blvd/US 50 WB AM and PM;
- (5) Latrobe Road/Town Center Boulevard PM;
- (6) Latrobe Road/White Rock Road AM and PM;
- (7) Latrobe Road/Golden Foothill Parkway (N) AM and PM;
- (9) Latrobe Road/ Golden Foothill Parkway (S) AM and PM;

- (10) Latrobe Road/Investment Boulevard AM and PM;
- (13) Golden Foothill Parkway (S)/Robert J. Mathewsws Pkwy AM and PM;
- (18) White Rock Road/Carson Crossing Road PM; and
- (21) White Rock Road/Valley View Parkway: AM and PM.

2 Locations where the Project is anticipated to cause new deficiencies:

- (11) Latrobe Road/Avanti Drive AM and PM; and
- (12) Latrobe Road/Royal Oaks Drive AM and PM.

Calculation sheets for delay and level-of-service are provided in **Appendix B**. the remainder of the study intersections, all of the US 50 study segments, and arterial study segments were found to operate acceptably.

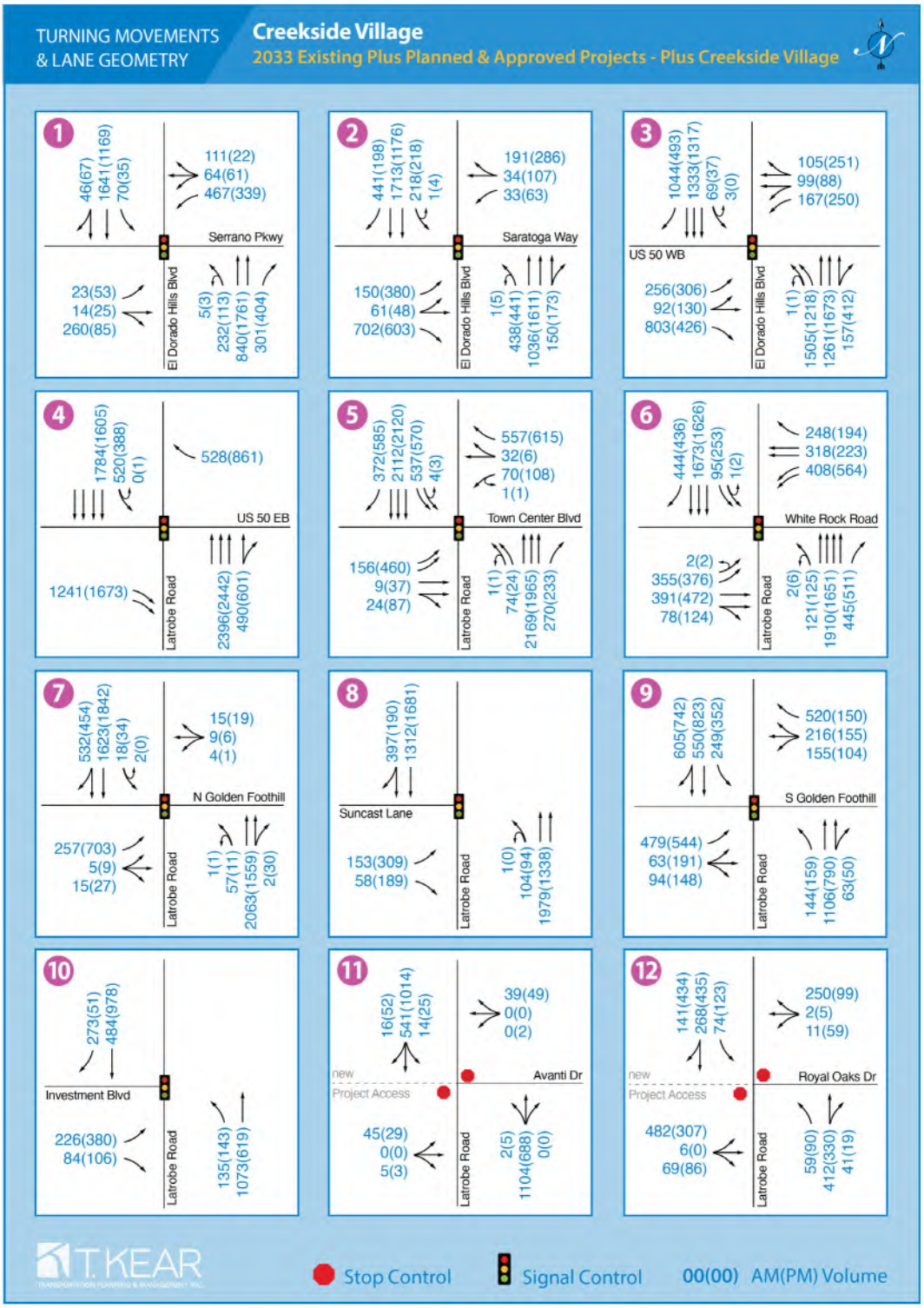


Figure 15. EPPAP 2033 plus Project lane geometry and turning movements

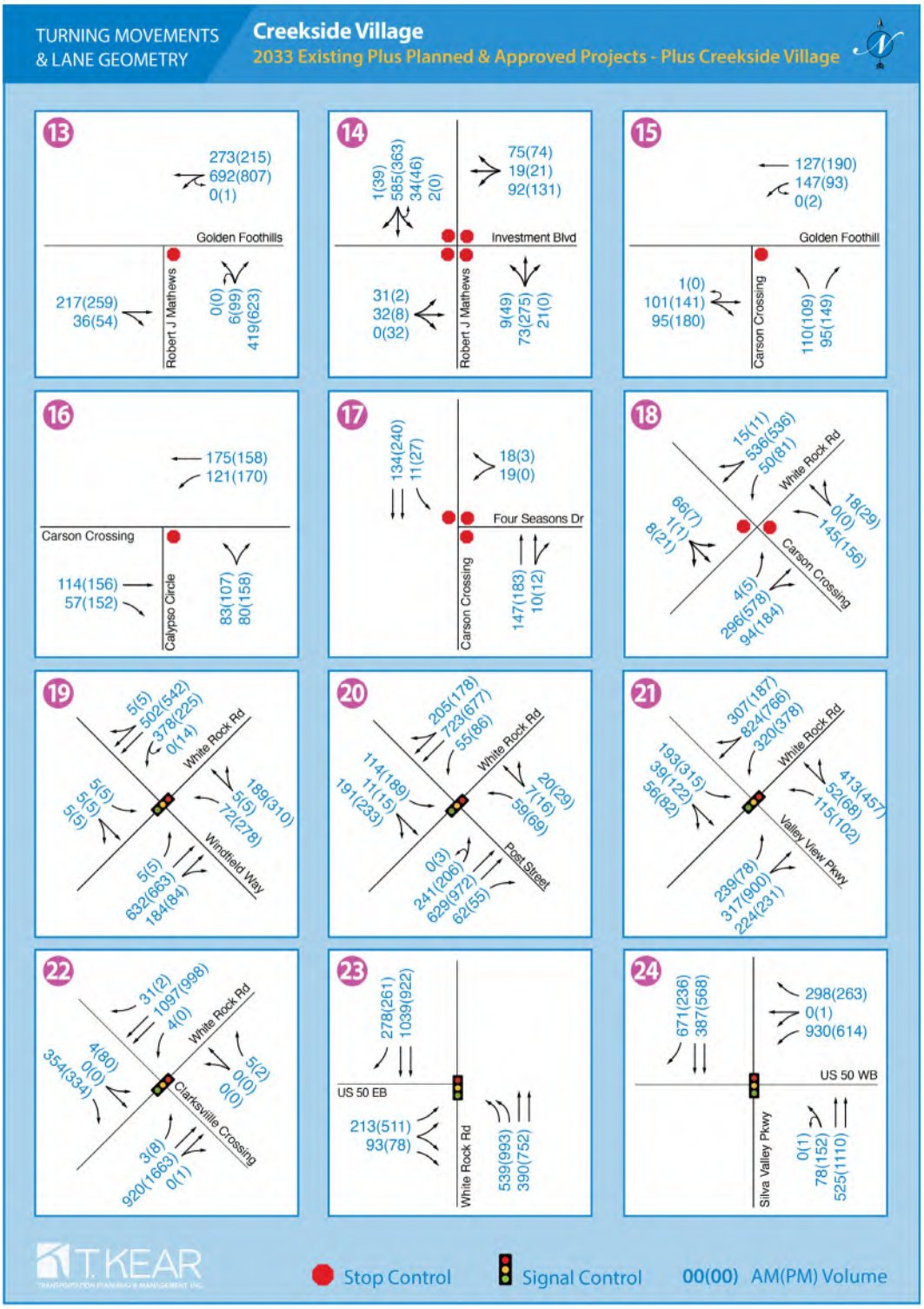


Figure 15. EPPAP 2033 plus Project lane geometry and turning movements (continued)

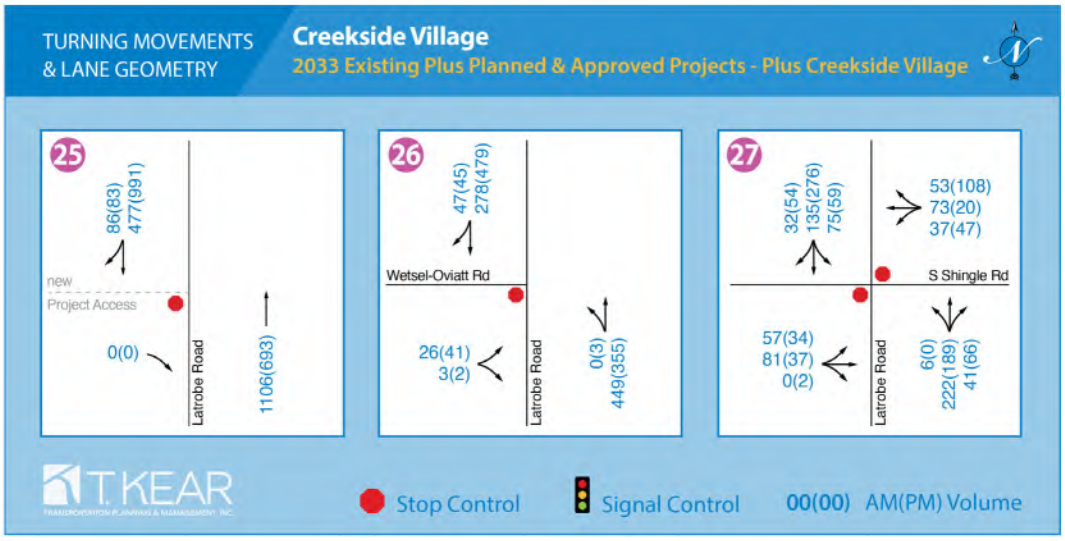


Figure 15. EPPAP 2033 plus Project lane geometry and turning movements (continued)

Table 23. EPPAP 2033 intersection delay and level-of-service with and without the Project

ID	Intersection	Control	Left Turn Storage	2033 AM Peak No Project				2033 PM Peak No Project				2033 AM Peak with Project				2033 PM Peak with Project			
				Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)
1	El Dorado Hills Blvd/Serrano Pkwy	Signal	NB 260 SB 110 EB 100 WB 430	**177.9**	**F**	NB **382** SB **119** EB 33 WB **457**		55.7	E	NB 115 SB 40 EB 52 WB 207		**174.6**	**F**	NB **382** SB 119 EB 33 WB 457		56.5	E	NB 115 SB 40 EB 52 WB 207	
2	El Dorado Hills Blvd/Saratoga Way	Signal	NB 500 SB 500 EB 150 WB N/A	**162.8**	**F**	NB **1151** SB 332 EB 140 WB N/A		**112.0**	**F**	NB **1312** SB 341 EB **311** WB N/A		**164.3**	**F**	NB **1272** SB 333 EB 140 WB N/A		**117.2**	**F**	NB **1338** SB 345 EB **316** WB N/A	
3	El Dorado Hills Blvd/US 50 WB (Note EBL queueing reported even though there is not a left-turn pocket, it is 250' to end of right-turn pocket.)	Signal	NB N/A SB 220 EB N/A WB 150	**92.6**	**F**	NB N/A SB 113 EB 227 WB **182**		50.7	D	NB N/A SB 57 EB 319 WB **238**		**104.4**	**F**	NB N/A SB 113 EB 227 WB **181**		54.2	D	NB N/A SB 57 EB 319 WB **249**	
4	El Dorado Hills Blvd/US 50 EB (Note: EB and WB right queue reported as EB and WB. EB slip offramp is 1725 feet long)	Signal	NB N/A SB 570 EB N/A WB N/A	32.3	C	NB N/A SB 363 EB 549 WB 0		58.1	E	NB N/A SB 298 EB **1251** WB 0		38.2	D	NB N/A SB 363 EB 528 WB 0		66.0	E	NB N/A SB 298 EB **1423** WB 0	
5	Latrobe Road/Town Center Boulevard	Signal	NB 220 SB 330 EB 300 WB 100	39.4	D	NB 41 SB **479** EB 93 WB 74		52.3	D	NB 15 SB **679** EB 249 WB 99		42.2	D	NB 45 SB **491** EB 94 WB 75		63.7	E	NB 17 SB **811** EB 281 WB **140**	
6	Latrobe Road/White Rock Road	Signal	NB 270 SB 260 EB 360 WB 160	44.3	D	NB 253 SB 89 EB 306 WB **378**		79.6	E	NB 246 SB 234 EB 325 WB **840**		43.4	D	NB 253 SB 89 EB 306 WB **360**		**87.0**	**F**	NB 246 SB 234 EB 325 WB **964**	
7	Latrobe Road/Golden Foothill Parkway (N)	Signal	NB 200 SB 200 EB 100 WB N/A	**84.0**	**F**	NB 56 SB 22 EB **126** WB N/A		80.0	E	NB 13 SB 38 EB **416** WB N/A		79.0	E	NB 56 SB 22 EB **126** WB N/A		**112.5**	**F**	NB **13** SB 38 EB **416** WB N/A	
8	Latrobe Road/Suncast Lane	Signal	NB 280 SB N/A EB 100	13.7	B	NB 77 SB N/A EB **127**		22.6	C	NB 85 SB N/A EB **289**		15.4	B	NB 88 SB N/A EB **131**		41.4	D	NB 91 SB N/A EB **295**	
9	Latrobe Road/ Golden Foothill Parkway (S)	Signal	NB 220 SB 530 EB 100 WB N/A	**90.2**	**F**	NB 66 SB 475 EB **638** WB N/A		**132.3**	**F**	NB 98 SB **786** EB **1066** WB N/A		**127.5**	**F**	NB 180 SB 497 EB **577** WB N/A		**171.9**	**F**	NB 176 SB **886** EB **989** WB N/A	
10	Latrobe Road/Investment Boulevard	Signal	NB 180 SB N/A EB 100	12.2	B	NB 40 SB N/A EB 98		19.1	B	NB **93** SB N/A EB 251		22.4	C	NB 87 SB N/A EB **161**		80.2	F	NB **186** SB N/A EB **479**	
11	Latrobe Road/Avanti Drive	TWSC	NB N/A SB N/A EB N/A WB N/A	(WB) 14.5	B	NB N/A SB N/A EB N/A WB N/A		(WB) 11.9	B	NB N/A SB N/A EB N/A WB N/A		**284.4**	**F**	NB N/A SB N/A EB N/A WB N/A		**(EB) 244.7**	**F**	NB N/A SB N/A EB N/A WB N/A	
12	Latrobe Road/Royal Oaks Drive	TWSC	NB 320 SB 320 EB N/A WB N/A	(WB) 17.4	B	NB 0 SB 6 EB N/A WB N/A		(WB) 26.5	D	NB 0 SB 9 EB N/A WB N/A		**(EB) 2997.4 ***	**F**	NB 4 SB 6 EB N/A WB N/A		**(EB) 2516.5 ***	**F**	NB 11 SB 9 EB N/A WB N/A	
13	Golden Foothill Pkwy/Robert J. Mathews Pkwy	TWSC	NB N/A SB N/A EB N/A WB N/A	**(NB) 939.5 ***	**F**	NB N/A SB N/A EB N/A WB N/A		**(NB) 10000.0 * (v/c= 27)**	**F**	NB N/A SB N/A EB N/A WB N/A		**(NB) 78.89 ***	**F**	NB N/A SB N/A EB N/A WB N/A		**(NB) 10000.0 * (v/c = 30)**	**F**	NB N/A SB N/A EB N/A WB N/A	

Table 23. EPPAP 2033 intersection delay and level-of-service with and without the Project (continued)

ID	Intersection	Control	Left Turn Storage	2033 AM Peak No Project				2033 PM Peak No Project				2033 AM Peak with Project				2033 PM Peak with Project			
				Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)
14	Investment Boulevard/Robert J. Mathews Pkwy	AWSC	NB N/A SB N/A EB N/A WB N/A	**203.9 ***	**F**	NB N/A SB N/A EB N/A WB N/A		**135.9 ***	**f**	NB N/A SB N/A EB N/A WB N/A		**52.8**	**F**	NB N/A SB N/A EB N/A WB N/A		25.7	D	NB N/A SB N/A EB N/A WB N/A	
15	Golden Foothill Parkway/Carson Crossing Road	TWSC	NB N/A SB N/A EB N/A WB 220	(NBL) 13.7	B	NB N/A SB N/A EB N/A WB 5		(NBL) 21.4	C	NB N/A SB N/A EB N/A WB 8		(NBL) 17.2	C	NB N/A SB N/A EB N/A WB 10		(NBL) 20.9	D	NB N/A SB N/A EB N/A WB 8	
16	Carson Crossing Road/Calypso Circle	TWSC	NB N/A SB N/A EB N/A WB 190	(NB) 13.2	B	NB N/A SB N/A EB N/A WB 8		(NB) 16.8	C	NB N/A SB N/A EB N/A WB 12		(NB) 13.8	B	NB N/A SB N/A EB N/A WB 9		(NB) 19.4	C	NB N/A SB N/A EB N/A WB 13	
17	Carson Crossing Road/4 Seasons Drive	AWSC	NB N/A SB 100 WB N/A	8.0	A	NB N/A SB 1 WB N/A		8.2	A	NB N/A SB 3 WB N/A		8.2	A	NB N/A SB 1 WB N/A		8.4	A	NB N/A SB 3 WB N/A	
18	White Rock Road/Carson Crossing Road	TWSC	NB N/A SB N/A EB 200 WB 300	(NBL) 34.5	D	NB N/A SB N/A EB 0 WB 4		**(NBL) 411.5***	**F**	NB N/A SB N/A EB 0 WB 8		**(NBL) 64.3**	**F**	NB N/A SB N/A EB 0 WB 4		**(NBL) 448.9 ***	**F**	NB N/A SB N/A EB 0 WB 9	
19	White Rock Road/Windfield Way	Signal	NB 150 SB 100 EB 200 WB 200	29.2	C	NB 105 SB **10** EB 10 WB **452**		32.9	C	NB **393** SB 10 EB 10 WB **309**		29.2	C	NB 105 SB **10** EB 10 WB **452**		32.9	C	NB **393** SB 10 EB 10 WB **309**	
20	White Rock Road/Post Street	Signal	NB N/A SB 100 EB 100 WB 120	40.1	D	NB N/A SB **318** EB **373** WB 102		67.2	E	NB N/A SB **702** EB **341** WB **158**		39.0	D	NB N/A SB **318** EB **370** WB 102		66.0	E	NB N/A SB **702** EB **328** WB **158**	
21	White Rock Road/Valley View Parkway	Signal	NB 100 SB 100 EB 100 WB 100	**252.3**	**F**	NB **170** SB **324** EB **387** WB **708**		**259.5**	**F**	NB **152** SB **505** EB **125** WB **827**		**260.6**	**F**	NB **176** SB **335** EB **446** WB **766**		**268.6**	**F**	NB **152** SB **505** EB **147** WB **961**	
22	White Rock Road/Clarksville Crossing	Signal	NB N/A SB N/A EB 460 WB 290	35.7	D	NB N/A SB N/A EB 7 WB 8		37.9	D	NB N/A SB N/A EB 13 WB 0		35.1	D	NB N/A SB N/A EB 7 WB 8		37.8	C	NB N/A SB N/A EB 13 WB 0	
23	Silva Valley Parkway/US 50 EB ramps	Signal	NB 500 SB N/A EB N/A WB N/A	21.7	C	NB 257 SB N/A EB N/A WB N/A		49.9	D	NB **698** SB N/A EB N/A WB N/A		22.5	C	NB 280 SB N/A EB N/A WB N/A		50.5	D	NB **710** SB N/A EB N/A WB N/A	
24	Silva Valley Parkway/US 50 WB ramps	Signal	NB 550 SB N/A EB N/A WB N/A	69.7	E	NB 98 SB N/A EB N/A WB N/A		23.0	D	NB 192 SB N/A EB N/A WB N/A		68.8	E	NB 98 SB N/A EB N/A WB N/A		24.3	C	NB 192 SB N/A EB N/A WB N/A	
25	Latrobe Road/Commercial RIRO driveway	TWSC	NB N/A SB N/A EB N/A	Does not exist				Does not exist				0.0	A	NB N/A SB N/A EB N/A		-	A	NB N/A SB N/A EB N/A	
26	Latrobe Road/Wetsel-Oviatt Road	TWSC	NB N/A SB N/A EB N/A	(EB) 13.8	B	NB N/A SB N/A EB N/A		(EB) 15.7	C	NB N/A SB N/A EB N/A		(EB) 14.7	B	NB N/A SB N/A EB N/A		(EB) 17.4	C	NB N/A SB N/A EB N/A	
27	Latrobe Road/S. Shingle Road	TWSC	NB N/A SB N/A EB N/A WB N/A	(EB) 18.7	B	NB N/A SB N/A EB N/A WB N/A		(EB) 16.9	C	NB N/A SB N/A EB N/A WB N/A		(EB) 22.3	C	NB N/A SB N/A EB N/A WB N/A		(EB) 20.9	C	NB N/A SB N/A EB N/A WB N/A	

Table 24. EPPAP 2033 freeway facility level-of-service with and without the proposed Project with park

No	Segment	Segment Type	Method	2033 No Project AM	2033 No Project PM	2033 Plus Project AM	2033 Plus Project PM
Westbound US 50							
1	Bass Lake Rd to Silva Valley Pkwy	basic	HCM 7th Ed.	28.5/D	22.5/C	29.4/D	23.2/C
2	Silva Valley offramp	diverge	HCM 7th Ed.	24.1/C	19.1/B	24.8/C	19.8/B
3	Silva Valley offramp to future loop onramp	basic	HCM 7th Ed.	16.2/B	15.8/B	16.8/B	15.9/B
4	Future Silva Valley loop onramp	merge	HCM 7th Ed.	n/a	n/a	n/a	n/a
5	Silva Valley Pkwy to Latrobe Rd	weave	HCM 7th Ed.	16.5/B	13.7/B	17.0/B	13.8/B
6	El Dorado Hills Blvd offramp to onramp	basic	HCM 7th Ed.	13.3/B	12.6/B	13.9/B	12.6/B
7	El Dorado Hills Blvd onramp	merge	HCM 7th Ed.	30.1/D	27.5/C	30.9/D	27.4/C
8	El Dorado Hills Blvd to EDC Line *	basic	HCM 7th Ed.	32.5/D	28.0/D	33.9/D	27.9/D
Eastbound US 50							
9	EDC Line to Latrobe Rd	basic	HCM 7th Ed.	14.0/B	22.8/C	13.9/B	23.3/C
10	Latrobe slip offramp	diverge	HCM 7th Ed.	25.2/C	34.9/D	24.9/C	35.6/E
11	Latrobe loop offramp	diverge		23.7/C	32.2/D	23.5/C	32.6/D
12	El Dorado Hills Blvd offramp to Latrobe Rd onramp	basic	HCM 7th Ed.	5.9/A	10.4/A	5.9/A	10.4/A
13	Latrobe Rd onramp to Silva Valley Pkwy offramp	weave	HCM 7th Ed.	9.1/A	13.3/B	9.2/A	13.3/B
14	Silva Valley Pkwy offramp to onramp	basic	HCM 7th Ed.	9.0/A	12.3/B	9.1/A	12.2/B
15	Silva Valley Pkwy onramp	merge	HCM 7th Ed.	17.3/B	24.5/C	17.9/B	24.4/C
16	Future Silva Valley Pkwy slip onramp	merge	HCM 7th Ed.	n/a	n/a	n/a	n/a
17	Silva Valley Pkwy to Bass Lake Rd	basic	HCM 7th Ed.	12.4/B	18.3/C	12.8/B	18.2/C

Notes:
Density in units of passenger cars per mile per lane.
*Prior to the opening of the Saratoga Way extension, Caltrans has reported occasional LOS F conditions during the morning peak for this segment based on planning methods rather than counts.

Project plus forgone business park trips will reduce WB US 50 volume between Latrobe Rd and the El Dorado County line during the PM-peak.

Project plus forgone business park trips will reduce EB US 50 volume between EDC line and Latrobe Rd during the AM-peak, and between Silva Valley Pkwy and Bass Lake Rd during the PM peak.

Table 25. EPPAP 2033 arterial level-of-service check with and without the Project

Arterial Segment	Description	2033 AM No Project	2033 PM No Project	2033 AM Plus Project	2033 PM Plus Project
Latrobe Rd between Royal Oaks Dr and Investment Blvd	2-lane arterial (threshold 1650)	736	734	1476	1553
Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south)	2-lane arterial (threshold 1650)	1213	1035	1891	1781
Latrobe Rd between Golden Foothill Pkwy (south) and Suncast Ln	4-lane divided arterial (threshold 3290)	2756	2549	3073	2622
Latrobe Rd between White Rock Rd and Town Center Blvd	8-lane divided arterial (threshold 6280, extrapolated from 6-lane divided arterial)	3327	3354	4727	4540
White Rock Rd between Valley View Pkwy to Silva Valley Pkwy	2-lane arterial (threshold 1650)	**1856**	**2360**	**1910**	**2417**

8.3 Existing 2033 Plus Project General Plan Deficiency Findings

Level-of-service and queueing impacts are not considered significant under CEQA. Intersections and/or segments where Project traffic creates new or worsens existing exceedances of General Plan policy thresholds are referred to as having a "project deficiency". There are twelve intersections and two arterial segments where the Project is anticipated to create new or worsen existing deficiencies under EPAP 2033 conditions.

There are two sections that follow describing the segment level abatement measures and intersection level abatement measures. Throughout this document, segment deficiencies are numbered using the segment number (i through v) and a year code (2023 = "A", 2033 = "B", and 2040 = "C"). Intersection abatement measures are numbered using the intersection number (1-27) and the year code (A, B, or C).

All deficiencies and abatements described below include the deficiency number/abatement number and location as a title, followed by a description of the deficiency, the abatement, findings, responsibility, and timing. For certain abatements, a building permit trigger has been analyzed and included to determine the necessary timing for the improvement. For all other abatements, it is assumed the timing would be prior to issuance of the first building permit. If desired, a building permit trigger could also be determined for those abatements.

2033 Segment Deficiencies and Abatement Measures

(ii)B. Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south) in 2033 (CIP Project Latrobe 72)

Deficiency: Level-of-service is anticipated to worsen to F with the addition of Project traffic during the AM and PM peak-hours.

Abatement: Implement as abatement (ii)A.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 26** presents the segment level-of-service results with this abatement.

Project responsibility: None, addressed through abatement (ii)A.

Timing: Not applicable, addressed through abatement (ii)A.

(v)B. White Rock Rd between Valley View Pkwy to Silva Valley Pkwy in 2033

Deficiency: This segment operates at level-of-service F under EPAP 2033 conditions without the Project and the Project is anticipated to add more than 10 peak hour trips to this segment, worsening the existing level-of-service deficiency.

Abatement: Before issuance of the 173rd residential building permit or the first commercial building permit, advance CIP Project 36105042 to the 10-year CIP (widen White Rock Rd to four lanes between Valley View Pkwy and Silva Valley Pkwy.).

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 26** presents the segment level-of-service results with this abatement.

Project Responsibility: CIP Project 36105042 (White Rock Road Widening 2 to 4 lanes - Post Street to South of Silva Valley Parkway) includes funding for improvements to this segment in both the 10-year and 20-year CIPs and all components should be advanced to 10-year CIP. The Project's fair share responsibility for this improvement can be met through payment of TIF program fees.

Timing: Prior to issuance of the 173rd residential building permit or the first commercial building permit.

Table 26. EPAP 2033 arterial level-of-service check with and without the abated Project

Arterial Segment	Description	2033 AM No Project	2033 PM No Project	2033 AM Plus Project	2033 PM Plus Project
Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south)	**Un Abated** 2-lane arterial (threshold 1650)	1213	1035	**1891**	**1781**
	Limit Project to 658 dwelling units: 2-lane arterial (threshold 1650)	1213	1035	1606	1534
	Add Widening to CIP: 4-lane divided arterial (threshold 3290)	1213	1035	1891	1781
White Rock Rd between Valley View Pkwy to Silva Valley Pkwy	**Un Abated** 2-lane arterial (threshold 1650)	**1856**	**2360**	**1910**	**2417**
	Limit Project to 172 dwelling units: 2-lane arterial (threshold 1650)	**1856**	**2360**	**1864.19**	**2369.96**
	Add Widening to CIP: 4-lane divided arterial (threshold 3290)	1213	1035	1891	1781

2033 Intersection Deficiencies and Abatement Measures

2B. El Dorado Hills Blvd/Saratoga Way in 2033

Deficiency: Level-of-service is F prior to addition of Project traffic, with northbound left-turn queues spilling out of the turn pocket. Project traffic is anticipated to worsen level-of-service and northbound left-turn queues.

2023-2033 Improvements Assumed: Southbound right-turn pocket (300-foot) and 500-foot northbound and southbound left turn pockets are assumed as part of CIP project 36105076.

Abatement: In addition to abatement 2A, prohibit northbound U-turns, overlap the eastbound right turn with the northbound left turn, and overlap the southbound right turn with the eastbound left turn.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 27** at the end of this section presents intersection level-of-service results with this abatement.

Project Responsibility: This abatement partially implements Project #36105076 in the 10-year Capital Improvement Program (CIP). The Project may satisfy its fair share of this requirement through payment of applicable fees under the El Dorado County traffic impact Fee (TIF) program.

Timing: Prior to issuance of 1st building permit.

Cross reference: See abatement 2A.

3B. El Dorado Hills Blvd/US 50 WB in 2033

Deficiency: AM peak-hour level-of-service is F prior to addition of Project traffic. Project traffic is anticipated to worsen level-of-service.

2023-2033 Improvements Assumed: None.

Abatement: Implement as abatement 3A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 27** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 3A.

Timing: Not applicable, addressed through abatement 3A.

4B. El Dorado Hills Blvd/US 50 EB in 2033

Deficiency: PM peak-hour 95th percentile queue on ramp is anticipated to reach 1251-feet, ending with 500-feet of the gore-point (where the ramp exits the freeway). Project traffic is anticipated to add 172-feet to the queue. This is a potentially traffic operations issue as the 2 lane portion of the ramp is limited to 430-feet.

2023-2033 Improvements Assumed: None.

Abatement: construct a 3rd eastbound right turn lane from the offramp to southbound Latrobe Road. The new turn lane shall match the approximate length of the existing 2-lane portion of the offramp.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 27** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: While this deficiency will occur with or without the Project, the Project is responsible for its fair share of the cost of this off-site improvement, which can be addressed through payment of fees after widening of the eastbound diagonal offramp has been added to 10-year CIP. Note that CIP Project 36104001 (US 50 / Latrobe Road/ El Dorado Hills Boulevard Interchange Improvements Phase 2B) includes reconstruction of the EB diagonal on-ramp, EB on-ramp auxiliary lane, and the EB loop off-ramp. That CIP project could potential address this eastbound offramp widening as well or be done as an independent CIP project.

Timing: Payment of TIF at issuance of each building permit.

Cross reference: See abatement 4C.

5B. Latrobe Road/Town Center Boulevard in 2033

Deficiency: The southbound left-turn queue spills back out of its pocket during the PM peak-hour prior to the addition of Project traffic. Project traffic is anticipated to worsen the southbound left-turn queue spillback and cause the westbound left-turn queue to exceed its pocket length.

2023-2033 Improvements Assumed: None.

Abatement: implement as abatement 5A.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 27** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 5A.

Timing: Not applicable, addressed through abatement 5A.

6B. Latrobe Road/White Rock Road in 2033

Deficiency: The westbound left-turn queue spills back out of its turn pocket. Project traffic is anticipated to worsen that queue spillback.

2023-2033 Improvements Assumed: None.

2023-2033 Improvements Assumed: None.

Abatement: implement as abatement 6A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 27** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 6A.

Timing: Not applicable, addressed through abatement 6A.

7B. Latrobe Road/Golden Foothill Parkway (N) in 2033

Deficiency: Project traffic is anticipated to worsen level-of-service to F.

2023-2033 Improvements Assumed: None.

Abatement: Construct 180-foot southbound right turn pocket.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 27** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: CIP 36105069 will widen this portion of Latrobe Rd to six lanes by 2040 and should be advanced to the 10-year CIP. The Project's fair share cost of this improvement is payment of the TIF program fee.

Timing: Prior to issuance of 1st building permit.

9B. Latrobe Road/ Golden Foothill Parkway (S) in 2033

Deficiency: Project traffic is anticipated to worsen the intersection to level-of-service F conditions.

2023-2033 Improvements Assumed: None.

Abatement: Abatement 9B is similar, but expands upon, abatement 9A:

- Eastbound approach: Implement abatement 9A.
- Westbound approach: Stripe westbound approach to 2-lanes between Blackstone Pkwy and Latrobe Rd, and construct a 250' right left pocket. Label the resulting three lanes as left, left, thru-right.
- Northbound approach: Widen northbound approach by constructing an additional 100' right turn pocket and extending the left turn pocket to 260'. Label the resulting four lanes as left, thru, thru, and right.
- Southbound approach: Widen southbound approach by constructing an additional 300' right turn pocket, label the resulting four lanes as left, thru, thru, right.

Figure 16 below shows the traffic model's representation of these improvements. Note that the depicted northbound right turn lane was drawn with a 24-foot width to reflect the assumed ultimate width of Latrobe Rd after widening to four lanes with the "Latrobe 72" improvements and an additional northbound through lane. The Project is not obligated to build improvements to that footprint, but it is advised that any relocation of traffic signals be placed outside of the intersection's ultimate footprint.



Figure 16. Latrobe Rd/Golden Foothill Pkwy (south) 2033 geometry with adjacent roundabout at Golden Foothill Pkwy/Robert J. Mathews Pkwy.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 27** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: The Project is responsible for its fair share of the cost of these off-site improvements which would be addressed by payment of fees after Latrobe 72 is added to the 10-year CIP.

Timing: Prior to issuance of 1st building permit.

Cross reference: See abatement 9A.

10B. Latrobe Road/Investment Boulevard in 2033

Deficiency: Project traffic is anticipated to cause the eastbound (Investment Blvd) left-turn queue to spill out of its left-turn pocket.

2023-2033 Improvements Assumed: None.

Abatement: Implement as abatement 10A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 27** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 10A.

Timing: Not applicable, addressed through abatement 10A.

11B. Latrobe Road/Avanti Drive in 2033

Deficiency: Project traffic is anticipated to cause this intersection to operate at level-of-service F.

2023-2033 Improvements Assumed: None.

Abatement: Implement as abatement 11A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 27** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 11A.

Timing: Not applicable, addressed through abatement 11A.

12B. Latrobe Road/Royal Oaks Drive in 2033

Deficiency: Project traffic is anticipated to worsen the intersection to level-of-service F.

2023-2033 Improvements Assumed: None.

Abatement: Implement as abatement 12A.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 27** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 12A.

Timing: Not applicable, addressed through abatement 12A.

13B. Golden Foothill Pkwy/Robert J. Mathews Pkwy in 2033

Deficiency: The Project is anticipated to worsen existing level-of-service F conditions at this intersection.

2023-2033 Improvements Assumed: None.

Abatement: Implement as abatement 13A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 27** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 13A.

Timing: Not applicable, addressed through abatement 13A.

18B. White Rock Road/Carson Crossing Road in 2033

Deficiency: Project traffic is anticipated to cause new and worsen level-of-service F conditions. The peak-hour signal warrant is met with or without the Project.

2023-2033 Improvements Assumed: None.

Abatement: Implement as abatement 18A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this

location. **Table 27** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 18A.

Timing: Not applicable, addressed through abatement 18A.

21B. White Rock Road/Valley View Parkway in 2033

Deficiency: Project traffic is anticipated to worsen level-of-service to F conditions and worsen left-turn queue spillback on eastbound and westbound White Rock Rd.

2023-2033 Improvements Assumed: None.

Abatement: Reconstruct White Rock Rd through the intersection as follows:

- Implement abatement 21 A.
- Further extend the westbound left turn pocket to 1000 feet. (note: abatement 21A will extend this pocket to 400 feet, abatement 21B reflects an additional 600 feet of westbound right turn storage.)

Widening should be done to the south of Latrobe Rd to avoid high voltage lines. Eastbound-westbound Lane alignment may require additional space.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 27** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: CIP Project 36105042 (White Rock Road Widening 2 to 4 lanes – Post Street to South of Silva Valley Parkway) includes funding for improvements to this intersection in both the 10-year and 20-year CIPs and all components should be advanced to 10-year CIP. The Project's fair share responsibility for this improvement can be met through payment of TIF program fees.

Timing: Prior to issuance of 1st building permit.

Table 27. EPAP 2033 intersection delay and level-of-service with and without the abated Project

ID	Intersection	Control	2033 AM Peak No Project				2033 PM Peak No Project				2033 AM Peak with Project				2033 PM Peak with Project				Abatement Strategy	Abated AM Peak (+ Proj)				Abated PM Peak (+ Proj)				Existing or Anticipated CIP Project
			Left Turn Storage	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)		Left Turn Storage	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	
2	El Dorado Hills Blvd/Saratoga Way	Signal	NB 500 SB 500 EB 150 WB N/A	**162.8**	**F**	NB **1151** SB 332 EB 140 WB N/A		**112.0**	**F**	NB **1312** SB 341 EB **311** WB N/A		**164.3**	**F**	NB **1272** SB 333 EB 140 WB N/A		**117.2**	**F**	NB **1338** SB 345 EB **316** WB N/A		Abatement 2A and extension of NB and SB left turn pockets to 500' by CIP 361050076. Extend cycle length to match interchange. Eliminate NB U-turns, overlap SB right with EB left, overlap EB right with NB left.	NB **500** SB **500** EB 150 WB N/A	**123.7**	**F**	NB **890** SB 355 EB **159** WB N/A		76.9	E	NB **925** SB 340 EB **328** WB N/A		36105076 and 36105042
3	El Dorado Hills Blvd/US 50 WB (Note EBL queueing reported even though there is not a left - turn pocket, it is 250' to end of right-turn pocket.)	Signal	NB N/A SB 220 EB N/A WB 150	**92.6**	**F**	NB N/A SB 113 EB 227 WB **182**		50.7	D	NB N/A SB 57 EB 319 WB **238**		104.4	F	NB N/A SB 113 EB 227 WB **181**		54.2	D	NB N/A SB 57 EB 319 WB **249**		Implement Abatement 3A	NB N/A SB 220 EB N/A WB 150	**92.7**	**F**	NB N/A SB 112 EB 224 WB **179**		no change				"Traffic Signals Intersection"
4	El Dorado Hills Blvd/US 50 EB (Note: EB and WB right queue reported as EB and WB. EB slip offramp is 1725 feet long)	Signal	NB N/A SB 570 EB N/A WB N/A	32.3	C	NB N/A SB 363 EB 549 WB 0		58.1	E	NB N/A SB 298 EB **1251** WB 0		38.2	D	NB N/A SB 363 EB 528 WB 0		66.0	E	NB N/A SB 298 EB **1423** WB 0		Add 3rd right turn lane	NB N/A SB 570 EB N/A WB N/A	29.4	C	NB N/A SB 365 EB 219 WB 0		19.3	B	NB N/A SB 298 EB 308 WB 0		36104001
5	Latrobe Road/Town Center Boulevard	Signal	NB 220 SB 330 EB 300 WB 100	39.4	D	NB 41 SB **479** EB 93 WB 74		52.3	D	NB 15 SB **679** EB 249 WB 99		42.2	D	NB 45 SB **491** EB 94 WB 75		63.7	E	NB 17 SB **811** EB 281 WB **140**		Implement Abatement 5A.	NB 220 SB 330 EB 300 WB 140	no changes				50.1	D	NB 17 SB 347 EB 279 WB 132		"Traffic Signals Intersection"
6	Latrobe Road/White Rock Road	Signal	NB 270 SB 260 EB 360 WB 160	44.3	D	NB 253 SB 89 EB 306 WB **378**		79.6	E	NB 246 SB 234 EB 325 WB **840**		43.4	D	NB 253 SB 89 EB 306 WB **360**		**87.0**	**F**	NB 246 SB 234 EB 325 WB **964**		Implement Abatement 6A.	NB 270 SB 260 EB 360 WB 160	no changes				53.2	D	NB 256 SB 237 EB 329 WB **456**		36105069
7	Latrobe Road/Golden Foothill Parkway (N)	Signal	NB 200 SB 200 EB 100 WB N/A	**84.0**	**F**	NB 56 SB 22 EB **126** WB N/A		80.0	E	NB 13 SB 38 EB **416** WB N/A		79.0	E	NB 56 SB 22 EB **126** WB N/A		**112.5**	**F**	NB **13** SB 38 EB **416** WB N/A		Add 180' SB right turn pocket	NB 200 SB 200 EB 100 WB N/A	43.4	D	NB 56 SB 22 EB **126** WB N/A		64.9	E	NB 13 SB 39 EB **429** WB N/A		36105069
9	Latrobe Road/ Golden Foothill Parkway (S)	Signal	NB 220 SB 530 EB 100 WB N/A	**90.2**	**F**	NB 66 SB 475 EB **638** WB N/A		**132.3**	**F**	NB 98 SB **786** EB **1066** WB N/A		**127.5**	**F**	NB 180 SB 497 EB **577** WB N/A		**171.9**	**F**	NB 176 SB **886** EB **989** WB N/A		EB: Implement abatement 9A. WB: Stripe WB approach to 2-lanes between Blakstone Pkwy and Latrobe Rd, construct a 250' right left pocket. Label as left, left, thru-right. NB: Widen NB approach by constructing an additional 100' right turn pocket, and extending the left turn pocket to 260'. Label lanes as left, thru, thru, right. SB: Widen SB approach by constructing an additional 300' right turn pocket, label lanes as left, thru, thru, right. Adjust splits and cycle length with SB right overlap (SB right with EB left) and WB right overlap (WB right with SB left).	NB 260 SB 530 EB N/A WB N/A	**50.2**	**D**	NB 246 SB 390 EB N/A WB N/A		40.1	D	NB 226 SB 522 EB N/A WB N/A		"Latrobe 72"
10	Latrobe Road/Investment Boulevard	Signal	NB 180 SB N/A EB 100	12.2	B	NB 40 SB N/A EB 98		19.1	B	NB **93** SB N/A EB 251		22.4	C	NB 87 SB N/A EB **161**		80.2	F	NB **186** SB N/A EB **479**		Implement Abatement 10A	NB 180 SB N/A EB 220	13.8	B	NB 65 SB N/A EB 82		59.8	E	NB 110 SB N/A EB **213**		"Latrobe 72"
11	Latrobe Road/Avanti Drive	TWSC	NB N/A SB N/A EB N/A WB N/A	(WB) 14.5	B	NB N/A SB N/A EB N/A WB N/A		(WB) 11.9	B	NB N/A SB N/A EB N/A WB N/A		**284.4**	**F**	NB N/A SB N/A EB N/A WB N/A		**(EB) 244.7**	**F**	NB N/A SB N/A EB N/A WB N/A		Implement Abatement 11A	NB **100** SB **100** EB N/A WB N/A	(EB) 45.0	E	NB 0 SB 2 EB N/A WB N/A		(EB) 36.8	E	NB 1 SB 2 EB N/A WB N/A		n/a
12	Latrobe Road/Royal Oaks Drive	TWSC	NB 320 SB 320 EB N/A WB N/A	(WB) 17.4	B	NB 0 SB 6 EB N/A WB N/A		(WB) 26.5	D	NB 0 SB 9 EB N/A WB N/A		**(EB) 2997.4 ***	**F**	NB 4 SB 6 EB N/A WB N/A		**(EB) 2516.5 ***	**F**	NB 11 SB 9 EB N/A WB N/A		Implement Abatement 12A	NB 320 SB 320 EB **200** WB N/A	23.5	C	NB 41 SB 53 EB 150 WB N/A		19.1	B	NB 48 SB 63 EB 75 WB N/A		n/a
13	Golden Foothill Pkwy/Robert J. Mathews Pkwy	TWSC	NB N/A SB N/A EB N/A WB N/A	**(NB) 939.5 ***	**F**	NB N/A SB N/A EB N/A WB N/A		**(NB) 10000.0 * (v/c= 27)**	**F**	NB N/A SB N/A EB N/A WB N/A		**(NB) 78.89 ***	**F**	NB N/A SB N/A EB N/A WB N/A		**(NB) 10000.0 * (v/c = 30)**	**F**	NB N/A SB N/A EB N/A WB N/A		Implement Abatement 13A	NB N/A SB N/A EB N/A WB N/A	(EB) 13.1	B	NB N/A SB N/A EB N/A WB N/A		(EB) 23.4	B	NB N/A SB N/A EB N/A WB N/A		Anticipated
18	White Rock Road/Carson Crossing Road	TWSC	NB N/A SB N/A EB 200 WB 300	(NBL) 34.5	D	NB N/A SB N/A EB 0 WB 4		**(NBL) 411.5***	**F**	NB N/A SB N/A EB 0 WB 8		**(NBL) 64.3**	**F**	NB N/A SB N/A EB 0 WB 4		**(NBL) 448.9 ***	**F**	NB N/A SB N/A EB 0 WB 9		Implement Abatement 18A	NB N/A SB N/A EB 200 WB 300	16.0	B	NB N/A SB N/A EB 5 WB 25		28.6	C	NB N/A SB N/A EB 6 WB 67		36105041
21	White Rock Road/Valley View Parkway	Signal	NB 100 SB 100 EB 100 WB 100	**252.3**	**F**	NB **170** SB **324** EB **387** WB **708**		**259.5**	**F**	NB **152** SB **505** EB **125** WB **827**		**260.6**	**F**	NB **176** SB **335** EB **446** WB **766**		**268.6**	**F**	NB **152** SB **505** EB **147** WB **961**		Implement Abatement 21A. Additional lengthening of WB left turn pocket to from 400' to 1000'.	NB 100 SB 100 EB 400 WB 1000	**166.3**	**F**	NB **149** SB **297** EB 383 WB 590		178.2	**F**	NB **152** SB **505** EB 147 WB 961		36105042

* Denotes intersections where the peak-hour signal warrant is met.

2/17/2024

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9.0 CUMULATIVE 2040 CONDITIONS

The Cumulative 2040 conditions analysis started with lane configurations from Existing 2020 conditions and turning movements derived from existing traffic counts, growth factors from the Travel Demand Model, and the NCHRP 255 adjustment procedure. Several volume and network adjustments were then made.

Seven Capital Improvement Program (CIP) projects that effect study intersection geometry were accounted for:

- CIP Project 36105042: Widening of White Rock Road to four-lanes between Post Street and the US 50 Silva Valley interchange.
- CIP Project 36105007: Country Club Drive Extension to El Dorado Hills Blvd.
- CIP Project 36105035: Saratoga Way Extension Phase 2 (widening to 4-lanes and associated intersection improvements).
- CIP Project 36104021: US 50 auxiliary lane westbound - El Dorado Hills Blvd to El Dorado County line.
- CIP Project 36104001: US 50/El Dorado Hills Blvd interchange improvements phase 2B (adds another NB through lane at study intersection #4.
- CIP Project 36104004: US 50/Silva Valley Parkway interchange Phase 2 – on ramps and auxiliary lanes. (adds eastbound slip onramp and westbound loop onramp).
- CIP Project 36105041: White Rock Road widening to four-lanes between Manchester Drive and the El Dorado County Line.

Traffic volumes from 2033 without the Project were used as a floor before traffic from the avoided trips (see **Figure 10**, page 44) was shifted from where the TDM loads it directly onto Carson Crossing Drive to Investment Blvd. Traffic for the approved Carson Creek/Heritage project was added. Note that because the Creekside Village project also has avoided R&D and industrial vehicle trips, some turning movements are lower in 2040 than they were in 2033. For 2040, a peak hour factor of 0.92 was also used as a floor.

Figure *17* summarizes the turning movements and lane configurations for the Cumulative 2040 conditions scenario.

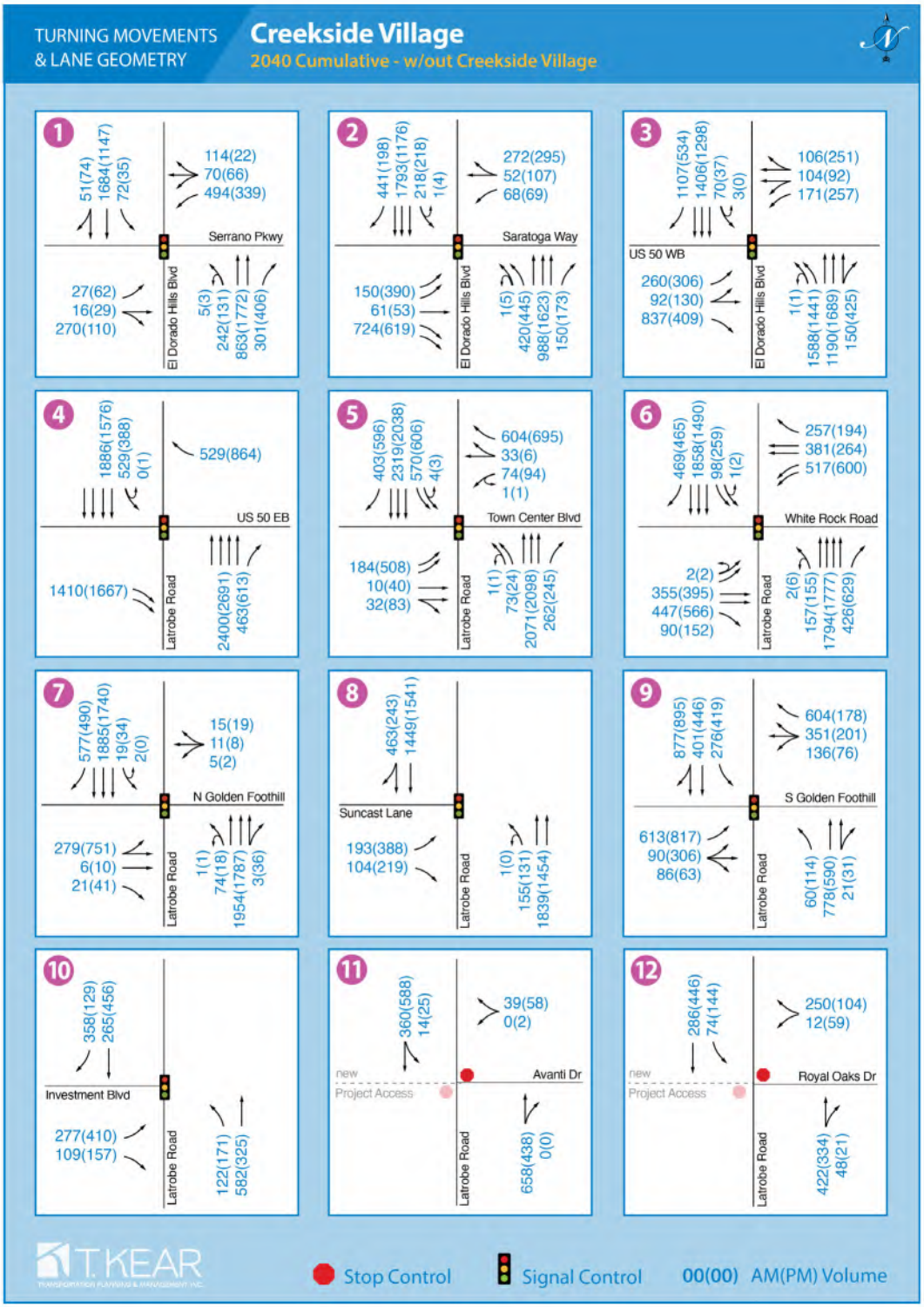


Figure 17. Cumulative 2040 lane geometry and turning movements

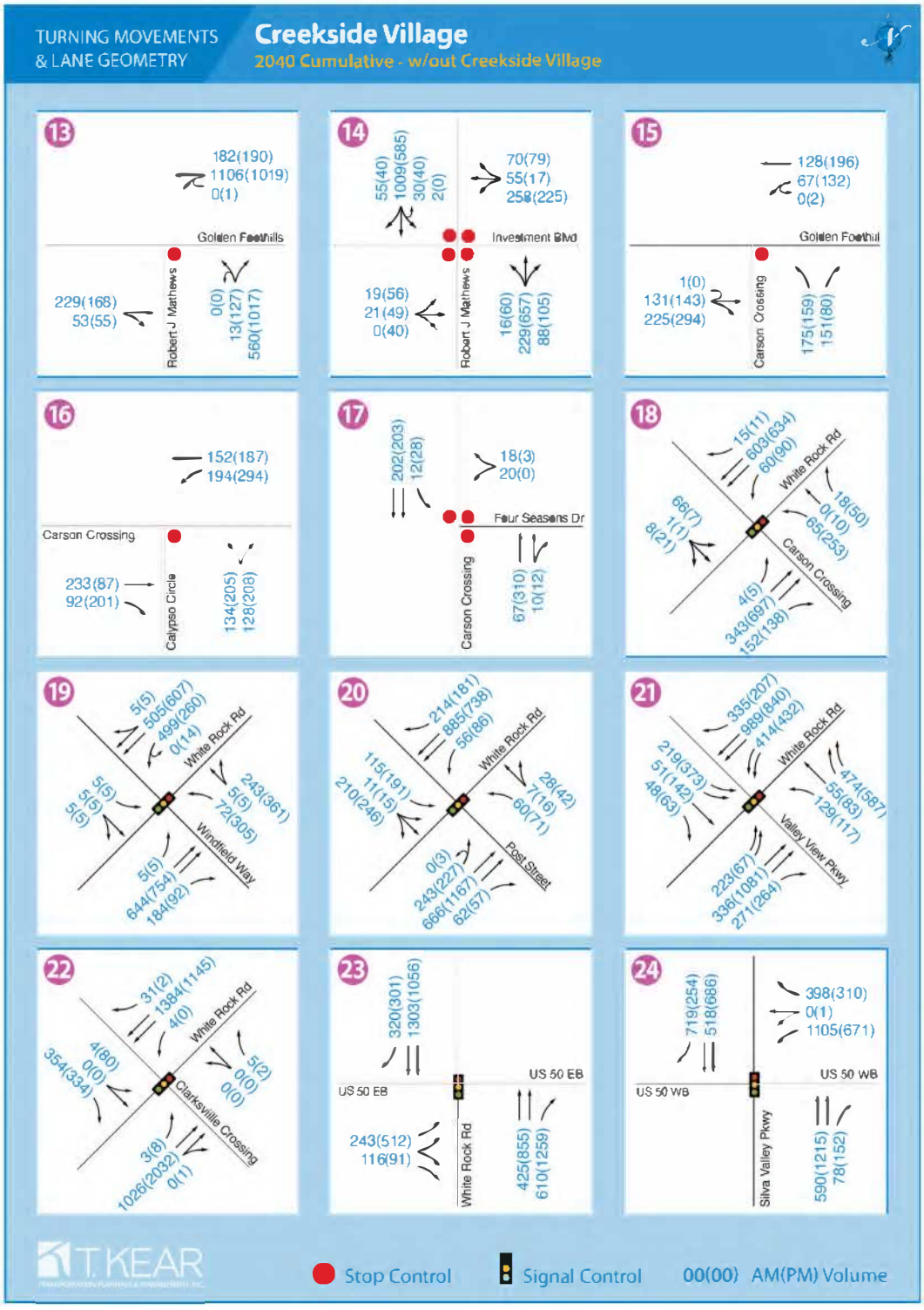


Figure 17. Cumulative 2040 lane geometry and turning movements (continued)

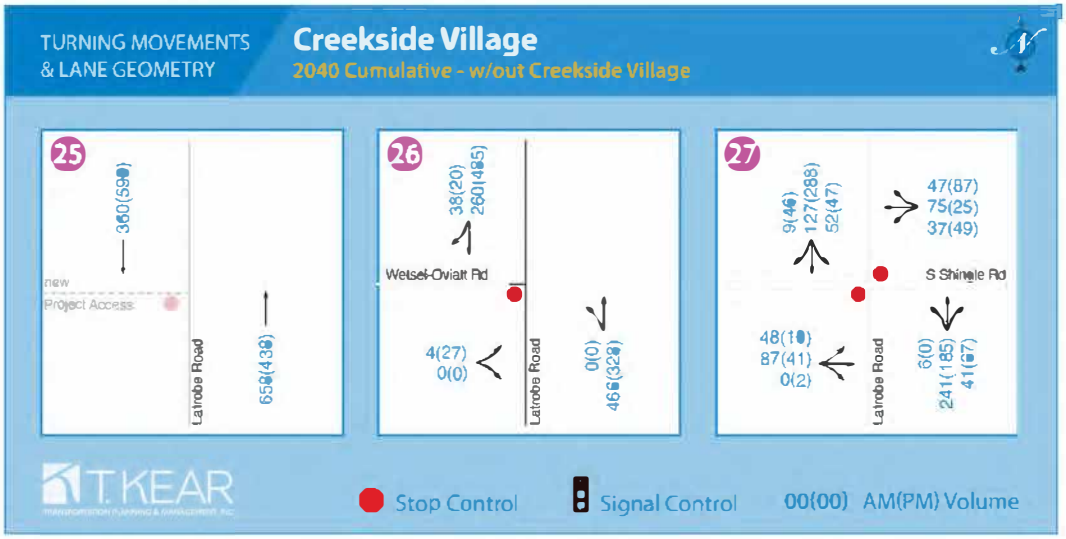


Figure *17*. Cumulative 2040 lane geometry and turning movements (continued)

Delay and level-of-service is presented in **Table 28** through **Table 30**. Intersection control is listed as signal, two-way stop-controlled (TWSC), or all-way stop-control (AWSC). Both the estimated delay and level-of-service (LOS) is provided. At TWSC intersections, the movement with the worst delay is shown in parentheses. Ninety-fifth percentile left turn queues are also listed. Entries shown in **bold black** typeface denote deficient traffic operations, and unsignalized intersections that meet the peak hour signal warrant are denoted with an asterisk and shading.

The results indicate that thirteen study intersections operate deficiency with level-of-service F conditions and/or 95% left turn queues that exceed available storage lengths.

- (1) El Dorado Hills Blvd/Serrano Pkwy AM;
- (2) El Dorado Hills Blvd/Saratoga Way PM;
- (3) El Dorado Hills Blvd/US 50 WB AM and PM;
- (5) Latrobe Road/Town Center Boulevard AM and PM;
- (8) Latrobe Rd/Suncast Ln AM and PM;
- (9) Latrobe Road/ Golden Foothill Parkway (S) AM and PM;
- (10) Latrobe Road/Investment Boulevard PM;
- (13) Golden Foothill Parkway (S)/Robert J. Mathewsws Pkwy AM and PM;
- (14) Investment Boulevard/Robert J. Mathews Pkwy AM and PM
- (16) Carson Crossing Road/Calypso Circle PM;
- (19) White Rock Road/Windfield Way AM and PM;
- (20) White Rock Road/Post Street AM and PM; and
- (21) White Rock Road/Valley View Parkway PM.

Calculation sheets for delay and level-of-service are provided in **Appendix B**. the remainder of the study intersections, all of the US 50 study segments, and arterial study segments were found to operate acceptably.

Table 28. Cumulative 2040 intersection delay and level-of-service without the Project

ID	Intersection	Control	Left Turn Storage	2040 AM Peak No Project				2040 PM Peak No Project			
				Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)
1	El Dorado Hills Blvd/Serrano Pkwy	Signal	NB 260 SB 110 EB 100 WB 430	**196.7**	**F**	NB SB EB WB	**418** **129** 40 506	63.1	E	NB SB EB WB	136 41 61 214
2	El Dorado Hills Blvd/Saratoga Way	Signal	NB 500 SB 500 EB 150 WB N/A	55.5	E	NB SB EB WB	284 341 145 N/A	69.6	E	NB SB EB WB	612 332 **332** N/A
3	El Dorado Hills Blvd/US 50 WB (Note EBL queueing reported even though there is not a left - turn pocket, it is 250' to end of right-turn pocket.)	Signal	NB N/A SB 220 EB N/A WB 150	**120.8**	**F**	NB SB EB WB	N/A 115 227 **184**	71.5	E	NB SB EB WB	N/A 57 318 **259**
4	El Dorado Hills Blvd/US 50 EB (Note: EB and WB right queue reported as EB and WB. EB slip offramp is 1725 feet long)	Signal	NB N/A SB 570 EB N/A WB N/A	37.3	D	NB SB EB WB	N/A 372 810 0	61.7	E	NB SB EB WB	N/A 298 **1400** 0
5	Latrobe Road/Town Center Boulevard	Signal	NB 220 SB 330 EB 300 WB 100	36.2	D	NB SB EB WB	44 **460** 109 74	70.5	E	NB SB EB WB	16 **864** 295 **113**
6	Latrobe Road/White Rock Road	Signal	NB 270 SB 260 EB 360 WB 400	41.5	D	NB SB EB WB	159 95 313 364	48.9	D	NB SB EB WB	162 241 343 360
7	Latrobe Road/Golden Foothill Parkway (N)	Signal	NB 200 SB 200 EB 320 WB N/A	15.4	B	NB SB EB WB	19 21 118 N/A	23.9	C	NB SB EB WB	19 37 305 N/A
8	Latrobe Road/Suncast Lane	Signal	NB 280 SB N/A EB 100	28.5	C	NB SB EB	151 N/A **186**	45.6	D	NB SB EB	134 N/A **486**
9	Latrobe Road/ Golden Foothill Parkway (S)	Signal	NB 220 SB 530 EB 100 WB N/A	**143.8**	**F**	NB SB EB WB	72 **601** **917** N/A	**217.0**	**F**	NB SB EB WB	102 **1186** **1643** N/A
10	Latrobe Road/Investment Boulevard	Signal	NB 180 SB N/A EB 100	12.1	B	NB SB EB	35 N/A 92	19.6	B	NB SB EB	108 N/A **251**
11	Latrobe Road/Avanti Drive	TWSC	NB N/A SB N/A EB N/A WB N/A	(WB) 14.1	B	NB SB EB WB	N/A N/A N/A N/A	(WB) 12.3	B	NB SB EB WB	N/A N/A N/A N/A
12	Latrobe Road/Royal Oaks Drive	TWSC	NB 320 SB 320 EB N/A WB N/A	(WB) 18.2	C	NB SB EB WB	0 6 N/A N/A	(WB) 32.3	D	NB SB EB WB	0 11 N/A N/A
13	Golden Foothill Pkwy/Robert J. Mathews Pkwy	TWSC	NB N/A SB N/A EB N/A WB N/A	**(WB) 10000.0 ***	**F**	NB SB EB WB	N/A N/A N/A N/A	**(NB) 10000.0 * (v/c = 229)**	**F**	NB SB EB WB	N/A N/A N/A N/A

Table 28. Cumulative 2040 intersection delay and level-of-service without the Project (continued)

ID	Intersection	Control	Left Turn Storage	2040 AM Peak No Project				2040 PM Peak No Project			
				Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)
14	Investment Boulevard/Robert J. Mathews Pkwy	AWSC	NB N/A SB N/A EB N/A WB N/A	**372.9 ***	**F**	NB N/A SB N/A EB N/A WB N/A		**273.2 ***	**F**	NB N/A SB N/A EB N/A WB N/A	
15	Golden Foothill Parkway/Carson Crossing Road	TWSC	NB N/A SB N/A EB N/A WB 220	(NBL) 17.4	C	NB N/A SB N/A EB N/A WB 5		(NBL) 35.4	D	NB N/A SB N/A EB N/A WB 11	
16	Carson Crossing Road/Calypso Circle	TWSC	NB N/A SB N/A EB N/A WB 190	(NB) 29.8	D	NB N/A SB N/A EB N/A WB 15		**(NB) 163.7 ***	**F**	NB N/A SB N/A EB N/A WB 25	
17	Carson Crossing Road/4 Seasons Drive	AWSC	NB N/A SB 100 WB N/A	8.1	A	NB N/A SB 1 WB N/A		8.7	A	NB N/A SB 3 WB N/A	
18	White Rock Road/Carson Crossing Road	Signal	NB 200 SB N/A EB 200 WB 300	16.6	B	NB 29 SB N/A EB 3 WB 27		17.4	B	NB 127 SB N/A EB 4 WB 49	
19	White Rock Road/Windfield Way	Signal	NB 150 SB 100 EB 200 WB 200	35.0	C	NB 105 SB 10 EB 10 WB **610**		34.8	C	NB **434** SB 10 EB 10 WB **345**	
20	White Rock Road/Post Street	Signal	NB N/A SB 100 EB 300 WB 200	44.8	D	NB N/A SB **216** EB **305** WB 117		44.9	D	NB N/A SB **344** EB 272 WB 183	
21	White Rock Road/Valley View Parkway	Signal	NB 300 SB 200 EB 300 WB 500	26.9	C	NB 148 SB 119 EB 121 WB 209		33.5	C	NB 159 SB **229** EB 44 WB 255	
22	White Rock Road/Clarksville Crossing	Signal	NB N/A SB N/A EB 460 WB 290	43.1	D	NB N/A SB N/A EB 7 WB 8		57.2	B	NB N/A SB N/A EB 14 WB 0	
23	Silva Valley Parkway/US 50 EB ramps	Signal	NB N/A SB N/A EB N/A WB N/A	11.1	B	NB N/A SB N/A EB N/A WB N/A		38.0	D	NB N/A SB N/A EB N/A WB N/A	
24	Silva Valley Parkway/US 50 WB ramps	Signal	NB N/A SB N/A EB N/A WB N/A	52.2	D	NB N/A SB N/A EB N/A WB N/A		27.5	C	NB N/A SB N/A EB N/A WB N/A	
25	Latrobe Road/Commercial RIRO driveway	TWSC	NB N/A SB N/A EB N/A	Does not exist				Does not exist			
26	Latrobe Road/Wetsel-Oviatt Road	TWSC	NB N/A SB N/A EB N/A	(EB) 14.4	B	NB N/A SB N/A EB N/A		(EB) 16.3	C	NB N/A SB N/A EB N/A	
27	Latrobe Road/S. Shingle Road	TWSC	NB N/A SB N/A EB N/A WB N/A	(EB) 19.0	C	NB N/A SB N/A EB N/A WB N/A		(EB) 17.2	C	NB N/A SB N/A EB N/A WB N/A	

Table 29. Cumulative 2040 freeway facility level-of-service without the Project

No	Segment	Segment Type	Method	2040 No Project AM	2340 No Project PM
Westbound US 50					
1	Bass Lake Rd to Silva Valley Pkwy	basic	HCM 7th Ed.	33.6/D	27.3/D
2	Silva Valley offramp	diverge	HCM 7th Ed.	27.5/C	23.2/C
3	Silva Valley offramp to future loop onramp	basic	HCM 7th Ed.	17.1/B	18.1/C
4	Future Silva Valley loop onramp	merge	HCM 7th Ed.	22.7/C	24.3/C
5	Silva Valley Pkwy to Latrobe Rd	weave	HCM 7th Ed.	17.4/B	15.2/B
6	El Dorado Hills Blvd offramp to onramp	basic	HCM 7th Ed.	14.2/B	14.8/B
7	El Dorado Hills Blvd onramp	Merge	HCM 7th Ed.	29.7/D	24.6/C
8	El Dorado Hills Blvd to EDC Line *	basic	HCM 7th Ed.	23.7/C	19.8/C
Eastbound US 50					
9	EDC Line to Latrobe Rd	basic	HCM 7th Ed.	16.1/B	25.0/C
10	Latrobe slip offramp	diverge	HCM 7th Ed.	28.0/D	36.9/E
11	Latrobe loop offramp	diverge		25.9/C	33.7/D
12	El Dorado Hills Blvd offramp to Latrobe Rd onramp	basic	HCM 7th Ed.	7.2/A	11.6/B
13	Latrobe Rd onramp to Silva Valley Pkwy offramp	weave	HCM 7th Ed.	10.4/B	14.4/B
14	Silva Valley Pkwy offramp to onramp	basic	HCM 7th Ed.	10.1/A	13.4/B
B15	Silva Valley Pkwy onramp	merge	HCM 7th Ed.	15.2/B	18.5/B
16	Future Silva Valley Pkwy slip onramp	merge	HCM 7th Ed.	15.5/B	23.7C
17	Silva Valley Pkwy to Bass Lake Rd	basic	HCM 7th Ed.	14.3/B	21.4/C

Table 30. Cumulative 2040 arterial level-of-service check without the Project

Arterial Segment	Description	2040 AM No Project	2040 PM No Project
Latrobe Rd between Royal Oaks Dr and Investment Blvd	2-lane arterial (threshold 1650)	775	809
Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south)	2-lane arterial (threshold 1650)	1303	1073
Latrobe Rd between Golden Foothill Pkwy (south) and Suncast Ln	4-lane divided arterial (threshold 3290)	3134	2776
Latrobe Rd between White Rock Rd and Town Center Blvd	8-lane divided arterial (threshold 6280, extrapolated from 6-lane divided arterial)	3598	3580
White Rock Rd between Valley View Pkwy to Silva Valley Pkwy	4-lane divided arterial (threshold 3290)	2303	2934

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10.0 CUMULATIVE 2040 PLUS PROPOSED PROJECT CONDITIONS

10.1 Traffic Volumes

Peak hour Project trips (**Figure 8** page 40) and avoided R&D and industrial trips (**Figure 10** page 44) were added to the EPPAP 2040 conditions traffic volumes. Delay and level-of-service were determined at the study intersections and segments. **Figure 18** summarizes the turning movements and lane configurations for the Cumulative 2040 Plus Proposed Project scenario.

10.2 Level-of-Service

Table 31 through **Table 33** present a summary of the level-of-service results for the study intersections and segments under Cumulative 2040 Plus Proposed Project conditions. Intersection control is listed as signal, two-way stop-controlled (TWSC), or all-way stop-control (AWSC). Both the estimated delay and level-of-service (LOS) is provided. At TWSC intersections, the movement with the worst delay is shown in parentheses. Ninety-fifth percentile left turn queues are also listed. Entries shown in **Bold black** text in **Table 31** through **Table 33** denote locations with preexisting deficiencies that the Project is not anticipated to worsen. **Bold red** text denotes locations where the Project is anticipated to create new or worsen preexisting deficiencies. Unsignalized intersections that meet the peak hour signal warrant are shaded and denoted with an asterisk.

One arterial segment is anticipated to have new deficiency caused by Project traffic (Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south). Fifteen intersections are anticipated to have level-of-service and/or queue spillback deficiencies.

<u>9 Locations that are deficient with or without the Project that are not worsened:</u>

- (1) El Dorado Hills Blvd/Serrano Pkwy AM;
- (2) El Dorado Hills Blvd/Saratoga Way PM;
- (8) Latrobe Rd/Suncast Ln AM and PM;
- (13) Golden Foothill Parkway (S)/Robert J. Mathewsws Pkwy AM and PM;
- (14) Investment Boulevard/Robert J. Mathews Pkwy AM;
- (16) Carson Crossing Road/Calypso Circle PM;
- (19) White Rock Road/Windfield Way AM and PM;
- (20) White Rock Road/Post Street AM and PM; and
- (21) White Rock Road/Valley View Parkway PM.

<u>4 Locations that are deficient with or without the Project that are worsened:</u>

- (3) El Dorado Hills Blvd/US 50 WB AM and PM;
- (5) Latrobe Road/Town Center Boulevard PM;
- (9) Latrobe Road/ Golden Foothill Parkway (S) AM and PM;
- (10) Latrobe Road/Investment Boulevard AM and PM;

2 Locations where the Project is anticipated to cause new deficiencies:

- (11) Latrobe Road/Avanti Drive AM and PM; and
- (12) Latrobe Road/Royal Oaks Drive AM and PM.

Calculation sheets for delay and level-of-service are provided in **Appendix B**. the remainder of the study intersections, all of the US 50 study segments, and arterial study segments were found to operate acceptably.

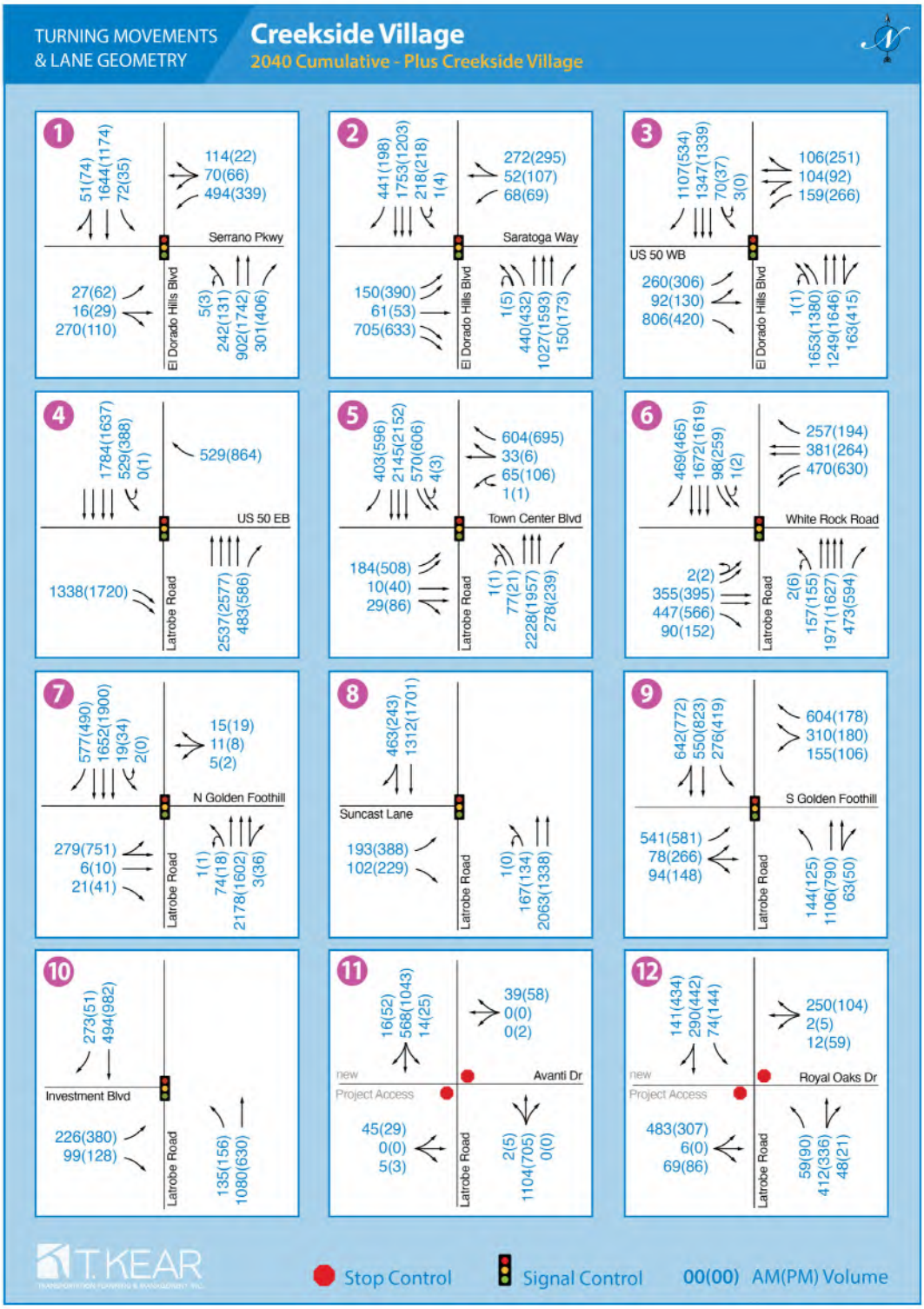


Figure 18. Cumulative 2040 plus Project lane geometry and turning movements

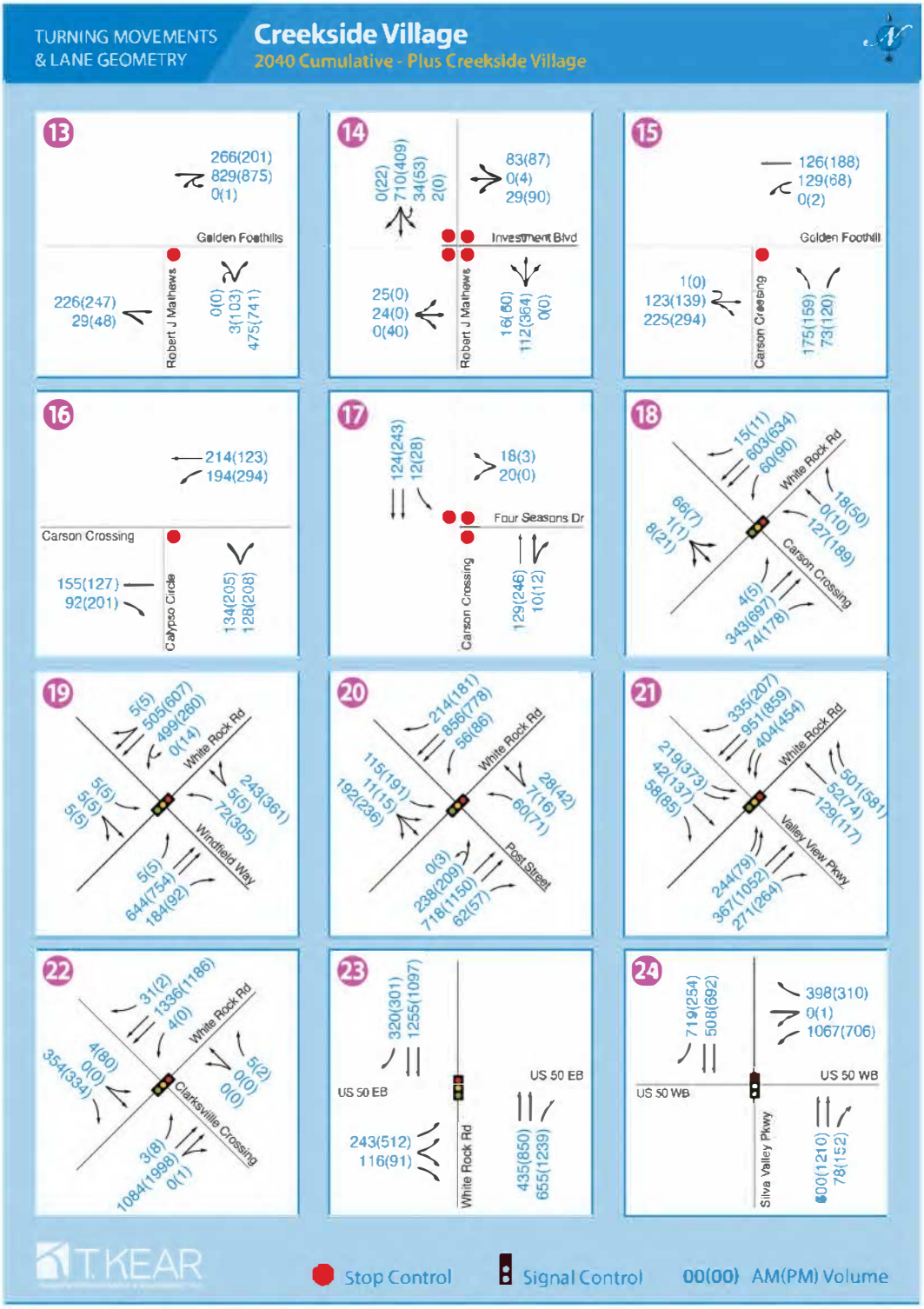


Figure 18. Cumulative 2040 plus Project lane geometry and turning movements (continued)

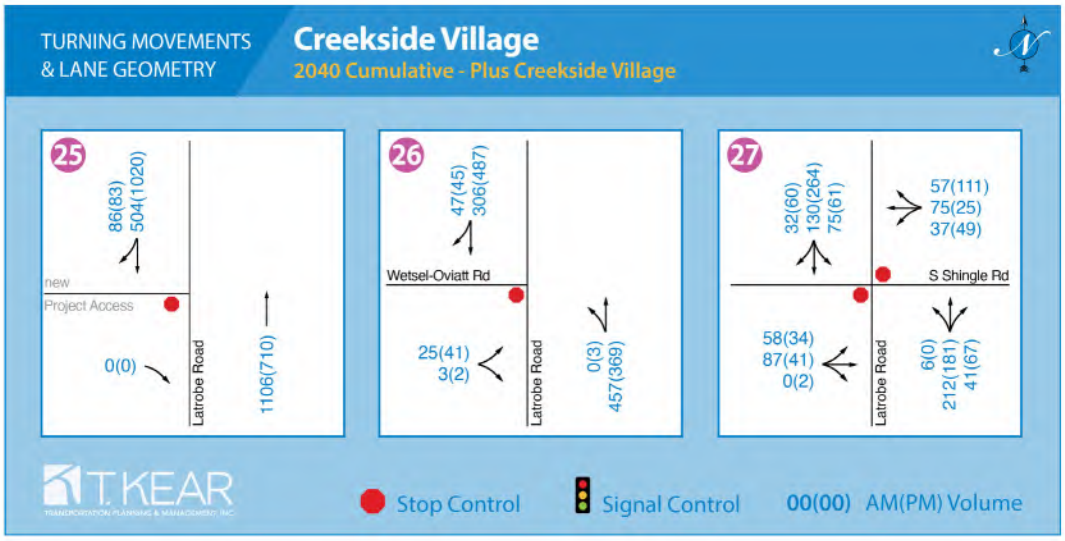


Figure 18. Cumulative 2040 plus Project lane geometry and turning movements (continued)

Table 31. Cumulative 2040 intersection delay and level-of-service with and without the proposed Project

ID	Intersection	Control	Left Turn Storage	2040 AM Peak No Project			2040 PM Peak No Project			2040 AM Peak with Project			2040 PM Peak with Project		
				Delay (Sec.)	LOS	Left Turn 95% Queue Spillback / 95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback / 95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback / 95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback / 95% Queue Length (Ft.)
1	El Dorado Hills Blvd/Serrano Pkwy	Signal	NB 260 SB 110 EB 100 WB 430	**196.7**	**F**	NB **418** SB **129** EB 40 WB 506	63.1	E	NB 136 SB 41 EB 61 WB 214	**188.9**	**F**	NB **418** SB **129** EB 40 WB 506	59.2	E	NB 139 SB 42 EB 62 WB 217
2	El Dorado Hills Blvd/Saratoga Way	Signal	NB 500 SB 500 EB 150 WB N/A	55.5	E	NB 284 SB 341 EB 145 WB N/A	69.6	E	NB 612 SB 332 EB **332** WB N/A	54.7	D	NB 297 SB 324 EB 146 WB N/A	68.2	E	NB **596** SB 331 EB **331** WB N/A
3	El Dorado Hills Blvd/US 50 WB (Note EBL queueing reported even though there is not a left - turn pocket, it is 250' to end of right-turn pocket.)	Signal	NB N/A SB 220 EB N/A WB 150	**120.8**	**F**	NB N/A SB 115 EB 227 WB **184**	71.5	E	NB N/A SB 57 EB 318 WB **259**	**130.5**	**F**	NB N/A SB 115 EB 227 WB **179**	70.7	E	NB N/A SB 57 EB 318 WB **268**
4	El Dorado Hills Blvd/US 50 EB (Note: EB and WB right queue reported as EB and WB. EB slip offramp is 1725 feet long)	Signal	NB N/A SB 570 EB N/A WB N/A	37.3	D	NB N/A SB 372 EB 810 WB 0	61.7	E	NB N/A SB 298 EB **1400** WB 0	35.5	D	NB N/A SB 372 EB 716 WB 0	67.9	E	NB N/A SB 298 EB **1524** WB 0
5	Latrobe Road/Town Center Boulevard	Signal	NB 220 SB 330 EB 300 WB 100	36.2	D	NB 44 SB **460** EB 109 WB 74	70.5	E	NB 16 SB **864** EB 295 WB **113**	37.5	D	NB 47 SB **475** EB 111 WB 70	77.0	E	NB 16 SB **920** EB **313** WB **140**
6	Latrobe Road/White Rock Road	Signal	NB 270 SB 260 EB 360 WB 400	41.5	D	NB 159 SB 95 EB 313 WB 364	48.9	D	NB 162 SB 241 EB 343 WB 360	60.1	E	NB 156 SB 95 EB 313 WB 171	49.1	D	NB 162 SB 241 EB 343 WB 340
7	Latrobe Road/Golden Foothill Parkway (N)	Signal	NB 200 SB 200 EB 320 WB N/A	15.4	B	NB 19 SB 21 EB 118 WB N/A	23.9	C	NB 19 SB 37 EB 305 WB N/A	16.4	B	NB 65 SB 22 EB 118 WB N/A	25.3	C	NB 19 SB 37 EB 305 WB N/A
8	Latrobe Road/Suncast Lane	Signal	NB 280 SB N/A EB 100	28.5	C	NB 151 SB N/A EB **186**	45.6	D	NB 134 SB N/A EB **486**	42.5	D	NB 173 SB N/A EB **188**	68.3	E	NB 139 SB N/A EB **491**
9	Latrobe Road/ Golden Foothill Parkway (S)	Signal	NB 220 SB 530 EB 100 WB N/A	**143.8**	**F**	NB 72 SB **601** EB **917** WB N/A	**217.0**	**F**	NB 102 SB **1186** EB **1643** WB N/A	**161.2**	**F**	NB 180 SB **626** EB **762** WB N/A	**206.7**	**F**	NB 129 SB **1250** EB **1299** WB N/A
10	Latrobe Road/Investment Boulevard	Signal	NB 180 SB N/A EB 100	12.1	B	NB 35 SB N/A EB 92	19.6	B	NB 108 SB N/A EB **251**	23.4	C	NB 88 SB N/A EB **161**	84.0	F	NB **201** SB N/A EB **487**
11	Latrobe Road/Avanti Drive	TWSC	NB N/A SB N/A EB N/A WB N/A	(WB) 14.1	B	NB N/A SB N/A EB N/A WB N/A	(WB) 12.3	B	NB N/A SB N/A EB N/A WB N/A	**(EB) 310.8**	**F**	NB N/A SB N/A EB N/A WB N/A	**(EB) 303.2**	**F**	NB N/A SB N/A EB N/A WB N/A
12	Latrobe Road/Royal Oaks Drive	TWSC	NB 320 SB 320 EB N/A WB N/A	(WB) 18.2	C	NB 0 SB 6 EB N/A WB N/A	(WB) 32.3	D	NB 0 SB 11 EB N/A WB N/A	**(EB) 3182.4 ***	**F**	NB 5 SB 6 EB N/A WB N/A	**(EB) 2962.7 ***	**F**	NB 11 SB 11 EB N/A WB N/A
13	Golden Foothill Pkwy/Robert J. Mathews Pkwy	TWSC	NB N/A SB N/A EB N/A WB N/A	**(EB) 10000.0 ***	**F**	NB N/A SB N/A EB N/A WB N/A	**(NB) 10000.0 * (v/c = 229)**	**F**	NB N/A SB N/A EB N/A WB N/A	**(NB) 148.8 ***	**F**	NB N/A SB N/A EB N/A WB N/A	**(NB) 10000.0 * (v/c =55)**	**F**	NB N/A SB N/A EB N/A WB N/A

Table 31. Cumulative 2040 intersection delay and level-of-service with and without the proposed Project (continued)

ID	Intersection	Control	Left Turn Storage		2040 AM Peak No Project				2040 PM Peak No Project				2040 AM Peak with Project				2040 PM Peak with Project			
					Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)
14	Investment Boulevard/Robert J. Mathews Pkwy	AWSC	NB	N/A	**372.9 ***	**F**	NB	N/A	**273.2 ***	**F**	NB	N/A	**88.3**	**F**	NB	N/A	36.5	E	NB	N/A
			SB	N/A			SB	N/A			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A			WB	N/A			WB	N/A
15	Golden Foothill Parkway/Carson Crossing Road	TWSC	NB	N/A	(NBL) 17.4	C	NB	N/A	(NBL) 35.4	D	NB	N/A	(NBL) 22.8	C	NB	N/A	(NBL) 25.6	D	NB	N/A
			SB	N/A			SB	N/A			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A			EB	N/A			EB	N/A
			WB	220			WB	5			WB	11			WB	10			WB	7
16	Carson Crossing Road/Calypso Circle	TWSC	NB	N/A	(NB) 29.8	D	NB	N/A	**(NB) 163.7 ***	**F**	NB	N/A	(NB) 28.7	D	NB	N/A	**(NB) 164.1 ***	**F**	NB	N/A
			SB	N/A			SB	N/A			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A			EB	N/A			EB	N/A
			WB	190			WB	15			WB	25			WB	15			WB	27
17	Carson Crossing Road/4 Seasons Drive	AWSC	NB	N/A	8.1	A	NB	N/A	8.7	A	NB	N/A	8.1	A	NB	N/A	8.7	A	NB	N/A
			SB	100			SB	1			SB	3			SB	1			SB	3
			WB	N/A			WB	N/A			WB	N/A			WB	N/A			WB	N/A
18	White Rock Road/Carson Crossing Road	**Signal**	NB	200	16.6	B	NB	29	17.4	B	NB	127	17.7	B	NB	58	16.8	B	NB	101
			SB	N/A			SB	N/A			SB	N/A			SB	N/A			SB	N/A
			EB	200			EB	3			EB	4			EB	3			EB	4
			WB	300			WB	27			WB	49			WB	29			WB	49
19	White Rock Road/Windfield Way	Signal	NB	150	35.0	C	NB	105	34.8	C	NB	**434**	35.0	C	NB	105	34.8	C	NB	**434**
			SB	100			SB	10			SB	10			SB	10			SB	10
			EB	200			EB	10			EB	10			EB	10			EB	10
			WB	200			WB	**610**			WB	**345**			WB	**610**			WB	**345**
20	White Rock Road/Post Street	Signal	NB	N/A	44.8	D	NB	N/A	44.9	D	NB	N/A	43.6	D	NB	N/A	43.9	D	NB	N/A
			SB	100			SB	**216**			SB	**344**			SB	**218**			SB	**339**
			EB	300			EB	**305**			EB	272			EB	288			EB	262
			WB	200			WB	117			WB	183			WB	117			WB	183
21	White Rock Road/Valley View Parkway	Signal	NB	300	26.9	C	NB	148	33.5	C	NB	159	26.8	C	NB	146	33.7	C	NB	160
			SB	200			SB	119			SB	**229**			SB	118			SB	**230**
			EB	300			EB	121			EB	44			EB	130			EB	52
			WB	500			WB	209			WB	255			WB	205			WB	267
22	White Rock Road/Clarksville Crossing	Signal	NB	N/A	43.1	D	NB	N/A	57.2	B	NB	N/A	42.2	D	NB	N/A	16.7	B	NB	N/A
			SB	N/A			SB	N/A			SB	N/A			SB	N/A			SB	N/A
			EB	460			EB	7			EB	14			EB	7			EB	11
			WB	290			WB	8			WB	0			WB	8			WB	0
23	Silva Valley Parkway/US 50 EB ramps	Signal	NB	N/A	11.1	B	NB	N/A	38.0	D	NB	N/A	11.1	B	NB	N/A	36.2	D	NB	N/A
			SB	N/A			SB	N/A			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A			WB	N/A			WB	N/A
24	Silva Valley Parkway/US 50 WB ramps	Signal	NB	N/A	52.2	D	NB	N/A	27.5	C	NB	N/A	49.4	D	NB	N/A	28.2	C	NB	N/A
			SB	N/A			SB	N/A			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A			WB	N/A			WB	N/A
25	Latrobe Road/Commercial RIRO driveway	TWSC	NB	N/A	Does not exist				Does not exist				0.0	A	NB	N/A	0.0	A	NB	N/A
			SB	N/A											SB	N/A			SB	N/A
			EB	N/A											EB	N/A			EB	N/A
26	Latrobe Road/Wetsel-Oviatt Road	TWSC	NB	N/A	(EB) 14.4	B	NB	N/A	(EB) 16.3	C	NB	N/A	(EB) 15.1	C	NB	N/A	(EB) 17.8	C	NB	N/A
			SB	N/A			SB	N/A			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A			EB	N/A			EB	N/A
27	Latrobe Road/S. Shingle Road	TWSC	NB	N/A	(EB) 19.0	C	NB	N/A	(EB) 17.2	C	NB	N/A	(EB) 22.2	C	NB	N/A	(EB) 20.9	C	NB	N/A
			SB	N/A			SB	N/A			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A			WB	N/A			WB	N/A

Table 32. Cumulative 2040 freeway facility level-of-service with and without the proposed Project

No	Segment	Segment Type	Method	2040 No Project AM	2040 No Project PM	2040 Plus Project AM	2040 Plus Project PM
Westbound US 50							
1	Bass Lake Rd to Silva Valley Pkwy	basic	HCM 7th Ed.	33.6/D	27.3/D	32.6/D	27.8/D
2	Silva Valley offramp	diverge	HCM 7th Ed.	27.5/C	23.2/C	26.9/C	23.6/C
3	Silva Valley offramp to future loop onramp	basic	HCM 7th Ed.	17.1/B	18.1/C	16.9/B	18.2/C
4	Future Silva Valley loop onramp	merge	HCM 7th Ed.	22.7/C	24.3/C	22.5/C	24.4/C
5	Silva Valley Pkwy to Latrobe Rd	weave	HCM 7th Ed.	17.4/B	15.2/B	17.2/B	15.3/B
6	El Dorado Hills Blvd offramp to onramp	basic	HCM 7th Ed.	14.2/B	14.8/B	14.2/B	14.8/B
7	El Dorado Hills Blvd onramp	Merge	HCM 7th Ed.	29.7/D	24.6/C	30.2/D	24.1/C
8	El Dorado Hills Blvd to EDC Line *	basic	HCM 7th Ed.	23.7/C	19.8/C	24.1/C	19.5/C
Eastbound US 50							
9	EDC Line to Latrobe Rd	basic	HCM 7th Ed.	16.1/B	25.0/C	15.8/B	25.4/C
10	Latrobe slip offramp	diverge	HCM 7th Ed.	28.0/D	36.9/E	27.4/C	37.4/E
11	Latrobe loop offramp	diverge		25.9/C	33.7/D	25.6/C	33.9/D
12	El Dorado Hills Blvd offramp to Latrobe Rd onramp	basic	HCM 7th Ed.	7.2/A	11.6/B	7.2/A	11.6/B
13	Latrobe Rd onramp to Silva Valley Pkwy offramp	weave	HCM 7th Ed.	10.4/B	14.4/B	10.5/B	14.3/B
14	Silva Valley Pkwy offramp to onramp	basic	HCM 7th Ed.	10.1/A	13.4/B	10.2/A	13.3/B
15	Silva Valley Pkwy onramp	merge	HCM 7th Ed.	15.2/B	18.5/B	15.3/B	18.4/B
16	Future Silva Valley Pkwy slip onramp	merge	HCM 7th Ed.	15.5/B	23.7C	15.9/B	23.5C
17	Silva Valley Pkwy to Bass Lake Rd	basic	HCM 7th Ed.	14.3/B	21.4/C	14.6/B	21.1/C

Density in units of passenger cars per mile per lane.
*Prior to the opening of the Saratoga Way extension, Caltrans has reported occasional LOS F conditions during the morning peak for this segment based on planning methods rather than counts.

Project plus forgone business park trips will reduce WB US 50 volume between Bass Lake Rd and Latrobe Rd in the morning, and between Latrobe Rd and the El Dorado County Line during the afternoon.

Project plus forgone business park trips will reduce EB US 50 volume between EDC line and Latrobe Rd during the AM-peak, and between Silva Valley Pkwy and Bass Lake Rd during the PM peak.

Table 33. Cumulative 2040 arterial level-of-service check with and without the Project

Arterial Segment	Description	2040 AM No Project	2040 PM No Project	2040 AM Plus Project	2040 PM Plus Project
Latrobe Rd between Royal Oaks Dr and Investment Blvd	2-lane arterial (threshold 1650)	775	809	1510	1606
Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south)	2-lane arterial (threshold 1650)	1303	1073	**1901**	**1751**
Latrobe Rd between Golden Foothill Pkwy (south) and Suncast Ln	4-lane divided arterial (threshold 3290)	3134	2776	3284	3017
Latrobe Rd between White Rock Rd and Town Center Blvd	8-lane divided arterial (threshold 6280, extrapolated from 6-lane divided arterial)	3598	3580	4284	4563
White Rock Rd between Valley View Pkwy to Silva Valley Pkwy	4-lane divided arterial (threshold 3290)	2303	2934	2313	2941

10.3 Findings of Project General Plan Level-of-Service and Queueing Deficiencies

Level-of-service and queueing impacts are not considered significant under CEQA. Intersections and/or segments where Project traffic creates new or worsens existing exceedances of General Plan policy thresholds are referred to as having a "Project deficiency". There are twelve intersections and two arterial segments where the Project is anticipated to create new or worsen existing deficiencies under EPAP 2033 conditions.

There are two sections that follow describing the segment level abatement measures and intersection level abatement measures. Throughout this document, segment deficiencies are numbered using the segment number (i through v) and a year code (2023 = "A", 2033 = "B", and 2040 = "C"). Intersection abatement measures are numbered using the intersection number (1-27) and the year code (A, B, or C).

All deficiencies and abatements described below include the deficiency number/abetment number and location as a title, followed by a description of the deficiency, the abatement, findings, responsibility, and timing. For certain abatements, a building permit trigger has been analyzed and included to determine the necessary timing for the improvement. For all other abatements, it is assumed the timing would be prior to issuance of the first building permit. If desired, a building permit trigger could also be determined for those abatements.

2040 Segment Deficiencies and Abatement Measures

(ii)C. Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south) in 2040 (CIP Project Latrobe 72)

Deficiency: Level-of-service is anticipated to worsen to F with the addition of Project traffic during the AM and PM peak-hours.

Abatement: Implement as abatement (ii)A.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 34** presents the segment level-of-service results with this abatement.

Project responsibility: None, addressed through abatement (ii)A.

Timing: Not applicable, addressed through abatement (ii)A.

Table 34. EPAP 2033 arterial level-of-service check with and without the abated Project

Arterial Segment	Description	2033 AM No Project	2033 PM No Project	2033 AM Plus Project	2033 PM Plus Project
Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south)	**Un Abated** 2-lane arterial (threshold 1650)	1303	1073	**1901**	**1751**
	Limit Project to 658 dwelling units: 2-lane arterial (threshold 1650)	1303	1073	1649.9	1526.4
	Add Widening to CIP: 4-lane divided arterial (threshold 3290)	1303	1073	1901	1751

2040 Intersection Deficiencies and Abatement Measures

3C. El Dorado Hills Blvd/US 50 WB in 2040

Deficiency: AM peak-hour level-of-service is F prior to addition of Project traffic. Project traffic is anticipated to worsen level-of-service.

2023-2040 Improvements Assumed: 2023 CIP 36104001.

Abatement: Implement as abatement 3A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 35** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 3A.

Timing: Not applicable, addressed through abatement 3A.

4C. El Dorado Hills Blvd/US 50 EB in 2040

Deficiency: PM peak-hour 95th percentile queue on ramp is anticipated to reach 1400-feet, ending with 500-feet of the gore-point (where the ramp exits the freeway). Project traffic is anticipated to add 124-feet to the queue. This is a potentially traffic operations issue as the 2-lane portion of the ramp is limited to 430-feet.

2023-2040 Improvements Assumed: 2023 CIP 36104001.

Abatement: Implement as abatement 4B

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 35** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 4B.

Timing: Not applicable, addressed through abatement 4B.

5C. Latrobe Road/Town Center Boulevard in 2040

Deficiency: The southbound left-turn queue spills back out of its pocket during the PM peak-hour prior to the addition of Project traffic. Project traffic is anticipated to worsen the southbound left-turn queue spillback and cause the westbound left-turn queue to exceed its pocket length.

2023-2040 Improvements Assumed: None.

Abatement: Implement as abatement 5A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 35** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 5A.

Timing: Not applicable, addressed through abatement 5A.

9C. Latrobe Road/ Golden Foothill Parkway (S) in 2040

Deficiency: Project traffic is anticipated to worsen the intersection to level-of-service F conditions.

2023-2033 Improvements Assumed: None.

Abatement: Implement as abatement 9B

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 35** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 9B.

Timing: Not applicable, addressed through abatement 9B.

Cross reference: See abatement 9A, 9B.

10C. Latrobe Road/Investment Boulevard in 2040

Deficiency: Project traffic is anticipated to cause the eastbound (Investment Blvd) left-turn queue to spill out of its left-turn pocket.

2023-2040 Improvements Assumed: None.

Abatement: Implement as abatement 10A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 35** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 10A.

Timing: Not applicable, addressed through abatement 10A.

11C. Latrobe Road/Avanti Drive in 2040

Deficiency: Project traffic is anticipated to cause this intersection to operate at level-of-service F.

2023-2040 Improvements Assumed: None.

Abatement: Implement as abatement 11A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 35** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 11A.

Timing: Not applicable, addressed through abatement 11A.

12C. Latrobe Road/Royal Oaks Drive in 2040

Deficiency: Project traffic is anticipated to worsen the intersection to level-of-service F.

2023-2040 Improvements Assumed: None.

Abatement: Implement as abatement 12A.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 35** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 12A.

Timing: Not applicable, addressed through abatement 12A.

Table 35. EPAP 2040 intersection delay and level-of-service with and without the abated Project

ID	Intersection	Control	Left Turn Storage	2040 AM Peak No Project				2040 PM Peak No Project				2040 AM Peak with Project				2040 PM Peak with Project				Abatement Strategy	Left Turn Storage	2040 Abated AM Peak (+ Proj)				2040 Abated PM Peak (+ Proj)				Existing or Anticipated CIP Project
				Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)			Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	
3	El Dorado Hills Blvd/US 50 WB (Note EBL queueing reported even though there is not a left-turn pocket, it is 250' to end of right-turn pocket.)	Signal	NB N/A SB 220 EB N/A WB 150	**120.8**	**F**	NB N/A SB 115 EB 227 WB **184**		71.5	E	NB N/A SB 57 EB 318 WB **259**		130.5	F	NB N/A SB 115 EB 227 WB **179**		70.7	E	NB N/A SB 57 EB 318 WB **268**		Implement Abetment 3A	NB N/A SB 220 EB N/A WB 150	**115.8**	**F**	NB N/A SB 114 EB 227 WB **178**		no change				"Traffic Signals Intersection"
4	El Dorado Hills Blvd/US 50 EB (Note: EB and WB right queue reported as EB and WB. EB slip offramp is 1725 feet long)	Signal	NB N/A SB 570 EB N/A WB N/A	37.3	D	NB N/A SB 372 EB 810 WB 0		61.7	E	NB N/A SB 298 EB **1400** WB 0		35.5	D	NB N/A SB 372 EB 716 WB 0		67.9	E	NB N/A SB 298 EB 1524 WB 0		Add 3rd right turn lane	NB N/A SB 570 EB N/A WB N/A	21.0	C	NB N/A SB 373 EB 232 WB 0		19.3	B	NB N/A SB 298 EB 352 WB 0		36104001
5	Latrobe Road/Town Center Boulevard	Signal	NB 220 SB 330 EB 300 WB 100	36.2	D	NB 44 SB **460** EB 109 WB 74		70.5	E	NB 16 SB **864** EB 295 WB **113**		37.5	D	NB 47 SB **475** EB 111 WB 70		77.0	E	NB 16 SB 920 EB **313** WB 140		Implement Abatement 5A.	NB 220 SB 330 EB 300 WB 140	no changes				58.9	E	NB 16 SB **453** EB **315** WB 132		"Traffic Signals Intersection"
9	Latrobe Road/ Golden Foothill Parkway (S)	Signal	NB 220 SB 530 EB 100 WB N/A	**143.8**	**F**	NB 72 SB **601** EB **917** WB N/A		**217.0**	**F**	NB 102 SB **1186** EB **1643** WB N/A		161.2	F	NB 180 SB **626** EB **762** WB N/A		**206.7**	**F**	NB 129 SB 1250 EB 1299 WB N/A		Implement Abatement 9B.	NB 260 SB 530 EB N/A WB N/A	61.7	E	NB 253 SB 485 EB N/A WB N/A		50.1	D	NB 193 SB **822** EB N/A WB N/A		"Latrobe 72"
10	Latrobe Road/Investment Boulevard	Signal	NB 180 SB N/A EB 100	12.1	B	NB 35 SB N/A EB 92		19.6	B	NB 108 SB N/A EB **251**		23.4	C	NB 88 SB N/A EB 161		84.0	F	NB 201 SB N/A EB 487		Implement Abatement 10A	NB 180 SB N/A EB 220	13.8	B	NB 65 SB N/A EB 77		61.4	E	NB 120 SB N/A EB 209		"Latrobe 72"
11	Latrobe Road/Avanti Drive	TWSC	NB N/A SB N/A EB N/A WB N/A	(WB) 14.1	B	NB N/A SB N/A EB N/A WB N/A		(WB) 12.3	B	NB N/A SB N/A EB N/A WB N/A		(EB) 310.8	F	NB N/A SB N/A EB N/A WB N/A		(EB) 303.2	F	NB N/A SB N/A EB N/A WB N/A		Implement Abatement 11A	NB 100 SB 100 EB N/A WB N/A	(EB) 45.8	E	NB 0 SB 2 EB N/A WB N/A		(EB) 39.1.4	E	NB 1 SB 2 EB N/A WB N/A		n/a
12	Latrobe Road/Royal Oaks Drive	TWSC	NB 320 SB 320 EB N/A WB N/A	(WB) 18.2	C	NB 0 SB 6 EB N/A WB N/A		(WB) 32.3	D	NB 0 SB 11 EB N/A WB N/A		(EB) 3182.4 *	F	NB 5 SB 6 EB N/A WB N/A		(EB) 2962.7 *	F	NB 11 SB 11 EB N/A WB N/A		Implement Abatement 12A	NB 320 SB 320 EB 200 WB N/A	28.4	C	NB 51 SB 66 EB 188 WB N/A		21.9	C	NB 61 SB 87 EB 93 WB N/A		n/a

* Denotes intersections where the peak-hour signal warrant is met.

2/17/2024

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11.0 CEQA VMT ANALYSIS

Residential and local serving retail components of the Project are each addressed below based on the methods and thresholds specified in Section 3.4.

11.1 Residential Component

The unincorporated countywide VMT per capita for determining the significance threshold for residential projects, and the Project analysis itself are estimated using the same tools and methodology. For this analysis 2018 baseline model results and 2040 cumulative model results were used to estimate the baseline, 15% reduction threshold adopted by the County in Resolution 141-2020 and incorporated herein by reference, and Project VMT as shown in **Table 36**. The significance threshold determined by this calculation is 17.3 VMT per capita. The residential component of the Project is anticipated to generate 13.6 VMT per capita based on 2018 land use and drop to 13.1 VMT per capita by 2040. CEQA Finding: The residential portion of the Project is anticipated to have a **less-than-significant** impact on VMT.

Table 36. Creekside Village residential VMT analysis

	El Dorado County		Project (Based on TAZ 167)	
	2018	**2040**	**2018**	**2040**
Home based VMT	2,813,221	3,158,464	39,441	45,417
Population	137,989	162,164	2,904	3,478
Trips	616,395	746,555	10,217	12,453
VMT per capita	20.4	19.5	13.6	13.1
VMT threshold with 15% reduction	17.3	n/a	n/a	n/a
Avg. trip length (miles)	4.6	4.2	3.9	3.6

11.2 Local Serving Retail Component

The Project includes 5.4 ksf of neighborhood commercial/local serving retail, which will add coffee and dining opportunities within walking distance of the Project, the neighboring Blackstone and Heritage communities, and vehicles passing by on Latrobe Rd. There is not a clear definition of local serving vs regional serving retail; OPR guidance states that retail projects of 50,000 sqft or larger are generally regional rather than local serving. The proposed retail Project component is well under the OPR threshold and is anticipated to be local serving. Therefore, the retail component of Creekside Village is anticipated to be less-than-significant.

The 1.8 ac/5.4 ksf neighborhood commercial/local serving retail is proposed for potential uses such as convenience stores, coffee shops and professional offices. If built entirely as professional office rather than retail, its anticipated trip generation is under the County's 100 trip per day de minimis threshold for small projects and the VMT impact would remain less-than-significant.

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12.0 BICYCLE PEDESTRIAN AND TRANSIT IMPACTS

The Project does not interfere with existing or proposed transit service and has a **less-than-significant** impact on transit.

The Project enhances bicycle and pedestrian access to the El Dorado Hills Business Park (**Figure 19**) and does not interfere with existing or planned bicycle and pedestrian facilities. The Project includes a variety of bike and pedestrian amenities providing connections both within the planned community and externally to the existing bike and pedestrian facilities along Latrobe Road and Royal Oaks Dr:

- The Creekside Village entry road will feature class II bike lanes from its intersection with Latrobe Road.
- The Project features a complete system of paved and unpaved trails located in the open space buffer areas and landscape corridors. The trails will be destination-oriented and link the various residential neighborhoods, parks, and the business park.
- The majority of Creekside Village streets will include attached or separated sidewalks on both sides of the street. Sidewalks will comply with ADA standards and be a minimum of 4-feet in width.

The Project has a **less-than-significant** impact on bicycle and pedestrian facilities.

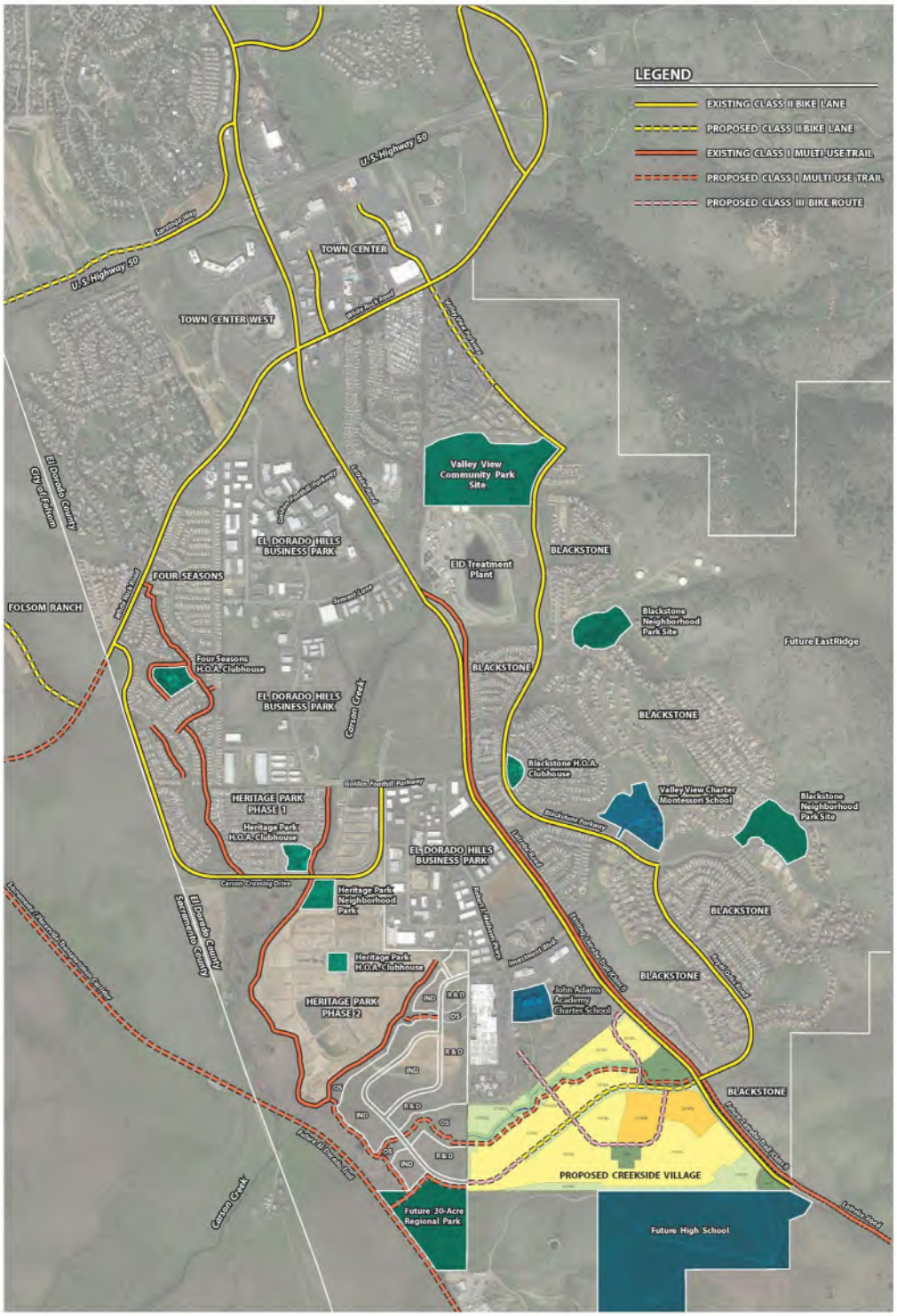


Figure 19. Bike and pedestrian facilities map (Project would construct on-site facilities)

13.0 FINDINGS

13.1 Trip Generation Findings

The 918 dwelling unit Project with 5,400 sqft of neighborhood commercial space is anticipated to generate 834 AM peak hour trips, 955 PM peak hour trips, and 10,040 daily trips. Those trips are largely offset by 2040 through forgone commercial development on the 207.9 ac project site which the travel demand model anticipated would have generated 733 AM peak hour trips, 829 PM peak hour trips, and 9,415 daily trips. Net, the Project therefore adds only 101 AM peak hour trips during the AM peak hour, 126 trips during the PM peak hour, and 625 daily trips over what was assumed in travel demand model horizon year. Trip Generation is discussed in more detail in **Section 5.1**.

13.2 CEQA Findings

VMT: The 918 dwelling unit residential component of the Project is anticipated to have home based VMT per capita of 13.6 in 2023 and 13.1 in 2040, compared to a significance threshold (calculated using the same methodology and data as the Project impacts) of 17.3. Therefore the residential component of the Project has a **less-than significant** impact on VMT. The 5,400 sqft neighborhood commercial local serving retail component of the Project offers improved destination choices for local residents and can be assumed to have a **less-than significant** impact on VMT. The VMT analysis is discussed in **Section 3.4** and **Section 11**.

Transit: The Project does not interfere with existing or proposed transit service and has a **less-than-significant** impact on transit. Transit impacts are briefly discussed in **Section 12**.

Bicycles and Pedestrians: The Project enhances bicycle and pedestrian access to the El Dorado Hills Business Park and does not interfere with existing or planned bicycle and pedestrian facilities. The Project includes a variety of bike and pedestrian amenities providing connections both within the planned community and externally to the existing bike and pedestrian facilities along Latrobe Road and Royal Oaks Dr. Therefore, the Project has a **less-than-significant** impact on bicycle and pedestrian facilities. Bicycles and pedestrian impacts are briefly discussed in **Section 12**.

13.3 General Plan Level-of-Service and Queue Length Findings

Deficiencies that are caused or worsened by the Project, and abatement measures to address said deficiencies, are identified for existing 2023 plus Project, EPAP 2033 plus Project, and cumulative 2040 plus Project conditions.

Throughout this document, segment deficiencies are numbered using the segment number (i through v) and a year code (2023 = “A”, 2033 = “B”, and 2040 = “C”). Intersection abatement measures are numbered using the intersection number (1-27) and the year code (A, B, or C).

Existing 2023 Plus Project Conditions

Existing 2023 plus Project conditions are discussed in **Section 6.** The Project is anticipated to cause new or worsen existing level-of-service/queuing deficiencies on one road segment and at twelve intersections (deficiencies may be caused by anticipated level-of-service and/or queue spillback):

1 Arterial segments with worsened or new Project related deficiencies:

- Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south) AM and PM

10 Locations that are deficient with or without the Project that are worsened:

- (2) El Dorado Hills Blvd/Saratoga Way AM and PM;
- (3) El Dorado Hills Blvd/US 50 WB AM and PM;
- (5) Latrobe Road/Town Center Boulevard PM;
- (6) Latrobe Road/White Rock Road AM and PM;
- (8) Latrobe Rd/Suncast Ln AM and PM;
- (9) Latrobe Road/ Golden Foothill Parkway (S) AM and PM;
- (10) Latrobe Road/Investment Boulevard AM and PM;
- (13) Golden Foothill Parkway (S)/Robert J. Mathewsws Pkwy PM;
- (18) White Rock Road/Carson Crossing Road PM; and
- (21) White Rock Road/Valley View Parkway AM and PM.

2 Locations where the Project is anticipated to cause new deficiencies:

- (11) Latrobe Road/Avanti Drive AM and PM; and
- (12) Latrobe Road/Royal Oaks Drive AM and PM.

Deficiency/Abatement (ii)A. Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south) in 2023 (CIP Project Latrobe 72)

Deficiency: Level-of-service is anticipated to worsen to F with the addition of Project traffic during the AM and PM peak-hours.

Abatement: Before issuance of the 658th residential building permit or the first commercial building permit, the CIP project Latrobe 72 (widen Latrobe Rd to four-lanes between Investment Blvd and Royal Oaks Dr) shall be included in the 10-year CIP. Latrobe 72 consists of widening Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south) from two-lanes to four-lanes, and all associated improvements at the intersections of Latrobe Rd/Investment Blvd and Latrobe Rd/Golden Foothill Pkwy (south).

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 18** presented the segment level-of-service results with this abatement.

Project Responsibility: The Project is responsible for its fair share of the cost of these off-site improvements which would be addressed by payment of fees after Latrobe 72 is added to the 10-year CIP. Addition of these improvements to the CIP will provide the mechanism to ensure the Project is responsible for its fair share.

Timing: Prior to issuance of the 658th residential building permit or the first commercial building permit. Note the 658 th unit constraint is based on the cumulative 2040 scenario which is the most constrained scenario for this deficiency.

Deficiency/Abatement 2A. El Dorado Hills Blvd/Saratoga Way in 2023

Deficiency: Level-of-service is F prior to addition of Project traffic, with northbound left-turn queues spilling out of the turn pocket. Project traffic is anticipated to worsen level-of-service and northbound left-turn queues.

Abatement: Construct a 300-foot southbound right turn pocket and adjust signal timing.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 19** presented intersection level-of-service results with this abatement.

Project Responsibility: This abatement partially implements Project #36105076 in the 10-year Capital Improvement Program (CIP). The Project may satisfy its fair share requirement through payment of applicable fees under the El Dorado County traffic impact Fee (TIF) program.

Timing: Prior to issuance of 1st building permit.

Cross reference: See abatement 2B, which builds on abatement 2A.

Deficiency/Abatement 3A. El Dorado Hills Blvd/US 50 WB in 2023

Deficiency: Existing AM peak-hour level-of-service is F prior to addition of Project traffic. Project traffic is anticipated to worsen level-of-service.

Abatement: Adjust signal splits.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 19** presented intersection level-of-service results with this abatement.

Project responsibility: Project is responsible for its fair-share of signal timing adjustment. The CIP includes funding for intersection and safety improvements at "to be determined" locations. The Project may satisfy this requirement through payment of applicable fees under the El Dorado County traffic impact Fee (TIF) program.

Timing: Prior to issuance of 1st building permit.

Deficiency/Abatement 5A. Latrobe Road/Town Center Boulevard in 2023

Deficiency: The southbound left turn queue spills back out of its pocket during the PM peak-hour under existing conditions prior to the addition of Project traffic. Project traffic is anticipated to worsen the southbound left turn queue spillback and cause the westbound left turn queue to exceed its pocket length.

Abatement: Adjust signal splits and extend the westbound left-turn pocket from 100 feet to 140 feet.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 19** presented intersection level-of-service results with this abatement.

Project responsibility: The Project is responsible for its fair share of these intersection improvements. These improvements could be addressed through the line item in the CIP for intersection improvements and the Project would contribute its fair share through payment of the TIF. Because a discrete CIP project is not approved or anticipated for the specific improvement, these intersections improvements were included within the area of potential effect (APE) for the Project.

Timing: Prior to issuance of 1st building permit.

Deficiency/Abatement 6A. Latrobe Road/White Rock Road in 2023

Deficiency: The westbound left-turn queue spills back out of its turn pocket under existing conditions without the Project. Project traffic is anticipated to worsen that queue spillback.

Abatement: Adjust signal splits.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 19** presented intersection level-of-service results with this abatement.

Project responsibility: This abatement partially implements Project #36105069 in the 20-year Capital Improvement Program (CIP). The Project is responsible for its fair share of

modification of signal timing, which may be addressed through payment of fees if the CIP project is moved to the 10-year CIP.

Timing: Prior to issuance of 1st building permit.

Deficiency/Abatement 8A. Latrobe Road/Suncast Lane in 2023

Deficiency: The eastbound left turn queue spills-back out of its pocket during the PM peak-hour under existing conditions prior to the addition of Project traffic. Project traffic is anticipated to worsen the existing deficiency.

Abatement: Restripe the eastbound approach to have a left and a shared left-right lane.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 19** presented intersection level-of-service results with this abatement.

Project responsibility: Project is responsible for its fair-share of restriping. The CIP includes funding for intersection and safety improvements at "to be determined" locations. The Project may satisfy this requirement through payment of applicable fees under the El Dorado County traffic impact Fee (TIF) program.

Timing: Prior to issuance of 1st building permit.

Deficiency/Abatement 9A. Latrobe Road/ Golden Foothill Parkway (south) in 2023

Deficiency: Project traffic is anticipated to create a new intersection level-of-service deficiency during the PM peak-hour and worsen existing queue spillback from the eastbound left turn during both the AM and PM peak-hours.

Abatement: Stripe eastbound approach as 2-lanes between Robert J. Mathewsws Pkwy and Latrobe Rd and widen to three lanes at the intersection by constructing a 200-foot eastbound right turn pocket. Label the eastbound approach lanes as left, left, thru-right. Adjust cycle length and splits. These improvements are consistent with intersection improvements that would be constructed under abatement (ii)A ("Latrobe 72") above. Therefore, addition of Latrobe 72 to the 10-year CIP would address the Project's fair share cost of these improvements as well.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 19** presented intersection level-of-service results with this abatement.

Project responsibility: The Project is responsible for its fair share of the cost of these off-site improvements which would be addressed by payment of fees after Latrobe 72 is added to the 10-year CIP.

Timing: Prior to issuance of 1st building permit.

Cross reference: See abatement 9B, which builds on abatement 9a.

Deficiency/Abatement 10A. Latrobe Road/Investment Boulevard in 2023

Deficiency: Project traffic is anticipated to cause the northeast bound (Investment Blvd) left turn queue to spill out of its left-turn pocket during the AM peak-hour and worsen existing queue spill back for that same movement during the PM peak-hour.

Abatement: Stripe eastbound approach as left, shared left-right in 180-foot pocket. Adjust cycle length and splits. These improvements are consistent with intersection improvements that would be constructed under abatement (ii)A ("Latrobe 72") above. Therefore, addition of Latrobe 72 to the 10-year CIP would address the Project's fair share cost of these improvements as well.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 19** presented intersection level-of-service results with this abatement.

Project responsibility: The Project is responsible for its fair share of the cost of these off-site improvements which would be addressed by payment of fees after Latrobe 72 is added to the 10-year CIP.

Timing: Prior to issuance of 1st building permit.

Deficiency/Abatement 11A. Latrobe Road/Avanti Drive in 2023

Deficiency: Project traffic is anticipated to cause this intersection to operate at level-of-service F.

Abatement: Construct 100-foot left turn pockets on Latrobe (NB and SB). Construct 100-foot receiving lane on NB Latrobe for EB left turns from Project. This intersection is a Project access point, and these improvements can likely be done as part of the Project's frontage improvements.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 19** presented intersection level-of-service results with this abatement.

Project responsibility: The Project is responsible for construction of these intersection improvements.

Timing: Prior to issuance of 1st building permit.

Deficiency/Abatement 12A. Latrobe Road/Royal Oaks Drive in 2023

Deficiency: Project traffic is anticipated to worsen the intersection to level-of-service F.

Abatement: Reconstruct the intersection as a signal-controlled intersection. The eastbound approach should be constructed as a three-lane approach with a left-turn lane in a 220-foot pocket, a shared left-thru, and a right turn lane in a 100-foot pocket. This intersection is a Project access point, and these improvements can likely be done as part of the Project's frontage improvements.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 19** presented intersection level-of-service results with this abatement.

Project responsibility: The Project is responsible for construction of these intersection improvements.

Timing: Prior to issuance of 1st building permit.

Deficiency/Abatement 13A. Golden Foothill Pkwy/Robert J. Mathews Pkwy in 2023

Deficiency: Project traffic is anticipated to worsen level-of-service F conditions.

Abatement: Reconstruct as a roundabout. Construct as follows:

- Northbound approach - a shared left-right lane and a right-turn lane in a 100-foot pocket.
- Westbound approach - a left-turn lane and a through lane.
- Eastbound approach – a shared through-right lane.

Figure 13 provides the traffic model's representation of this geometry and its relation to the adjacent intersection of Latrobe Rd/Golden foothill Pkwy (south) with abatement 9A implemented.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 19** presented intersection level-of-service results with this abatement.

Project responsibility: The Project is responsible for its fair share of the cost of these off-site improvements which would be addressed by payment of fees after the roundabout is added to the 10-year CIP.

Timing: Prior to issuance of 1st building permit.

Deficiency/Abatement 18A. White Rock Road/Carson Crossing Road in 2023

Deficiency: Project traffic is anticipated to worsen level-of-service F conditions and cause the peak-hour signal warrant to be met.

Abatement: Signalize the intersection utilizing existing geometry.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 19** presented intersection level-of-service results with this abatement.

Project responsibility: This off-site improvement partially implements 20-year CIP project 36105041 (White Rock Road widening 2 to 4 Lanes - Windfield Way to Sacramento County Line) and should be advanced to the 10-year CIP. Through payment of the TIF,. the Project would be responsible for its fair share of cost.

Timing: Prior to issuance of 1st building permit.

Deficiency/Abatement 21A. White Rock Road/Valley View Parkway in 2023

Deficiency: Project traffic is anticipated to worsen level-of-service to F and worsen left-turn queue spillback on eastbound and westbound White Rock Rd.

Abatement: Reconstruct White Rock Rd through the intersection as follows:

- Eastbound approach: restripe the left turn pocket to 400-feet, restripe the shared through-right lane as a through lane, construct a right-turn lane in a 220-foot pocket.
- Westbound approach (White Rock Rd): Widen to construct a right-turn lane in a 220-foot pocket and extend the left-turn pocket to 400-feet. Restripe the shared through-right lane as a through lane.

Widening should be done to the south or Latrobe Rd to avoid high voltage lines. Eastbound-westbound Lane alignment may require additional space.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 19** presented intersection level-of-service results with this abatement.

Project responsibility: CIP Project 36105042 (White Rock Road widening 2 to 4 lanes - Post Street to South of Silva Valley Parkway) includes funding for improvements to this intersection in both the 10-year and 20-year CIPs and all components should be advanced to 10-year CIP. The Project's fair share responsibility for this improvement can be met through payment of TIF program fees.

Timing: Payment of TIF at issuance of each building permit.

Cross reference: See abatement 21B, which builds on abatement 21a.

EPAP 2033 Plus Project Conditions

EPAP 2033 plus Project conditions are discussed in **Section 8.** The Project is anticipated to cause new or worsen existing level-of-service/queuing deficiencies on two road segments and at thirteen intersections (deficiencies may be caused by anticipated level-of-service and/or queue spillback):

2 Arterial segments with worsened or new Project related deficiencies:

- White Rock Rd between Valley View Pkwy to Silva Valley Pkwy AM and PM; and
- Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south) PM.

11 Locations that are deficient with or without the Project that are worsened:

- (2) El Dorado Hills Blvd/Saratoga Way AM and PM;
- (3) El Dorado Hills Blvd/US 50 WB AM and PM;
- (4) El Dorado Hills Blvd/US 50 EB PM;
- (5) Latrobe Road/Town Center Boulevard PM;
- (6) Latrobe Road/White Rock Road AM and PM;
- (7) Latrobe Road/Golden Foothill Parkway (N) AM and PM;
- (9) Latrobe Road/ Golden Foothill Parkway (S) AM and PM;
- (10) Latrobe Road/Investment Boulevard AM and PM;
- (13) Golden Foothill Parkway (S)/Robert J. Mathewsws Pkwy AM and PM;
- (18) White Rock Road/Carson Crossing Road PM; and
- (21) White Rock Road/Valley View Parkway AM and PM.

2 Locations where the Project is anticipated to cause new deficiencies:

- (11) Latrobe Road/Avanti Drive AM and PM; and
- (12) Latrobe Road/Royal Oaks Drive AM and PM.

Deficiency/Abatement (ii)B. Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south) in 2033 (CIP Project Latrobe 72)

Deficiency: Level-of-service is anticipated to worsen to F with the addition of Project traffic during the AM and PM peak-hours.

Abatement: Implement as abatement (ii)A.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 26** presented the segment level-of-service results with this abatement.

Project responsibility: None, addressed through abatement (ii)A.

Timing: Not applicable, addressed through abatement (ii)A.

Deficiency/Abatement (v)B. White Rock Rd between Valley View Pkwy to Silva Valley Pkwy in 2033

Deficiency: This segment operates at level-of-service F under EPAP 2033 conditions without the Project and the Project is anticipated to add more than 10 peak hour trips to this segment, worsening the existing level-of-service deficiency.

Abatement: Before issuance of the 173rd residential building permit or the first commercial building permit, advance CIP Project 36105042 to the 10-year CIP (widen White Rock Rd to four lanes between Valley View Pkwy and Silva Valley Pkwy.).

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 26** presented the segment level-of-service results with this abatement.

Project Responsibility: CIP Project 36105042 (White Rock Road widening 2 to 4 lanes - Post Street to South of Silva Valley Parkway) includes funding for improvements to this segment in both the 10-year and 20-year CIPs and all components should be advanced to 10-year CIP. The Project's fair share responsibility for this improvement can be met through payment of TIF program fees.

Timing: Prior to issuance of the 173rd residential building permit or the first commercial building permit.

Deficiency/Abatement 2B. El Dorado Hills Blvd/Saratoga Way in 2023

Deficiency: Level-of-service is F prior to addition of Project traffic, with northbound left-turn queues spilling out of the turn pocket. Project traffic is anticipated to worsen level-of-service and northbound left-turn queues.

2023-2033 Improvements Assumed: Southbound right-turn pocket (300-foot) and 500-foot northbound and southbound left turn pockets are assumed as part of CIP project 36105076.

Abatement: In addition to abatement 2A, prohibit northbound U-turns, overlap the eastbound right turn with the northbound left turn, and overlap the southbound right turn with the eastbound left turn.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 27** presented intersection level-of-service results with this abatement.

Project Responsibility: This abatement partially implements Project #36105076 in the 10-year Capital Improvement Program (CIP). The Project may satisfy this requirement through payment of applicable fees under the El Dorado County traffic impact Fee (TIF) program.

Timing: Prior to issuance of 1st building permit.

Cross reference: See abatement 2A.

Deficiency/Abatement 3B. El Dorado Hills Blvd/US 50 WB in 2033

Deficiency: AM peak-hour level-of-service is F prior to addition of Project traffic. Project traffic is anticipated to worsen level-of-service.

2023-2033 Improvements Assumed: None.

Abatement: Implement as abatement 3A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 27** presented intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 3A.

Timing: Not applicable, addressed through abatement 3A.

Deficiency/Abatement 4B. El Dorado Hills Blvd/US 50 EB in 2033

Deficiency: PM peak-hour 95th percentile queue on ramp is anticipated to reach 1251-feet, ending with 500-feet of the gore-point (where the ramp exits the freeway). Project traffic is anticipated to add 172-feet to the queue. This is a potentially traffic operations issue as the 2 lane portion of the ramp is limited to 430-feet.

2023-2033 Improvements Assumed: None.

Abatement: construct a 3rd eastbound right turn lane from the offramp to southbound Latrobe Road. The new turn lane shall match the approximate length of the existing 2-lane portion of the offramp.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 27** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: CIP Project 36104001 (US 50 / Latrobe Road/ El Dorado Hills Boulevard Interchange Improvements Phase 2B) includes reconstruction of the EB diagonal on-ramp, EB on-ramp auxiliary lane, and the EB loop off-ramp. The Project is responsible for its fair share of the cost of this off-site improvement. Which would be addressed through payment of fees after widening of the eastbound diagonal offramp has been added to CIP Project 36104001.

Timing: Payment of TIF at issuance of each building permit.

Cross reference: See abatement 4C.

Deficiency/Abatement 5B. Latrobe Road/Town Center Boulevard in 2033

Deficiency: The southbound left-turn queue spills back out of its pocket during the PM peak-hour prior to the addition of Project traffic. Project traffic is anticipated to worsen the southbound left-turn queue spillback and cause the westbound left-turn queue to exceed its pocket length.

2023-2033 Improvements Assumed: None.

Abatement: Implement as abatement 5A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 27** presented intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 5A.

Timing: Not applicable, addressed through abatement 5A.

Deficiency/Abatement 6B. Latrobe Road/White Rock Road in 2033

Deficiency: The westbound left-turn queue spills back out of its turn pocket. Project traffic is anticipated to worsen that queue spillback.

2023-2033 Improvements Assumed: None.

2023-2033 Improvements Assumed: None.

Abatement: Implement as abatement 6A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 27** presented intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 6A.

Timing: Not applicable, addressed through abatement 6A.

Deficiency/Abatement 7B. Latrobe Road/Golden Foothill Parkway (N) in 2033

Deficiency: Project traffic is anticipated to worsen level-of-service to F.

2023-2033 Improvements Assumed: None.

Abatement: Construct 180-foot southbound right turn pocket.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 27** presented intersection level-of-service results with this abatement.

Project responsibility: CIP 36105069 will widen this portion of Latrobe Rd to six lanes by 2040 and should be advanced to the 10-year CIP. The Project's fair share cost of this improvement is payment of the TIF program fee.

Timing: Prior to issuance of 1st building permit.

Deficiency/Abatement 9B. Latrobe Road/ Golden Foothill Parkway (S) in 2033

Deficiency: Project traffic is anticipated to worsen the intersection to level-of-service F conditions.

2023-2033 Improvements Assumed: None.

Abatement: Abatement 9B is similar, but expands upon, abatement 9A:

- Eastbound approach: Implement abatement 9A.

- Westbound approach: Stripe westbound approach to 2-lanes between Blackstone Pkwy and Latrobe Rd, and construct a 250' right left pocket. Label the resulting three lanes as left, left, thru-right.
- Northbound approach: Widen northbound approach by constructing an additional 100' right turn pocket and extending the left turn pocket to 260'. Label the resulting four lanes as left, thru, thru, and right.
- Southbound approach: Widen southbound approach by constructing an additional 300' right turn pocket, label the resulting four lanes as left, thru, thru, right.

Figure 16 below shows the traffic model's representation of these improvements. Note that the depicted northbound right turn lane was drawn with a 24-foot width to reflect the assumed ultimate width of Latrobe Rd after widening to four lanes with the "Latrobe 72" improvements and an additional northbound through lane. The Project is not obligated to build improvements to that footprint, but it is advised that any relocation of traffic signals be placed outside of the intersection's ultimate footprint.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 27** presented intersection level-of-service results with this abatement.

Project responsibility: The Project is responsible for its fair share of the cost of these off-site improvements which would be addressed by payment of fees after Latrobe 72 is added to the 10-year CIP.

Timing: Prior to issuance of 1st building permit.

Cross reference: See abatement 9A.

Deficiency/Abatement 10B. Latrobe Road/Investment Boulevard in 2033

Deficiency: Project traffic is anticipated to cause the eastbound (Investment Blvd) left-turn queue to spill out of its left-turn pocket.

2023-2033 Improvements Assumed: None.

Abatement: Implement as abatement 10A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 27** presented intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 10A.

Timing: Not applicable, addressed through abatement 10A.

Deficiency/Abatement 11B. Latrobe Road/Avanti Drive in 2033

Deficiency: Project traffic is anticipated to cause this intersection to operate at level-of-service F.

2023-2033 Improvements Assumed: None.

Abatement: Implement as abatement 11A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 27** presented intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 11A.

Timing: Not applicable, addressed through abatement 11A.

Deficiency/Abatement 12B. Latrobe Road/Royal Oaks Drive in 2033

Deficiency: Project traffic is anticipated to worsen the intersection to level-of-service F.

2023-2033 Improvements Assumed: None.

Abatement: Implement as abatement 12A.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 27** presented intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 12A.

Timing: Not applicable, addressed through abatement 12A.

Deficiency/Abatement 13B. Golden Foothill Pkwy/Robert J. Mathews Pkwy in 2033

Deficiency: The Project is anticipated to worsen existing level-of-service F conditions at this intersection.

2023-2033 Improvements Assumed: None.

Abatement: Implement as abatement 13A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 27** presented intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 13A.

Timing: Not applicable, addressed through abatement 13A.

Deficiency/Abatement 18B. White Rock Road/Carson Crossing Road in 2033

Deficiency: Project traffic is anticipated to cause new and worsen level-of-service F conditions. The peak-hour signal warrant is met with or without the Project.

2023-2033 Improvements Assumed: None.

Abatement: Implement as abatement 18A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 27** presented intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 18A.

Timing: Not applicable, addressed through abatement 18A.

Deficiency/Abatement 21B. White Rock Road/Valley View Parkway in 2033

Deficiency: Project traffic is anticipated to worsen level-of-service to F conditions and worsen left-turn queue spillback on eastbound and westbound White Rock Rd.

2023-2033 Improvements Assumed: None.

Abatement: Reconstruct White Rock Rd through the intersection as follows:

- Implement abatement 21 A.
- Further extend the westbound left turn pocket to 1000 feet. (Note: abatement 21A will extend this pocket to 400 feet, abatement 21B reflects an additional 600 feet of westbound right turn storage.)

Widening should be done to the south of Latrobe Rd to avoid high voltage lines. Eastbound-westbound Lane alignment may require additional space.

Finding: CIP Project 36105042 (White Rock Road widening 2 to 4 lanes - Post Street to South of Silva Valley Parkway) includes funding for improvements to this intersection in both the 10-year and 20-year CIPs and all components should be advanced to 10-year CIP. The Project's responsibility for this improvement can be met through payment of TIF program fees. With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy

deficiencies at this location. **Table 27** presented intersection level-of-service results with this abatement.

Project responsibility: CIP Project 36105042 (White Rock Road widening 2 to 4 lanes - Post Street to South of Silva Valley Parkway) includes funding for improvements to this intersection in both the 10-year and 20-year CIPs and all components should be advanced to 10-year CIP. The Project's fair share responsibility for this improvement can be met through payment of TIF program fees.

Timing: Prior to issuance of 1st building permit.

Cumulative 2040 Plus Project Conditions

Existing 2040 plus Project conditions are discussed in **Section 10.** The Project is anticipated to cause new or worsen existing level-of-service/queuing deficiencies on one road segment and at seven intersections (deficiencies may be caused by anticipated level-of-service and/or queue spillback):

1 Arterial segments with worsened or new Project related deficiencies:

- Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south) PM.

5 Locations that are deficient with or without the Project that are worsened:

- (3) El Dorado Hills Blvd/US 50 WB AM and PM;
- (4) El Dorado Hills Blvd/US 50 EB PM;
- (5) Latrobe Road/Town Center Boulevard PM;
- (9) Latrobe Road/ Golden Foothill Parkway (S) AM and PM;
- (10) Latrobe Road/Investment Boulevard AM and PM;

2 Locations where the Project is anticipated to cause new deficiencies:

- (11) Latrobe Road/Avanti Drive AM and PM; and
- (12) Latrobe Road/Royal Oaks Drive AM and PM.

Deficiency/Abatement (ii)C. Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south) in 2040 (CIP Project Latrobe 72)

Deficiency: Level-of-service is anticipated to worsen to F with the addition of Project traffic during the AM and PM peak-hours.

Abatement: Implement as abatement (ii)A.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 34** presents the segment level-of-service results with this abatement.

Project responsibility: None, addressed through abatement (ii)A.

Timing: Not applicable, addressed through abatement (ii)A.

Deficiency/Abatement 3C. El Dorado Hills Blvd/US 50 WB in 2040

Deficiency: AM peak-hour level-of-service is F prior to addition of Project traffic. Project traffic is anticipated to worsen level-of-service.

2023-2040 Improvements Assumed: 2023 CIP 36104001.

Abatement: Implement as abatement 3A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 35** presented intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 3A.

Timing: Not applicable, addressed through abatement 3A.

Deficiency/Abatement 4C. El Dorado Hills Blvd/US 50 EB in 2040

Deficiency: PM peak-hour 95th percentile queue on ramp is anticipated to reach 1400-feet, ending with 500-feet of the gore-point (where the ramp exits the freeway). Project traffic is anticipated to add 124-feet to the queue. This is a potentially traffic operations issue as the 2-lane portion of the ramp is limited to 430-feet.

2023-2040 Improvements Assumed: 2023 CIP 36104001.

Abatement: Implement as abatement 4B

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 35** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 4B.

Timing: Not applicable, addressed through abatement 4B.

Deficiency/Abatement 5C. Latrobe Road/Town Center Boulevard in 2040

Deficiency: The southbound left-turn queue spills back out of its pocket during the PM peak-hour prior to the addition of Project traffic. Project traffic is anticipated to worsen the southbound left-turn queue spillback and cause the westbound left-turn queue to exceed its pocket length.

2023-2040 Improvements Assumed: None.

Abatement: Implement as abatement 5A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 35** presented intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 5A.

Timing: Not applicable, addressed through abatement 5A.

Deficiency/Abatement 9C. Latrobe Road/ Golden Foothill Parkway (S) in 2040

Deficiency: Project traffic is anticipated to worsen the intersection to level-of-service F conditions.

2023-2033 Improvements Assumed: None.

Abatement: Implement as abatement 9B

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 35** presented intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 9B.

Timing: Not applicable, addressed through abatement 9B.

Cross reference: See abatement 9A, 9B.

Deficiency/Abatement 10C. Latrobe Road/Investment Boulevard in 2040

Deficiency: Project traffic is anticipated to cause the eastbound (Investment Blvd) left-turn queue to spill out of its left-turn pocket.

2023-2040 Improvements Assumed: None.

Abatement: Implement as abatement 10A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 35** presented intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 10A.

Timing: Not applicable, addressed through abatement 10A.

Deficiency/Abatement 11C. Latrobe Road/Avanti Drive in 2040

Deficiency: Project traffic is anticipated to cause this intersection to operate at level-of-service F.

2023-2040 Improvements Assumed: None.

Abatement: Implement as abatement 11A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 35** presented intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 11A.

Timing: Not applicable, addressed through abatement 11A.

Deficiency/Abatement 12C. Latrobe Road/Royal Oaks Drive in 2040

Deficiency: Project traffic is anticipated to worsen the intersection to level-of-service F.

2023-2040 Improvements Assumed: None.

Abatement: Implement as abatement 12A.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 35** presented intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 12A.

Timing: Not applicable, addressed through abatement 12A.

Appendix A: Traffic Counts and Signal Timing Sheets

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EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION

Count Summary Beginning: October 4, 2023

Count Station:	1400018	Counter ID:	TLS #4
City/Town:	El Dorado Hills	Mile Post:	**8.88**
Road Name:	**Latrobe Road**	Location:	**100 Ft. S. of Investment Blvd.**
Lanes:	2	Direction:	SOUTHBOUND

Date	8	9	10	4	5	6	7	Weekly	Wk Day
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Average	Avg.
Time									
100	30		14	11	18	7	23		13
200	13		3	6	8	10	9		7
300	5		1	3	6	8	4		5
400	7		8	8	8	11	5		9
500	9		24	17	24	17	15		21
600	29		80	61	72	54	66		67
700	58		99	145	138	129	120		128
800	102		189	229	189	203	174		203
900	133		198	217	218	216	217		212
1000	199		183	185	173	201	197		186
1100	249		175	193	191	213	248		193
1200	289		219	192	234	221	278		217
1300	290		250	252	265	257	274		256
1400	270		251	293	295	247	346		272
1500	284		308	326	340	274	357		312
1600	279		369	400	346	280	415		349
1700	300		412	361	409	306	416		372
1800	276		354	367	371	296	394		347
1900	216		224	257	255	208	273		236
2000	180		171	179	165	204	205		180
2100	142		121	138	171	125	156		139
2200	104		51	89	86	103	115		82
2300	80		43	43	50	58	96		49
2400	55		18	19	26	36	68		25
Totals	3599		3765	3991	4058	3684	4471		3875
AM Peak Hr	12:00		12:00	8:00	12:00	12:00	12:00		12:00
AM Count	289		219	229	234	221	278		217
PM Peak Hr	5:00		5:00	4:00	5:00	5:00	5:00		5:00
PM Count	300		412	400	409	306	416		372

TOTAL ADT: 7,605

EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION

Count Summary Beginning: October 4, 2023

Count Station:	1400018	Counter ID:	TLS #4
City/Town:	El Dorado Hills	Mile Post:	**8.88**
Road Name:	**Latrobe Road**	Location:	**100 Ft. S. of Investment Blvd.**
Lanes:	2	Direction:	NORTHBOUND

Date	8	9	10	4	5	6	7	Weekly	Wk Day
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Average	Avg.
Time									
100	12		8	5	5	6	9		6
200	6		5	3	3	5	3		4
300	13		6	3	5	9	6		6
400	8		15	10	13	10	6		12
500	6		35	41	44	38	33		40
600	33		121	131	108	107	92		117
700	51		207	195	214	201	177		204
800	115		344	427	402	375	343		387
900	192		315	364	346	353	314		345
1000	247		279	296	305	245	287		281
1100	251		255	274	269	270	283		267
1200	283		247	253	236	246	258		246
1300	286		220	230	255	226	271		233
1400	213		242	233	216	215	269		227
1500	262		303	309	294	267	340		293
1600	279		262	238	253	250	296		251
1700	265		255	284	245	260	331		261
1800	251		196	229	230	234	277		222
1900	167		126	153	128	177	165		146
2000	124		89	72	95	87	118		86
2100	115		46	44	48	36	93		44
2200	82		23	25	30	28	54		27
2300	53		18	15	15	20	66		17
2400	30		8	13	8	14	23		11
Totals	3344		3625	3847	3767	3679	4114		3730
AM Peak Hr	12:00		8:00	8:00	8:00	8:00	8:00		8:00
AM Count	283		344	427	402	375	343		387
PM Peak Hr	1:00		3:00	3:00	3:00	3:00	3:00		3:00
PM Count	286		303	309	294	267	340		293

TOTAL ADT: 7,605

EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION

Count Summary Beginning: October 4, 2023

Count Station:	1450018	Counter ID:	TLS #4
City/Town:	El Dorado Hills	Mile Post:	**8.92**
Road Name:	**Latrobe Road**	Location:	**100 Ft. N. of Investment Blvd.**
Lanes:	2	Direction:	NORTHBOUND

Date	8	9	10	4	5	6	7	Weekly	Wk Day
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Average	Avg.
Time									
100	12	12	9	8	10	7	11	10	9
200	9	13	11	7	7	11	6	9	10
300	15	6	9	6	6	12	8	9	8
400	8	7	17	10	15	11	12	11	12
500	8	20	63	44	53	47	34	38	45
600	74	45	140	160	145	141	129	119	126
700	83	76	212	228	240	230	208	182	197
800	118	81	369	609	606	392	349	361	411
900	199	155	374	560	533	400	361	369	404
1000	245	231	317	336	315	300	338	297	300
1100	260	239	311	317	322	345	341	305	307
1200	295	276	324	404	297	337	340	325	328
1300	293	222	335	315	550	305	359	340	345
1400	234	244	311	281	526	300	343	320	332
1500	273	202	387	518	402	366	421	367	375
1600	288	268	410	602	438	434	410	407	430
1700	281	280	386	514	420	384	412	382	397
1800	279	229	297	415	340	341	350	322	324
1900	184	156	170	197	177	224	204	187	185
2000	125	118	104	91	110	100	128	111	105
2100	118	68	52	57	56	42	101	71	55
2200	82	38	29	31	39	45	63	47	36
2300	58	40	24	22	24	30	72	39	28
2400	31	12	8	15	15	15	26	17	13
Totals	3572	3038	4669	5747	5646	4819	5026	4645	4784
AM Peak Hr	12:00	12:00	9:00	8:00	8:00	9:00	9:00	9:00	8:00
AM Count	295	276	374	609	606	400	361	369	411
PM Peak Hr	1:00	5:00	4:00	4:00	1:00	4:00	3:00	4:00	4:00
PM Count	293	280	410	602	550	434	421	407	430

TOTAL ADT: 9,671

EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION

Count Summary Beginning: October 4, 2023

Count Station:	1450018	Counter ID:	TLS #4
City/Town:	El Dorado Hills	Mile Post:	**8.92**
Road Name:	**Latrobe Road**	Location:	**100 Ft. N. of Investment Blvd.**
Lanes:	2	Direction:	SOUTHBOUND

Date	8	9	10	4	5	6	7	Weekly	Wk Day
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Average	Avg.
Time									
100	30	38	15	17	18	10	23	22	20
200	17	14	8	9	13	16	16	13	12
300	6	10	3	5	9	10	5	7	7
400	10	7	10	11	12	17	10	11	11
500	13	12	31	20	32	24	21	22	24
600	105	89	192	174	191	168	175	156	163
700	73	34	246	295	290	283	254	211	230
800	117	59	362	577	521	415	328	340	387
900	146	84	327	429	452	334	355	304	325
1000	214	190	268	268	273	290	265	253	258
1100	271	201	233	260	251	289	311	259	247
1200	292	266	292	278	303	307	353	299	289
1300	296	281	335	335	460	378	351	348	358
1400	285	232	327	347	403	312	389	328	324
1500	298	238	351	468	405	324	386	353	357
1600	291	224	425	548	373	303	429	370	375
1700	315	223	438	432	428	327	427	370	370
1800	353	307	424	460	448	375	466	405	403
1900	226	193	241	263	269	227	279	243	239
2000	182	171	176	193	170	209	210	187	184
2100	144	129	123	142	180	130	160	144	141
2200	107	66	54	97	91	110	131	94	84
2300	83	54	45	47	54	64	101	64	53
2400	59	40	19	21	28	38	73	40	29
Totals	3933	3162	4945	5696	5674	4960	5518	4841	4887
AM Peak Hr	12:00	12:00	8:00	8:00	8:00	8:00	9:00	8:00	8:00
AM Count	292	266	362	577	521	415	355	340	387
PM Peak Hr	6:00	6:00	5:00	4:00	1:00	1:00	6:00	6:00	6:00
PM Count	353	307	438	548	460	378	466	405	403

TOTAL ADT: 9,671

EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION

Count Summary Beginning: January 30, 2024

Count Station:	Special	Counter ID:	75
City/Town:	El Dorado Hills	Mile Post:	
Road Name:	**Latrobe Road**	Location:	**S of Suncast Ln**
Lanes:	2	Direction:	NORTHBOUND

Date	4	5	30	31	1	2	3	Weekly	Wk Day
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Average	Avg.
Time									
100			17	13	16				15
200			18	6	10				11
300			14	20	17				17
400			22	29	23				25
500			128	64	47				80
600			196	178	202				192
700			352	383	363				366
800			966	954	861				927
900			1048	1065	1010				1041
1000			600	633	500				578
1100			668	678	548				631
1200			830	762	764				785
1300			670	688	668				675
1400			654	722	544				640
1500			870	774	822				822
1600			1241	1121	1120				1161
1700			1033	928	884				948
1800			826	750	866				814
1900			435	449	547				477
2000			292	260	288				280
2100			176	159	143				159
2200			168	124	114				135
2300			38	52	34				41
2400			38	30	6				25
Totals			11300	10842	10397				10846
AM Peak Hr			9:00	9:00	9:00				9:00
AM Count			1048	1065	1010				1041
PM Peak Hr			4:00	4:00	4:00				4:00
PM Count			1241	1121	1120				1161

TOTAL ADT: 21,709

EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION

Count Summary Beginning: January 30, 2024

Count Station:	Special	Counter ID:	75
City/Town:	El Dorado Hills	Mile Post:	
Road Name:	**Latrobe Road**	Location:	**S of Suncast Ln**
Lanes:	2	Direction:	SOUTHBOUND

Date	4	5	30	31	1	2	3	Weekly	Wk Day
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Average	Avg.
Time									
100			16	28	18				21
200			20	10	14				15
300			6	6	3				5
400			14	8	14				12
500			72	58	65				65
600			284	280	260				275
700			407	413	351				390
800			1108	1098	1008				1071
900			986	1000	866				951
1000			600	599	536				578
1100			526	500	499				508
1200			652	620	570				614
1300			688	734	681				701
1400			711	734	672				706
1500			1032	926	952				970
1600			862	824	922				869
1700			858	758	816				811
1800			886	786	814				829
1900			640	549	543				577
2000			356	316	418				363
2100			250	235	266				250
2200			154	144	178				159
2300			89	72	94				85
2400			41	30	44				38
Totals			11258	10728	10604				10863
AM Peak Hr			8:00	8:00	8:00				8:00
AM Count			1108	1098	1008				1071
PM Peak Hr			3:00	3:00	3:00				3:00
PM Count			1032	926	952				970

TOTAL ADT: 21,709

EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION

Count Summary Beginning: October 4, 2023

Count Station:	1600018	Counter ID:	80
City/Town:	El Dorado Hills	Mile Post:	**11.06**
Road Name:	**Latrobe Road**	Location:	**300 Ft. N. of White Rock Rd.**
Lanes:	2	Direction:	NORTHBOUND

Date	8	9	10	4	5	6	7	Weekly	Wk Day
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Average	Avg.
Time									
100			33	40					37
200			20	26					23
300			25	23					24
400			27	30					29
500			103	82					93
600			276	246					261
700			482	540					511
800			1078	1085					1082
900			1346	1358					1352
1000			898	952					925
1100			982	986					984
1200			1146	1184					1165
1300			1052	1134					1093
1400			992	1141					1067
1500			1295	1224					1260
1600			1510	1674					1592
1700			1628	1550					1589
1800			1306	1318					1312
1900			924	978					951
2000			518	520					519
2100			318	370					344
2200			180	294					237
2300			104	104					104
2400			52	54					53
Totals			16295	16913					16604
AM Peak Hr			9:00	9:00					9:00
AM Count			1346	1358					1352
PM Peak Hr			5:00	4:00					4:00
PM Count			1628	1674					1592

TOTAL ADT: 34,058

EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION

Count Summary Beginning: October 4, 2023

Count Station:	1600018	Counter ID:	81
City/Town:	El Dorado Hills	Mile Post:	**11.06**
Road Name:	**Latrobe Road**	Location:	**300 Ft. N. of White Rock Rd.**
Lanes:	2	Direction:	SOUTHBOUND

Date	8	9	10	4	5	6	7	Weekly	Wk Day
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Average	Avg.
Time									
100			34	46					40
200			18	37					28
300			20	18					19
400			28	24					26
500			98	98					98
600			360	408					384
700			648	658					653
800			1672	1640					1656
900			1544	1614					1579
1000			996	1028					1012
1100			929	964					947
1200			1038	1082					1060
1300			1131	1158					1145
1400			1139	1257					1198
1500			1396	1404					1400
1600			1506	1346					1426
1700			1190	1267					1229
1800			1194	1258					1226
1900			828	970					899
2000			604	599					602
2100			376	404					390
2200			234	249					242
2300			116	132					124
2400			66	82					74
Totals			17165	17743					17454
AM Peak Hr			8:00	8:00					8:00
AM Count			1672	1640					1656
PM Peak Hr			4:00	3:00					4:00
PM Count			1506	1404					1426

TOTAL ADT: 34,058

EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION

Count Summary Beginning: December 5, 2023

Count Station:	1400034	Counter ID:	75
City/Town:	El Dorado Hills	Mile Post:	**2.08**
Road Name:	**White Rock Road**	Location:	**100 Ft. S. of Silva Valley Pkwy.**
Lanes:	2	Direction:	EASTBOUND

Date	10	11	5	6	7	8	9	Weekly	Wk Day
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Average	Avg.
Time									
100	45	25	21	35	30	30	47	33	28
200	15	10	15	9	9	12	22	13	11
300	13	5	4	6	6	6	11	7	5
400	6	10	5	13	9	4	2	7	8
500	10	21	15	13	19	13	10	14	16
600	10	42	53	42	49	56	19	39	48
700	38	127	147	140	128	124	37	106	133
800	73	464	461	483	482	458	122	363	470
900	156	475	507	465	494	475	260	405	483
1000	303	322	323	366	362	314	411	343	337
1100	376	409	386	414	375	441	417	403	405
1200	483	497	463	464	471	480	486	478	475
1300	500	488	482	604	503	558	505	520	527
1400	541	570	572	567	564	688	523	575	592
1500	476	593	590	579	583	710	536	581	611
1600	465	755	737	708	763	715	575	674	736
1700	448	881	866	830	825	708	538	728	822
1800	391	716	777	735	723	686	472	643	727
1900	288	460	498	491	477	565	360	448	498
2000	234	295	329	304	338	418	325	320	337
2100	164	203	282	253	280	358	254	256	275
2200	152	153	242	181	189	280	238	205	209
2300	64	91	53	82	88	145	181	101	92
2400	38	24	40	33	33	83	77	47	43
Totals	5289	7636	7868	7817	7800	8327	6428	7309	7890
AM Peak Hr	12:00	12:00	9:00	8:00	9:00	12:00	12:00	12:00	9:00
AM Count	483	497	507	483	494	480	486	478	483
PM Peak Hr	2:00	5:00	5:00	5:00	5:00	4:00	4:00	5:00	5:00
PM Count	541	881	866	830	825	715	575	728	822

TOTAL ADT: 15,755

EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION

Count Summary Beginning: December 5, 2023

Count Station:	1400034	Counter ID:	75
City/Town:	El Dorado Hills	Mile Post:	**2.08**
Road Name:	**White Rock Road**	Location:	**100 Ft. S. of Silva Valley Pkwy.**
Lanes:	2	Direction:	WESTBOUND

Date	10	11	5	6	7	8	9	Weekly	Wk Day
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Average	Avg.
Time									
100	34	18	14	16	11	22	35	21	16
200	17	3	8	9	9	11	18	11	8
300	14	8	7	6	12	9	10	9	8
400	11	13	17	12	16	17	13	14	15
500	12	51	46	35	37	34	19	33	41
600	25	104	121	132	115	105	64	95	115
700	75	182	217	228	202	201	138	178	206
800	149	596	583	588	596	532	279	475	579
900	352	702	686	709	722	686	397	608	701
1000	440	534	515	537	514	534	484	508	527
1100	513	510	533	506	488	552	521	518	518
1200	572	566	521	525	533	624	538	554	554
1300	523	553	540	583	527	591	579	557	559
1400	467	523	557	553	516	565	531	530	543
1500	401	644	602	646	599	636	515	578	625
1600	381	649	615	599	621	631	523	574	623
1700	444	572	608	586	604	586	509	558	591
1800	383	552	594	577	582	607	543	548	582
1900	286	397	465	366	400	493	422	404	424
2000	197	242	270	231	255	270	272	248	254
2100	125	151	166	209	200	222	182	179	190
2200	97	79	97	98	99	131	154	108	101
2300	55	44	54	47	43	85	101	61	55
2400	34	24	27	28	24	52	57	35	31
Totals	5607	7717	7863	7826	7725	8196	6904	7405	7865
AM Peak Hr	12:00	9:00	9:00	9:00	9:00	9:00	12:00	9:00	9:00
AM Count	572	702	686	709	722	686	538	608	701
PM Peak Hr	1:00	4:00	4:00	3:00	4:00	3:00	1:00	3:00	3:00
PM Count	523	649	615	646	621	636	579	578	625

TOTAL ADT: 15,755

Prepared by National Data & Surveying Services

Occupancy Counts

Location: US 50/El Dorado Fwy E/O Bass Lake Rd/Marble Valley Rd
City: El Dorado Hills

Date: 5/25/2022
Day: Wednesday

Time	HOV Lane				Totals
	EB		WB		
	Cars	HT	Cars	HT	
6:30 AM	31	0	62	0	93
6:45 AM	37	1	59	0	97
7:00 AM	30	1	51	1	83
7:15 AM	55	0	76	0	131
7:30 AM	73	0	110	0	183
7:45 AM	96	0	94	0	190
8:00 AM	77	1	75	0	153
8:15 AM	67	0	85	0	152
8:30 AM	62	0	70	0	132
8:45 AM	57	0	56	0	113
4:30 PM	120	0	67	1	188
4:45 PM	102	0	98	0	200
5:00 PM	90	0	81	0	171
5:15 PM	96	0	105	0	201
5:30 PM	91	0	91	2	184
5:45 PM	87	0	86	0	173
6:00 PM	70	0	85	0	155
6:15 PM	54	0	63	0	117
Totals	1295	3	1414	4	2716

Time	Mixed Lane				Totals
	EB		WB		
	Cars	HT	Cars	HT	
6:30 AM	244	24	485	31	784
6:45 AM	253	32	488	25	798
7:00 AM	290	28	496	22	836
7:15 AM	372	43	583	22	1020
7:30 AM	431	32	610	16	1089
7:45 AM	514	27	642	20	1203
8:00 AM	447	35	513	29	1024
8:15 AM	408	35	528	33	1004
8:30 AM	399	34	612	29	1074
8:45 AM	368	32	482	26	908
4:30 PM	659	11	456	18	1144
4:45 PM	658	7	488	16	1169
5:00 PM	612	11	582	11	1216
5:15 PM	629	7	572	14	1222
5:30 PM	564	11	463	19	1057
5:45 PM	504	10	479	15	1008
6:00 PM	477	13	423	11	924
6:15 PM	479	6	344	10	839
Totals	8308	398	9246	367	18319

Analysis ID: 1472965
Analysis: Creekside #1 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-13
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	EDH Blvd north (Southbound)			Serrano Pkwy (Westbound)			EDH Blvd south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
8:15am	4	251	5	56	12	22	28	167	32
8:30am	5	260	11	57	18	23	53	165	40
8:45am	7	346	10	79	11	13	42	155	34
9:00am	2	368	13	86	3	3	24	159	34
Hourly Tot	18	1225	39	278	44	61	147	646	140
Hourly Tot	0.014	0.9555	0.0304	0.7258	0.1149	0.1593	0.1576	0.6924	0.1501
PHF	0.64	0.83	0.75	0.81	0.61	0.66	0.69	0.97	0.88

All Days, Peak PM

	EDH Blvd north (Southbound)			Serrano Pkwy (Westbound)			EDH Blvd south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:45pm	5	277	12	66	14	6	16	329	90
4:00pm	4	269	14	58	12	1	20	346	87
4:15pm	6	205	11	58	16	3	18	303	86
4:30pm	10	227	8	64	12	2	17	381	78
Hourly Tot	25	978	45	246	54	12	71	1359	341
Hourly Tot	0.0239	0.9332	0.0429	0.7885	0.1731	0.0385	0.0401	0.7674	0.1925
PHF	0.62	0.88	0.8	0.93	0.84	0.5	0.89	0.89	0.95

Tues-Thurs, Peak AM

	EDH Blvd north (Southbound)			Serrano Pkwy (Westbound)			EDH Blvd south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
8:15am	3	291	2	59	14	29	35	186	43
8:30am	6	298	10	62	25	29	68	167	53
8:45am	8	384	12	91	14	11	55	169	40
9:00am	2	436	16	92	4	1	36	183	33
Hourly Tot	19	1409	40	304	57	70	194	705	169
Hourly Tot	0.0129	0.9598	0.0272	0.7053	0.1323	0.1624	0.1816	0.6601	0.1582
PHF	0.59	0.81	0.62	0.83	0.57	0.6	0.71	0.95	0.8

Tues-Thurs, Peak PM

	EDH Blvd north (Southbound)			Serrano Pkwy (Westbound)			EDH Blvd south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:45pm	5	320	12	75	7	5	15	327	93
4:00pm	6	292	18	63	11	1	16	363	78
4:15pm	10	207	16	68	18	1	15	407	81
4:30pm	14	219	9	76	16	0	17	421	87
Hourly Tot	35	1038	55	282	52	7	63	1518	339
Hourly Tot	0.031	0.9202	0.0488	0.827	0.1525	0.0205	0.0328	0.7906	0.1766
PHF	0.62	0.81	0.76	0.93	0.72	0.35	0.93	0.9	0.91

Lassen Ln (Eastbound)

Left	Thru	Right	Total	Total %
5	0	17	599	0.2203
0	0	26	658	0.242
0	0	38	735	0.2703
0	0	35	727	0.2674
5	0	116	2719	1
0.0413	0	0.9587		
0.25	0	0.76		

Lassen Ln (Eastbound)

Left	Thru	Right	Total	Total %
6	2	9	832	0.2577
5	6	12	834	0.2584
9	7	13	735	0.2277
7	4	17	827	0.2562
27	19	51	3228	1
0.2784	0.1959	0.5258		
0.75	0.68	0.75		

Lassen Ln (Eastbound)

Left	Thru	Right	Total	Total %
4	0	25	691	0.2205
0	0	36	754	0.2406
0	0	52	836	0.2668
0	1	49	853	0.2722
4	1	162	3134	1
0.024	0.006	0.9701		
0.25	0.25	0.78		

Lassen Ln (Eastbound)

Left	Thru	Right	Total	Total %
7	0	7	873	0.2504
8	1	10	867	0.2487
9	4	13	849	0.2435
12	6	20	897	0.2573
36	11	50	3486	1
0.3711	0.1134	0.5155		
0.75	0.46	0.62		

El Dorado Hills Blvd & Serrano Pkwy

Peak Hour Turning Movement Count

ID: 18-07183-001
City: El Dorado Hills

Day: Wednesday
Date: 05/16/2018

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:15 PM - 05:15 PM

COUNT PERIODS

AM: 06:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 07:00 PM

SOUTHBOUND (El Dorado Hills Blvd)

AM	24	1419	68	0	719	AM
NOON	0	0	0	0	0	NOON
PM	22	733	30	0	1333	PM

EASTBOUND (Serrano Pkwy)

AM	NOON	PM		
93	0	130	⇦	
0	0	0	↶	0
18	0	19	↰	1
11	0	17	→	0.5
57	0	54	↷	0.5
AM	NOON	PM		

WESTBOUND (Serrano Pkwy)

PM	NOON	AM		
22	0	108	↷	0
17	0	17	←	0.5
127	0	193	↶	1.5
0	0	0	↰	0
284	0	180	⇨	
PM	NOON	AM		

NORTHBOUND (El Dorado Hills Blvd)

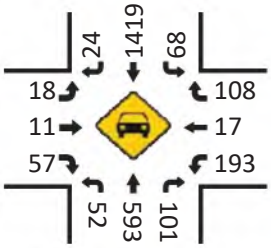
PM	917	3	91	1292	237	PM
NOON	0	0	0	0	0	NOON
AM	1674	5	52	593	101	AM

CONTROL: Signalized

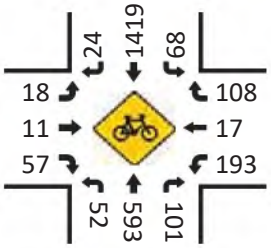
TEV	2666	0	2664
	AM	NOON	PM
PHF	0.87		0.98

Turning movements (SOUTHBOUND): 0 | 2 | 1 | 0
Turning movements (NORTHBOUND): 0 | 1 | 2 | 1

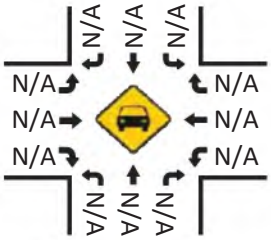
Total Vehicles (AM)



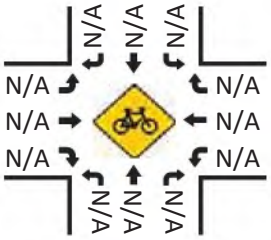
(AM)



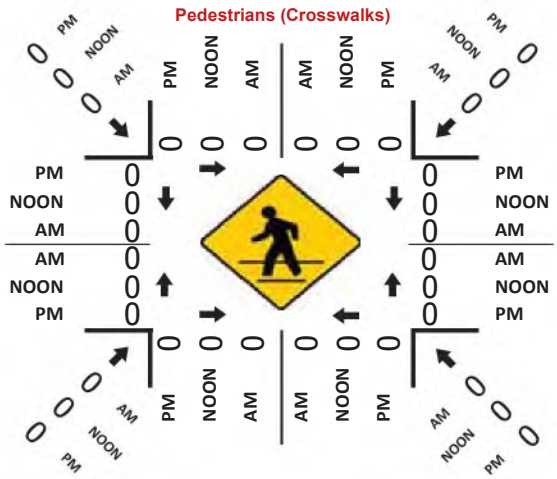
Total Vehicles (Noon)



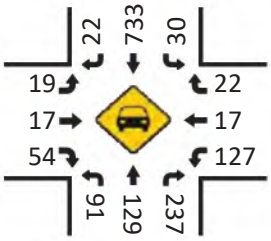
(NOON)



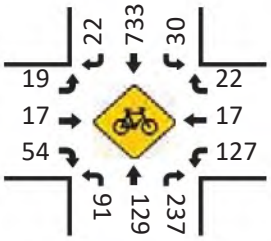
Pedestrians (Crosswalks)



Total Vehicles (PM)



(PM)



Analysis ID: 1472961
Analysis: Creekside #2 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-13
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	EDH north (Southbound)			Park (Westbound)			EDH south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
8:30am	20	352	58	2	1	8	87	262	25
8:45am	38	377	111	2	3	20	68	210	12
9:00am	45	354	120	2	3	23	63	186	2
9:15am	42	311	79	2	6	19	67	166	5
Hourly Tot	145	1394	368	8	13	70	285	824	44
Hourly Tot	0.076	0.731	0.193	0.0879	0.1429	0.7692	0.2472	0.7147	0.0382
PHF	0.81	0.92	0.77	1	0.54	0.76	0.82	0.79	0.44

All Days, Peak PM

	EDH north (Southbound)			Park (Westbound)			EDH south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:15pm	39	257	62	14	3	52	102	381	13
3:30pm	42	233	70	17	2	49	90	261	14
3:45pm	46	266	73	11	3	45	89	352	15
4:00pm	39	238	60	9	5	61	77	362	17
Hourly Tot	166	994	265	51	13	207	358	1356	59
Hourly Tot	0.1165	0.6975	0.186	0.1882	0.048	0.7638	0.2019	0.7648	0.0333
PHF	0.9	0.93	0.91	0.75	0.65	0.85	0.88	0.89	0.87

Tues-Thurs, Peak AM

	EDH north (Southbound)			Park (Westbound)			EDH south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
8:15am	11	352	62	0	1	16	98	264	33
8:30am	23	397	70	1	1	11	102	279	37
8:45am	47	389	130	1	5	25	78	231	15
9:00am	57	470	129	3	6	30	70	211	0
Hourly Tot	138	1608	391	5	13	82	348	985	85
Hourly Tot	0.0646	0.7525	0.183	0.05	0.13	0.82	0.2454	0.6946	0.0599
PHF	0.61	0.86	0.75	0.42	0.54	0.68	0.85	0.88	0.57

Tues-Thurs, Peak PM

	EDH north (Southbound)			Park (Westbound)			EDH south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:15pm	30	228	41	4	16	61	92	422	10
4:30pm	33	260	49	8	28	37	121	445	10
4:45pm	39	332	55	10	29	27	128	359	19
5:00pm	24	248	53	19	34	46	101	390	28
Hourly Tot	126	1068	198	41	107	171	442	1616	67
Hourly Tot	0.0905	0.7672	0.1422	0.1285	0.3354	0.5361	0.208	0.7605	0.0315
PHF	0.81	0.8	0.9	0.54	0.79	0.7	0.86	0.91	0.6

Saratoga (Eastbound)

Left	Thru	Right	Total	Total %
34	15	156	1020	0.2622
37	14	175	1067	0.2743
36	11	128	973	0.2501
27	7	99	830	0.2134
134	47	558	3890	1
0.1813	0.0636	0.7551		
0.91	0.78	0.8		

Saratoga (Eastbound)

Left	Thru	Right	Total	Total %
66	11	203	1203	0.2695
67	20	159	1024	0.2294
88	20	137	1145	0.2566
83	12	128	1091	0.2445
304	63	627	4463	1
0.3058	0.0634	0.6308		
0.86	0.79	0.77		

Saratoga (Eastbound)

Left	Thru	Right	Total	Total %
14	11	144	1006	0.2221
36	20	189	1166	0.2574
45	17	205	1188	0.2623
37	13	144	1170	0.2583
132	61	682	4530	1
0.1509	0.0697	0.7794		
0.73	0.76	0.83		

Saratoga (Eastbound)

Left	Thru	Right	Total	Total %
90	11	125	1130	0.237
91	16	129	1227	0.2574
91	8	140	1237	0.2595
93	6	131	1173	0.2461
365	41	525	4767	1
0.3921	0.044	0.5639		
0.98	0.64	0.94		

National Data and Surveying Services

(323) 782-0090
info@ndsdata.com

City of El Dorado Hills
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

File Name : 17-7192-001 El Dorado Hills Blvd & Saratoga Way North
Date : 3/14/2017

Unshifted Count = All Vehicles & Uturns

	El Dorado Hills Blvd Southbound					Saratoga Way North Westbound					El Dorado Hills Blvd Northbound					Saratoga Way North Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	12	125	1	0	138	0	0	4	0	4	1	43	0	0	44	2	0	9	0	11	197	0
6:15	6	153	0	0	159	2	1	2	0	5	3	45	1	1	50	1	0	8	0	9	223	1
6:30	18	237	0	0	255	0	1	4	0	5	1	65	3	0	69	3	0	9	0	12	341	0
6:45	18	238	1	0	257	2	2	6	0	10	7	86	1	0	94	2	0	16	0	18	379	0
Total	54	753	2	0	809	4	4	16	0	24	12	239	5	1	257	8	0	42	0	50	1140	1
7:00	27	280	2	1	310	1	1	13	0	15	9	144	2	1	156	10	4	23	0	37	518	2
7:15	28	336	4	0	368	2	2	22	0	26	8	122	2	0	132	5	1	16	0	22	548	0
7:30	27	362	4	0	393	1	2	12	0	15	12	134	4	0	150	8	4	28	0	40	598	0
7:45	53	376	10	0	439	4	1	22	0	27	25	164	3	0	192	1	0	23	0	24	682	0
Total	135	1354	20	1	1510	8	6	69	0	83	54	564	11	1	630	24	9	90	0	123	2346	2
8:00	37	397	1	0	435	1	5	23	0	29	18	128	8	1	155	3	2	38	0	43	662	1
8:15	29	286	6	1	322	5	2	13	0	20	16	175	14	0	205	6	1	33	0	40	587	1
8:30	22	284	6	0	312	4	0	16	0	20	26	168	9	1	204	7	4	27	0	38	574	1
8:45	33	328	6	2	369	3	3	13	0	19	44	163	14	0	221	9	8	47	0	64	673	2
Total	121	1295	19	3	1438	13	10	65	0	88	104	634	45	2	785	25	15	145	0	185	2496	5
16:00	30	184	11	0	225	9	3	58	0	70	17	283	13	1	314	14	8	23	0	45	654	1
16:15	38	178	9	1	226	15	4	45	0	64	24	242	19	3	288	9	8	26	0	43	621	4
16:30	28	165	6	1	200	17	7	53	0	77	30	273	14	1	318	8	1	27	0	36	631	2
16:45	34	180	5	2	221	10	7	70	0	87	24	290	18	0	332	15	4	15	0	34	674	2
Total	130	707	31	4	872	51	21	226	0	298	95	1088	64	5	1252	46	21	91	0	158	2580	9
17:00	32	180	8	1	221	16	1	59	0	76	30	284	15	1	330	15	7	34	0	56	683	2
17:15	41	199	5	0	245	13	2	74	0	89	31	377	16	2	426	8	6	21	0	35	795	2
17:30	51	190	8	2	251	14	9	75	0	98	35	310	22	1	368	8	8	25	0	41	758	3
17:45	40	192	8	1	241	14	6	65	0	85	26	308	22	1	357	6	4	18	0	28	711	2
Total	164	761	29	4	958	57	18	273	0	348	122	1279	75	5	1481	37	25	98	0	160	2947	9
18:00	41	148	10	0	199	10	8	79	0	97	24	307	14	0	345	14	2	14	0	30	671	0
18:15	28	156	3	1	188	10	2	59	0	71	19	316	13	0	348	14	4	19	0	37	644	1
18:30	36	151	1	0	188	8	2	62	0	72	18	287	19	0	324	10	3	13	0	26	610	0
18:45	25	158	14	2	199	12	2	43	0	57	20	230	7	0	257	10	3	9	0	22	535	2
Total	130	613	28	3	774	40	14	243	0	297	81	1140	53	0	1274	48	12	55	0	115	2460	3
Grand Total	734	5483	129	15	6361	173	73	892	0	1138	468	4944	253	14	5679	188	82	521	0	791	13969	29
Apprch %	11.5%	86.2%	2.0%	0.2%		15.2%	6.4%	78.4%	0.0%		8.2%	87.1%	4.5%	0.2%		23.8%	10.4%	65.9%	0.0%			
Total %	5.3%	39.3%	0.9%	0.1%	45.5%	1.2%	0.5%	6.4%	0.0%	8.1%	3.4%	35.4%	1.8%	0.1%	40.7%	1.3%	0.6%	3.7%	0.0%	5.7%	100.0%	

AM PEAK HOUR	El Dorado Hills Blvd Southbound					Saratoga Way North Westbound					El Dorado Hills Blvd Northbound					Saratoga Way North Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	27	362	4	0	393	1	2	12	0	15	12	134	4	0	150	8	4	28	0	40	598
7:45	53	376	10	0	439	4	1	22	0	27	25	164	3	0	192	1	0	23	0	24	682
8:00	37	397	1	0	435	1	5	23	0	29	18	128	8	1	155	3	2	38	0	43	662
8:15	29	286	6	1	322	5	2	13	0	20	16	175	14	0	205	6	1	33	0	40	587
Total Volume	146	1421	21	1	1589	11	10	70	0	91	71	601	29	1	702	18	7	122	0	147	2529
% App Total	9.2%	89.4%	1.3%	0.1%		12.1%	11.0%	76.9%	0.0%		10.1%	85.6%	4.1%	0.1%		12.2%	4.8%	83.0%	0.0%		
PHF	.689	.895	.525	.250	.905	.550	.500	.761	.000	.784	.710	.859	.518	.250	.856	.563	.438	.803	.000	.855	.927

PM PEAK HOUR	El Dorado Hills Blvd Southbound					Saratoga Way North Westbound					El Dorado Hills Blvd Northbound					Saratoga Way North Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	32	180	8	1	221	16	1	59	0	76	30	284	15	1	330	15	7	34	0	56	683
17:15	41	199	5	0	245	13	2	74	0	89	31	377	16	2	426	8	6	21	0	35	795
17:30	51	190	8	2	251	14	9	75	0	98	35	310	22	1	368	8	8	25	0	41	758
17:45	40	192	8	1	241	14	6	65	0	85	26	308	22	1	357	6	4	18	0	28	711
Total Volume	164	761	29	4	958	57	18	273	0	348	122	1279	75	5	1481	37	25	98	0	160	2947
% App Total	17.1%	79.4%	3.0%	0.4%		16.4%	5.2%	78.4%	0.0%		8.2%	86.4%	5.1%	0.3%		23.1%	15.6%	61.3%	0.0%		
PHF	.804	.956	.906	.500	.954	.891	.500	.910	.000	.888	.871	.848	.852	.625	.869	.617	.781	.721	.000	.714	.927

Analysis ID: 1472996
Analysis: Creekside #3 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-13
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	EDH north (Southbound)			Park (Westbound)			Latrobe (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:45am	13	320	141	30	4	11	239	204	24
8:00am	8	283	141	33	11	12	228	234	26
8:15am	11	235	158	35	11	12	251	226	21
8:30am	15	289	172	30	18	9	279	294	34
Hourly Tot	47	1127	612	128	44	44	997	958	105
Hourly Tot	0.0263	0.631	0.3427	0.5926	0.2037	0.2037	0.484	0.465	0.051
PHF	0.78	0.88	0.89	0.91	0.61	0.92	0.89	0.81	0.77

All Days, Peak PM

	EDH north (Southbound)			Park (Westbound)			Latrobe (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:15pm	11	357	102	25	22	18	266	410	56
3:30pm	12	281	89	49	21	11	239	303	53
3:45pm	15	339	93	57	23	19	221	365	56
4:00pm	17	220	105	52	25	22	191	380	58
Hourly Tot	55	1197	389	183	91	70	917	1458	223
Hourly Tot	0.0335	0.7294	0.2371	0.532	0.2645	0.2035	0.353	0.5612	0.0858
PHF	0.81	0.84	0.93	0.8	0.91	0.8	0.86	0.89	0.96

Tues-Thurs, Peak AM

	EDH north (Southbound)			Park (Westbound)			Latrobe (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:45am	19	325	167	41	4	14	301	239	25
8:00am	8	324	158	37	15	13	286	260	25
8:15am	7	303	165	36	16	13	316	297	19
8:30am	15	333	182	32	19	11	278	377	36
Hourly Tot	49	1285	672	146	54	51	1181	1173	105
Hourly Tot	0.0244	0.6406	0.335	0.5817	0.2151	0.2032	0.4803	0.477	0.0427
PHF	0.64	0.96	0.92	0.89	0.71	0.91	0.93	0.78	0.73

Tues-Thurs, Peak PM

	EDH north (Southbound)			Park (Westbound)			Latrobe (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:00pm	17	260	115	62	29	27	209	425	61
4:15pm	10	230	107	62	19	26	233	387	63
4:30pm	6	275	110	61	18	25	216	493	64
4:45pm	4	427	96	51	14	25	199	374	73
Hourly Tot	37	1192	428	236	80	103	857	1679	261
Hourly Tot	0.0223	0.7194	0.2583	0.5632	0.1909	0.2458	0.3064	0.6003	0.0933
PHF	0.54	0.7	0.93	0.95	0.69	0.95	0.92	0.85	0.89

WB 50 ramp (Eastbound)

Left	Thru	Right	Total	Total %
50	21	238	1295	0.2589
56	19	185	1236	0.2472
59	19	127	1165	0.233
61	16	88	1305	0.2609
226	75	638	5001	1
0.2407	0.0799	0.6794		
0.93	0.89	0.67		

WB 50 ramp (Eastbound)

Left	Thru	Right	Total	Total %
40	11	69	1387	0.2765
42	6	42	1148	0.2288
47	12	48	1295	0.2581
42	23	52	1187	0.2366
171	52	211	5017	1
0.394	0.1198	0.4862		
0.91	0.57	0.76		

WB 50 ramp (Eastbound)

Left	Thru	Right	Total	Total %
65	20	301	1521	0.2587
65	24	235	1450	0.2466
60	26	166	1424	0.2422
66	22	114	1485	0.2526
256	92	816	5880	1
0.2199	0.079	0.701		
0.97	0.88	0.68		

WB 50 ramp (Eastbound)

Left	Thru	Right	Total	Total %
40	32	59	1336	0.2429
49	38	74	1298	0.236
60	31	76	1435	0.2609
59	29	81	1432	0.2603
208	130	290	5501	1
0.3312	0.207	0.4618		
0.87	0.86	0.9		

El Dorado Hills Blvd & U.S. 50 WB

Peak Hour Turning Movement Count

ID: 18-07183-003
City: El Dorado Hills

Day: Wednesday
Date: 05/16/2018

PEAK HOURS

AM	07:30 AM - 08:30 AM
NOON	NONE
PM	04:15 PM - 05:15 PM

COUNT PERIODS

AM	06:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 07:00 PM

El Dorado Hills Blvd — SOUTHBOUND

AM	657	880	49	3	777 AM
NOON	0	0	0	0	0 NOON
PM	329	544	31	0	1532 PM
	1	3	1	0	

U.S. 50 WB — EASTBOUND

AM	NOON	PM	
1287	0	1385	
0	0	0	0
169	0	125	1.5
69	0	67	0.5
532	0	132	1
AM	NOON	PM	

CONTROL

Signalized

TEV	3850 AM	0 NOON	4169 PM
PHF	0.84		0.99

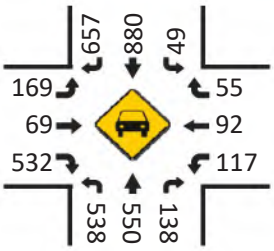
U.S. 50 WB — WESTBOUND

PM	NOON	AM	
78	0	55	0.5
76	0	92	1
158	0	117	1.5
0	0	0	0
417	0	256	
PM	NOON	AM	

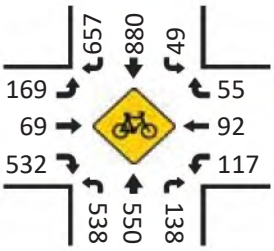
El Dorado Hills Blvd — NORTHBOUND

	0	2	2.5	0.5	
PM	835	1	980	1329	319 PM
NOON	0	0	0	0	0 NOON
AM	1530	1	538	550	138 AM

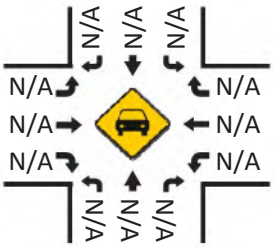
Total Vehicles (AM)



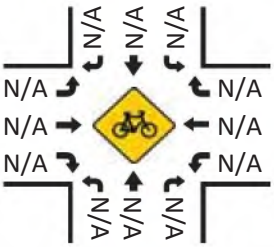
(AM)



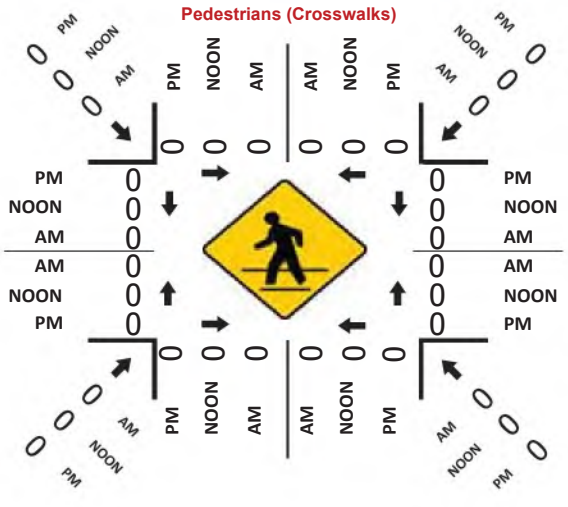
Total Vehicles (Noon)



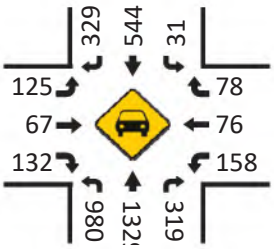
(NOON)



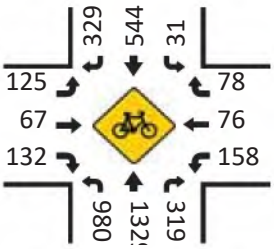
Pedestrians (Crosswalks)



Total Vehicles (PM)



(PM)



Analysis ID: 1472979
Analysis: Creekside #4 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-13
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	EDH (Southbound)			us 50 on & loop off (Westbound)			Latrobe (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:45am	79	460	0	0	0	78	0	392	92
8:00am	72	407	0	0	0	68	0	374	101
8:15am	80	328	0	0	0	64	0	432	111
8:30am	99	263	0	2	0	77	0	450	92
Hourly Tot	330	1458	0	2	0	287	0	1648	396
Hourly Tot	0.1846	0.8154	0	0.0069	0	0.9931	0	0.8063	0.1937
PHF	0.83	0.79	0	0.25	0	0.92	0	0.92	0.89

All Days, Peak PM

	EDH (Southbound)			us 50 on & loop off (Westbound)			Latrobe (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:15pm	83	306	0	0	0	214	0	483	141
3:30pm	81	303	0	0	0	165	0	446	133
3:45pm	80	332	0	0	0	158	0	476	130
4:00pm	80	269	0	0	0	154	0	437	150
Hourly Tot	324	1210	0	0	0	691	0	1842	554
Hourly Tot	0.2112	0.7888	0	0	0	1	0	0.7688	0.2312
PHF	0.98	0.91	0	0	0	0.81	0	0.95	0.92

Tues-Thurs, Peak AM

	EDH (Southbound)			us 50 on & loop off (Westbound)			Latrobe (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:45am	83	530	0	1	0	81	0	462	104
8:00am	75	508	0	0	0	59	0	455	116
8:15am	89	398	0	1	0	71	0	513	129
8:30am	114	291	0	3	0	85	0	534	111
Hourly Tot	361	1727	0	5	0	296	0	1964	460
Hourly Tot	0.1729	0.8271	0	0.0166	0	0.9834	0	0.8102	0.1898
PHF	0.79	0.81	0	0.42	0	0.87	0	0.92	0.89

Tues-Thurs, Peak PM

	EDH (Southbound)			us 50 on & loop off (Westbound)			Latrobe (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:15pm	80	312	0	0	0	182	0	563	146
3:30pm	82	362	0	0	0	179	0	458	143
3:45pm	78	363	0	0	0	176	0	474	143
4:00pm	77	293	0	0	0	167	0	503	177
Hourly Tot	317	1330	0	0	0	704	0	1998	609
Hourly Tot	0.1925	0.8075	0	0	0	1	0	0.7664	0.2336
PHF	0.97	0.92	0	0	0	0.97	0	0.89	0.86

EB 50 off (Eastbound)

Left	Thru	Right	Total	Total %
0	0	182	1283	0.2654
0	0	175	1197	0.2476
0	0	185	1200	0.2482
0	0	172	1155	0.2389
0	0	714	4835	1
0	0	1		
0	0	0.96		

EB 50 off (Eastbound)

Left	Thru	Right	Total	Total %
0	0	249	1476	0.2563
0	0	268	1396	0.2424
0	0	322	1498	0.2602
0	0	298	1388	0.2411
0	0	1137	5758	1
0	0	1		
0	0	0.88		

EB 50 off (Eastbound)

Left	Thru	Right	Total	Total %
0	0	196	1457	0.2588
0	0	215	1428	0.2537
0	0	197	1398	0.2484
0	0	208	1346	0.2391
0	0	816	5629	1
0	0	1		
0	0	0.95		

EB 50 off (Eastbound)

Left	Thru	Right	Total	Total %
0	0	251	1534	0.2492
0	0	293	1517	0.2465
0	0	351	1585	0.2575
0	0	302	1519	0.2468
0	0	1197	6155	1
0	0	1		
0	0	0.85		

Latrobe Rd & U.S. 50 EB

Peak Hour Turning Movement Count

ID: 18-07183-004
City: El Dorado Hills

Day: Wednesday
Date: 05/16/2018

PEAK HOURS

AM: 07:45 AM - 08:45 AM
NOON: NONE
PM: 04:15 PM - 05:15 PM

COUNT PERIODS

AM: 06:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 07:00 PM

Latrobe Rd — SOUTHBOUND

AM	0	1349	164	0	1269	AM
NOON	0	0	0	0	0	NOON
PM	0	673	173	1	2636	PM

EASTBOUND — U.S. 50 EB

AM	NOON	PM		
0	0	0		
0	0	0	↰	0
0	0	0	↑	0
0	0	0	→	0
1055	0	813	↱	2

WESTBOUND — U.S. 50 EB

PM	NOON	AM		
726	0	269	↰	1
0	0	0	←	0
0	0	0	↱	0
0	0	0	↱	0
624	0	360		

0 4 1 0 (SOUTHBOUND turning movements)

0 0 3 1 (NORTHBOUND turning movements)

CONTROL

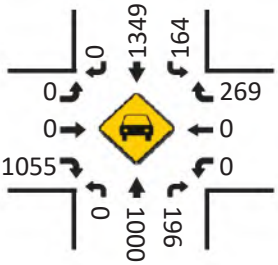
Signalized

TEV	4033 AM	0 NOON	4746 PM
PHF	0.84		0.95

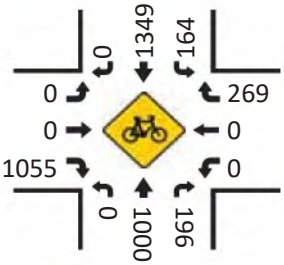
Latrobe Rd — NORTHBOUND

PM	1486	0	0	1909	451	PM
NOON	0	0	0	0	0	NOON
AM	2404	0	0	1000	196	AM

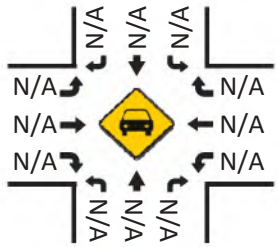
Total Vehicles (AM)



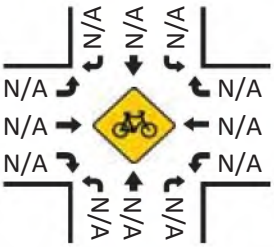
(AM)



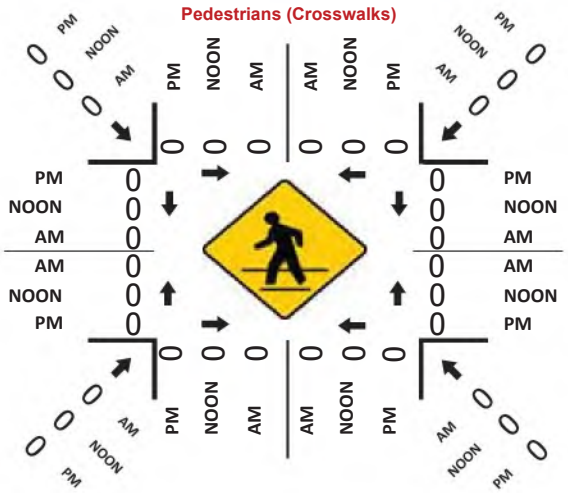
Total Vehicles (Noon)



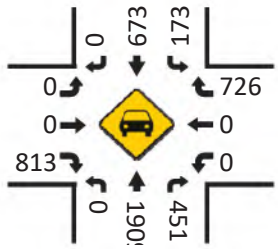
(NOON)



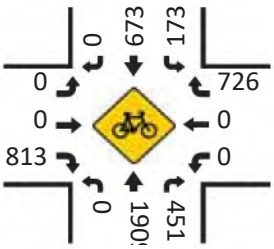
Pedestrians (Crosswalks)



Total Vehicles (PM)



(PM)



Analysis ID: 1472998
Analysis: Creekside #5 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-13
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Latrobe north (Southbound)			Town Cntr easy (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:45am	104	465	3	14	0	110	0	347	44
8:00am	109	434	8	21	0	114	0	375	61
8:15am	83	401	9	13	0	97	0	378	58
8:30am	97	288	11	17	0	102	0	410	29
Hourly Tot	393	1588	31	65	0	423	0	1510	192
Hourly Tot	0.1953	0.7893	0.0154	0.1332	0	0.8668	0	0.8872	0.1128
PHF	0.9	0.85	0.7	0.77	0	0.93	0	0.92	0.79

All Days, Peak PM

	Latrobe north (Southbound)			Town Cntr easy (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:15pm	114	394	2	22	0	143	5	438	49
3:30pm	142	390	1	17	1	145	3	406	47
3:45pm	189	422	4	24	2	146	3	371	34
4:00pm	147	359	8	24	1	162	3	394	36
Hourly Tot	592	1565	15	87	4	596	14	1609	166
Hourly Tot	0.2726	0.7205	0.0069	0.1266	0.0058	0.8675	0.0078	0.8994	0.0928
PHF	0.78	0.93	0.47	0.91	0.5	0.92	0.7	0.92	0.85

Tues-Thurs, Peak AM

	Latrobe north (Southbound)			Town Cntr easy (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:45am	115	572	3	14	0	125	0	401	52
8:00am	113	533	9	16	0	126	0	473	74
8:15am	86	513	14	11	0	115	0	434	72
8:30am	106	322	15	16	0	110	0	500	37
Hourly Tot	420	1940	41	57	0	476	0	1808	235
Hourly Tot	0.1749	0.808	0.0171	0.1069	0	0.8931	0	0.885	0.115
PHF	0.91	0.85	0.68	0.89	0	0.94	0	0.9	0.79

Tues-Thurs, Peak PM

	Latrobe north (Southbound)			Town Cntr easy (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:00pm	95	447	6	30	0	129	1	473	57
3:15pm	117	454	3	22	0	139	5	545	62
3:30pm	151	421	2	16	2	138	3	414	54
3:45pm	169	481	3	23	4	144	4	388	42
Hourly Tot	532	1803	14	91	6	550	13	1820	215
Hourly Tot	0.2265	0.7676	0.006	0.1406	0.0093	0.8501	0.0063	0.8887	0.105
PHF	0.79	0.94	0.58	0.76	0.38	0.95	0.65	0.83	0.87

Town Cntr west (Eastbound)

Left	Thru	Right	Total	Total %
0	0	2	1089	0.2582
0	0	4	1126	0.267
0	0	6	1045	0.2477
1	0	3	958	0.2271
1	0	15	4218	1
0.0625	0	0.9375		
0.25	0	0.62		

Town Cntr west (Eastbound)

Left	Thru	Right	Total	Total %
6	3	3	1179	0.252
4	0	2	1158	0.2475
4	1	1	1201	0.2567
4	1	2	1141	0.2439
18	5	8	4679	1
0.5806	0.1613	0.2581		
0.75	0.42	0.67		

Town Cntr west (Eastbound)

Left	Thru	Right	Total	Total %
0	0	1	1283	0.2567
0	0	6	1350	0.2701
0	0	8	1253	0.2507
2	0	5	1113	0.2226
2	0	20	4999	1
0.0909	0	0.9091		
0.25	0	0.62		

Town Cntr west (Eastbound)

Left	Thru	Right	Total	Total %
13	0	2	1253	0.2466
4	1	4	1356	0.2668
5	0	4	1210	0.2381
4	0	1	1263	0.2485
26	1	11	5082	1
0.6842	0.0263	0.2895		
0.5	0.25	0.69		

National Data and Surveying Services

(323) 782-0090
info@ndsdata.com

City of El Dorado Hills
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

File Name : 17-7192-004 Latrobe Rd & Town Center Blvd
Date : 3/14/2017

Unshifted Count = All Vehicles & Uturns

	Latrobe Rd Southbound					Town Center Blvd Westbound					Latrobe Rd Northbound					Town Center Blvd Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	44	89	21	0	154	6	1	16	0	23	1	101	4	0	106	0	0	0	0	0	283	0
6:15	42	129	20	1	192	4	1	37	0	42	3	86	4	0	93	2	0	0	0	2	329	1
6:30	64	198	24	0	286	8	2	40	0	50	0	115	12	0	127	2	0	0	0	2	465	0
6:45	66	306	41	0	413	10	2	48	0	60	3	92	12	0	107	3	0	0	0	3	583	0
Total	216	722	106	1	1045	28	6	141	0	175	7	394	32	0	433	7	0	0	0	7	1660	1
7:00	65	284	40	0	389	9	2	41	0	52	4	147	10	0	161	1	1	1	0	3	605	0
7:15	86	252	42	0	380	15	4	45	0	64	13	156	12	0	181	0	2	0	0	2	627	0
7:30	80	302	58	2	442	17	1	49	0	67	8	144	15	0	167	4	0	0	0	4	680	2
7:45	112	388	71	1	572	10	9	45	0	64	12	193	11	0	216	3	1	2	0	6	858	1
Total	343	1226	211	3	1783	51	16	180	0	247	37	640	48	0	725	8	4	3	0	15	2770	3
8:00	113	408	57	0	578	15	8	50	0	73	15	188	20	0	223	2	0	1	0	3	877	0
8:15	96	332	76	2	506	22	5	73	1	101	13	203	26	0	242	4	4	2	0	10	859	3
8:30	106	265	78	1	450	15	5	68	0	88	16	243	21	0	280	1	2	1	0	4	822	1
8:45	125	308	86	1	520	18	12	80	0	110	17	198	25	1	241	4	2	2	0	8	879	2
Total	440	1313	297	4	2054	70	30	271	1	372	61	832	92	1	986	11	8	6	0	25	3437	6
16:00	121	239	6	1	367	14	2	143	0	159	0	354	39	1	394	44	6	19	0	69	989	2
16:15	115	236	5	0	356	16	0	145	1	162	1	322	33	0	356	48	5	11	0	64	938	1
16:30	120	212	4	2	338	8	1	160	0	169	0	384	33	1	418	77	8	20	0	105	1030	3
16:45	163	237	6	0	406	14	1	136	0	151	1	302	28	0	331	80	11	10	0	101	989	0
Total	519	924	21	3	1467	52	4	584	1	641	2	1362	133	2	1499	249	30	60	0	339	3946	6
17:00	129	213	4	0	346	21	3	159	1	184	0	399	44	0	443	79	9	15	0	103	1076	1
17:15	137	247	1	1	386	15	1	149	0	165	1	347	44	0	392	63	5	22	0	90	1033	1
17:30	111	231	1	3	346	21	0	149	1	171	0	306	27	0	333	60	5	12	0	77	927	4
17:45	123	252	0	5	380	16	0	137	0	153	0	310	39	0	349	27	3	5	0	35	917	5
Total	500	943	6	9	1458	73	4	594	2	673	1	1362	154	0	1517	229	22	54	0	305	3953	11
18:00	118	156	3	0	277	10	0	159	0	169	0	348	32	0	380	29	8	4	0	41	867	0
18:15	115	172	1	2	290	19	0	154	1	174	0	200	25	0	225	18	1	8	0	27	716	3
18:30	87	178	1	6	272	20	1	129	0	150	0	187	15	0	202	15	3	0	0	18	642	6
18:45	83	160	0	4	247	9	0	108	0	117	0	153	23	1	177	10	0	3	0	13	554	5
Total	403	666	5	12	1086	58	1	550	1	610	0	888	95	1	984	72	12	15	0	99	2779	14
Grand Total	2421	5794	646	32	8893	332	61	2320	5	2718	108	5478	554	4	6144	576	76	138	0	790	18545	41
Apprch %	27.2%	65.2%	7.3%	0.4%		12.2%	2.2%	85.4%	0.2%		1.8%	89.2%	9.0%	0.1%		72.9%	9.6%	17.5%	0.0%			
Total %	13.1%	31.2%	3.5%	0.2%	48.0%	1.8%	0.3%	12.5%	0.0%	14.7%	0.6%	29.5%	3.0%	0.0%	33.1%	3.1%	0.4%	0.7%	0.0%	4.3%	100.0%	

AM PEAK HOUR	Latrobe Rd Southbound					Town Center Blvd Westbound					Latrobe Rd Northbound					Town Center Blvd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 08:00 to 09:00																					
Peak Hour For Entire Intersection Begins at 08:00																					
8:00	113	408	57	0	578	15	8	50	0	73	15	188	20	0	223	2	0	1	0	3	877
8:15	96	332	76	2	506	22	5	73	1	101	13	203	26	0	242	4	4	2	0	10	859
8:30	106	265	78	1	450	15	5	68	0	88	16	243	21	0	280	1	2	1	0	4	822
8:45	125	308	86	1	520	18	12	80	0	110	17	198	25	1	241	4	2	2	0	8	879
Total Volume	440	1313	297	4	2054	70	30	271	1	372	61	832	92	1	986	11	8	6	0	25	3437
% App Total	21.4%	63.9%	14.5%	0.2%		18.8%	8.1%	72.8%	0.3%		6.2%	84.4%	9.3%	0.1%		44.0%	32.0%	24.0%	0.0%		
PHF	.880	.805	.863	.500	.888	.795	.625	.847	.250	.845	.897	.856	.885	.250	.880	.688	.500	.750	.000	.625	.978

PM PEAK HOUR	Latrobe Rd Southbound					Town Center Blvd Westbound					Latrobe Rd Northbound					Town Center Blvd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	120	212	4	2	338	8	1	160	0	169	0	384	33	1	418	77	8	20	0	105	1030
16:45	163	237	6	0	406	14	1	136	0	151	1	302	28	0	331	80	11	10	0	101	989
17:00	129	213	4	0	346	21	3	159	1	184	0	399	44	0	443	79	9	15	0	103	1076
17:15	137	247	1	1	386	15	1	149	0	165	1	347	44	0	392	63	5	22	0	90	1033
Total Volume	549	909	15	3	1476	58	6	604	1	669	2	1432	149	1	1584	299	33	67	0	399	4128
% App Total	37.2%	61.6%	1.0%	0.2%		8.7%	0.9%	90.3%	0.1%		0.1%	90.4%	9.4%	0.1%		74.9%	8.3%	16.8%	0.0%		
PHF	.842	.920	.625	.375	.909	.690	.500	.944	.250	.909	.500	.897	.847	.250	.894	.934	.750	.761	.000	.950	.959

Analysis ID: 1472999
Analysis: Creekside #6 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-13
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Latrobe north (Southbound)			WRR east (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:45am	10	401	71	57	28	21	10	280	32
8:00am	15	350	82	57	37	20	12	372	45
8:15am	23	266	92	52	30	20	12	312	40
8:30am	33	168	98	61	38	25	10	279	35
Hourly Tot	81	1185	343	227	133	86	44	1243	152
Hourly Tot	0.0503	0.7365	0.2132	0.509	0.2982	0.1928	0.0306	0.8638	0.1056
PHF	0.61	0.74	0.88	0.93	0.88	0.86	0.92	0.84	0.84

All Days, Peak PM

	Latrobe north (Southbound)			WRR east (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2:45pm	36	359	75	87	47	52	19	218	51
3:00pm	32	289	63	82	40	48	11	315	71
3:15pm	53	260	100	74	27	43	3	409	82
3:30pm	61	217	97	63	32	43	5	289	75
Hourly Tot	182	1125	335	306	146	186	38	1231	279
Hourly Tot	0.1108	0.6851	0.204	0.4796	0.2288	0.2915	0.0245	0.7952	0.1802
PHF	0.75	0.78	0.84	0.88	0.78	0.89	0.5	0.75	0.85

Tues-Thurs, Peak AM

	Latrobe north (Southbound)			WRR east (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:45am	11	490	83	74	34	25	15	344	35
8:00am	7	432	100	74	38	26	18	489	59
8:15am	17	361	114	64	26	30	18	348	38
8:30am	30	278	110	78	39	30	13	336	41
Hourly Tot	65	1561	407	290	137	111	64	1517	173
Hourly Tot	0.032	0.7678	0.2002	0.539	0.2546	0.2063	0.0365	0.8649	0.0986
PHF	0.54	0.8	0.89	0.93	0.88	0.93	0.89	0.78	0.73

Tues-Thurs, Peak PM

	Latrobe north (Southbound)			WRR east (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2:45pm	22	433	75	110	60	54	23	281	62
3:00pm	37	349	74	106	43	52	9	400	87
3:15pm	62	293	120	96	29	43	2	510	113
3:30pm	75	244	123	81	32	37	4	324	100
Hourly Tot	196	1319	392	393	164	186	38	1515	362
Hourly Tot	0.1028	0.6917	0.2056	0.5289	0.2207	0.2503	0.0198	0.7911	0.189
PHF	0.65	0.76	0.8	0.89	0.68	0.86	0.41	0.74	0.8

ERR west (Eastbound)

Left	Thru	Right	Total	Total %
39	15	7	971	0.2492
60	26	4	1080	0.2772
83	33	4	967	0.2482
90	37	4	878	0.2254
272	111	19	3896	1
0.6766	0.2761	0.0473		
0.76	0.75	0.68		

ERR west (Eastbound)

Left	Thru	Right	Total	Total %
70	49	9	1072	0.2505
59	36	8	1054	0.2463
57	36	9	1153	0.2695
68	41	9	1000	0.2337
254	162	35	4279	1
0.5632	0.3592	0.0776		
0.91	0.83	0.97		

ERR west (Eastbound)

Left	Thru	Right	Total	Total %
42	14	7	1174	0.2462
69	21	4	1337	0.2804
99	33	7	1155	0.2422
100	40	7	1102	0.2311
310	108	25	4768	1
0.6998	0.2438	0.0564		
0.78	0.68	0.89		

ERR west (Eastbound)

Left	Thru	Right	Total	Total %
82	53	12	1267	0.2501
69	35	10	1271	0.2509
59	36	9	1372	0.2709
75	48	12	1155	0.228
285	172	43	5065	1
0.57	0.344	0.086		
0.87	0.81	0.9		

National Data and Surveying Services

(323) 782-0090
info@ndsdata.com

City of El Dorado Hills
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

File Name : 17-7192-005 Latrobe Rd & White Rock Rd
Date : 3/14/2017

Unshifted Count = All Vehicles & Uturns

	Latrobe Rd Southbound					White Rock Rd Westbound					Latrobe Rd Northbound					White Rock Rd Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	9	76	18	0	103	13	11	12	0	36	5	83	11	0	99	11	5	0	0	16	254	0
6:15	4	109	22	0	135	34	12	16	0	62	9	72	9	0	90	10	4	5	0	19	306	0
6:30	13	158	33	0	204	27	26	19	0	72	12	88	6	0	106	14	10	13	0	37	419	0
6:45	16	271	32	2	321	67	32	18	0	117	11	73	14	0	98	18	10	21	0	49	585	2
Total	42	614	105	2	763	141	81	65	0	287	37	316	40	0	393	53	29	39	0	121	1564	2
7:00	16	209	53	0	278	49	40	22	0	111	26	104	18	1	149	38	12	7	0	57	595	1
7:15	15	199	63	1	278	58	39	34	0	131	16	108	19	0	143	30	20	17	0	67	619	1
7:30	14	235	71	0	320	57	53	23	0	133	25	109	11	1	146	39	28	13	0	80	679	1
7:45	23	291	87	0	401	102	59	22	0	183	19	141	25	0	185	53	32	23	0	108	877	0
Total	68	934	274	1	1277	266	191	101	0	558	86	462	73	2	623	160	92	60	0	312	2770	3
8:00	31	298	83	0	412	82	58	29	0	169	25	135	29	1	190	58	21	13	0	92	863	1
8:15	19	266	83	1	369	58	50	28	0	136	14	160	42	1	217	53	25	10	1	89	811	3
8:30	19	176	73	0	268	56	60	41	0	157	26	165	35	0	226	71	22	14	1	108	759	1
8:45	28	224	73	0	325	62	49	33	0	144	6	140	17	0	163	62	19	16	0	97	729	0
Total	97	964	312	1	1374	258	217	131	0	606	71	600	123	2	796	244	87	53	2	386	3162	5
16:00	66	138	64	3	271	49	29	39	0	117	21	293	87	1	402	67	56	25	1	149	939	5
16:15	54	142	59	0	255	45	51	49	0	145	17	228	58	2	305	69	71	34	0	174	879	2
16:30	68	121	61	0	250	36	27	45	0	108	18	303	84	2	407	85	90	18	0	193	958	2
16:45	51	147	43	1	242	53	40	46	1	140	20	213	82	0	315	79	79	30	0	188	885	2
Total	239	548	227	4	1018	183	147	179	1	510	76	1037	311	5	1429	300	296	107	1	704	3661	11
17:00	65	133	58	1	257	47	41	54	0	142	17	307	104	4	432	92	94	16	1	203	1034	6
17:15	59	173	61	0	293	58	56	49	0	163	18	226	76	0	320	93	73	22	1	189	965	1
17:30	58	142	45	2	247	42	45	41	0	128	21	238	86	1	346	83	77	20	1	181	902	4
17:45	50	171	65	1	287	48	26	49	0	123	24	186	57	0	267	78	52	21	0	151	828	1
Total	232	619	229	4	1084	195	168	193	0	556	80	957	323	5	1365	346	296	79	3	724	3729	12
18:00	59	88	34	0	181	43	25	44	0	112	20	264	53	2	339	76	49	14	1	140	772	3
18:15	49	111	41	0	201	31	40	35	0	106	16	142	34	0	192	37	44	11	0	92	591	0
18:30	50	121	31	0	202	24	25	49	0	98	7	115	39	1	162	41	39	11	1	92	554	2
18:45	32	101	38	0	171	38	11	35	0	84	2	101	31	1	135	32	19	16	0	67	457	1
Total	190	421	144	0	755	136	101	163	0	400	45	622	157	4	828	186	151	52	2	391	2374	6
Grand Total	868	4100	1291	12	6271	1179	905	832	1	2917	395	3994	1027	18	5434	1289	951	390	8	2638	17260	39
Apprch %	13.8%	65.4%	20.6%	0.2%		40.4%	31.0%	28.5%	0.0%		7.3%	73.5%	18.9%	0.3%		48.9%	36.1%	14.8%	0.3%			
Total %	5.0%	23.8%	7.5%	0.1%	36.3%	6.8%	5.2%	4.8%	0.0%	16.9%	2.3%	23.1%	6.0%	0.1%	31.5%	7.5%	5.5%	2.3%	0.0%	15.3%	100.0%	

AM PEAK HOUR	Latrobe Rd Southbound					White Rock Rd Westbound					Latrobe Rd Northbound					White Rock Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	23	291	87	0	401	102	59	22	0	183	19	141	25	0	185	53	32	23	0	108	877
8:00	31	298	83	0	412	82	58	29	0	169	25	135	29	1	190	58	21	13	0	92	863
8:15	19	266	83	1	369	58	50	28	0	136	14	160	42	1	217	53	25	10	1	89	811
8:30	19	176	73	0	268	56	60	41	0	157	26	165	35	0	226	71	22	14	1	108	759
Total Volume	92	1031	326	1	1450	298	227	120	0	645	84	601	131	2	818	235	100	60	2	397	3310
% App Total	6.3%	71.1%	22.5%	0.1%		46.2%	35.2%	18.6%	0.0%		10.3%	73.5%	16.0%	0.2%		59.2%	25.2%	15.1%	0.5%		
PHF	.742	.865	.937	.250	.880	.730	.946	.732	.000	.881	.808	.911	.780	.500	.905	.827	.781	.652	.500	.919	.944

PM PEAK HOUR	Latrobe Rd Southbound					White Rock Rd Westbound					Latrobe Rd Northbound					White Rock Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	68	121	61	0	250	36	27	45	0	108	18	303	84	2	407	85	90	18	0	193	958
16:45	51	147	43	1	242	53	40	46	1	140	20	213	82	0	315	79	79	30	0	188	885
17:00	65	133	58	1	257	47	41	54	0	142	17	307	104	4	432	92	94	16	1	203	1034
17:15	59	173	61	0	293	58	56	49	0	163	18	226	76	0	320	93	73	22	1	189	965
Total Volume	243	574	223	2	1042	194	164	194	1	553	73	1049	346	6	1474	349	336	86	2	773	3842
% App Total	23.3%	55.1%	21.4%	0.2%		35.1%	29.7%	35.1%	0.2%		5.0%	71.2%	23.5%	0.4%		45.1%	43.5%	11.1%	0.3%		
PHF	.893	.829	.914	.500	.889	.836	.732	.898	.250	.848	.913	.854	.832	.375	.853	.938	.894	.717	.500	.952	.929

Analysis ID: 1473000
Analysis: Creekside #7 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-13
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Latrobe north (Southbound)			Monte Verde (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:30am	1	166	38	1	0	0	7	321	0
7:45am	2	348	54	0	1	1	6	264	0
8:00am	1	387	53	0	1	2	6	271	0
8:15am	0	231	50	0	4	1	6	221	0
Hourly Tot	4	1132	195	1	6	4	25	1077	0
Hourly Tot	0.003	0.8505	0.1465	0.0909	0.5455	0.3636	0.0227	0.9773	0
PHF	0.5	0.73	0.9	0.25	0.38	0.5	0.89	0.84	0

All Days, Peak PM

	Latrobe north (Southbound)			Monte Verde (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2:30pm	7	277	32	0	3	1	3	200	0
2:45pm	7	401	52	0	1	1	0	207	0
3:00pm	4	253	61	1	2	2	0	295	5
3:15pm	4	271	56	1	2	1	0	332	7
Hourly Tot	22	1202	201	2	8	5	3	1034	12
Hourly Tot	0.0154	0.8435	0.1411	0.1333	0.5333	0.3333	0.0029	0.9857	0.0114
PHF	0.79	0.75	0.82	0.5	0.67	0.62	0.25	0.78	0.43

Tues-Thurs, Peak AM

	Latrobe north (Southbound)			Monte Verde (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:30am	2	256	48	0	0	0	9	381	0
7:45am	4	427	71	0	0	2	7	316	0
8:00am	2	439	79	0	0	5	11	339	0
8:15am	0	317	74	0	2	2	11	251	0
Hourly Tot	8	1439	272	0	2	9	38	1287	0
Hourly Tot	0.0047	0.8371	0.1582	0	0.1818	0.8182	0.0287	0.9713	0
PHF	0.5	0.82	0.86	0	0.25	0.45	0.86	0.84	0

Tues-Thurs, Peak PM

	Latrobe north (Southbound)			Monte Verde (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2:45pm	12	473	72	0	0	2	0	266	0
3:00pm	7	317	92	0	2	5	0	376	7
3:15pm	2	294	70	0	2	2	0	412	9
3:30pm	0	287	51	0	0	0	0	246	5
Hourly Tot	21	1371	285	0	4	9	0	1300	21
Hourly Tot	0.0125	0.8175	0.1699	0	0.3077	0.6923	0	0.9841	0.0159
PHF	0.44	0.72	0.77	0	0.5	0.45	0	0.79	0.58

GF (north) (Eastbound)

Left	Thru	Right	Total	Total %
8	0	0	542	0.2107
26	0	0	702	0.2729
46	0	0	767	0.2982
46	0	2	561	0.2181
126	0	2	2572	1
0.9844	0	0.0156		
0.68	0	0.25		

GF (north) (Eastbound)

Left	Thru	Right	Total	Total %
56	0	19	598	0.216
58	0	9	736	0.2659
62	0	1	686	0.2478
73	1	0	748	0.2702
249	1	29	2768	1
0.8925	0.0036	0.1039		
0.85	0.25	0.38		

GF (north) (Eastbound)

Left	Thru	Right	Total	Total %
9	0	0	705	0.2187
32	0	0	859	0.2664
61	0	0	936	0.2903
65	0	2	724	0.2246
167	0	2	3224	1
0.9882	0	0.0118		
0.64	0	0.25		

GF (north) (Eastbound)

Left	Thru	Right	Total	Total %
77	0	11	913	0.2702
87	0	1	894	0.2646
97	2	0	890	0.2634
87	5	1	682	0.2018
348	7	13	3379	1
0.9457	0.019	0.0353		
0.9	0.35	0.3		

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

File Name : 17-07982-005
Date : 11/16/2017

#7

Unshifted Count = All Vehicles & Uturns

	Latrobe Rd Southbound					Golden Foothill Pkwy Westbound					Latrobe Rd Northbound					Golden Foothill Pkwy Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	0	103	15	1	119	0	0	1	0	1	1	85	0	0	86	8	0	0	0	8	214	1
6:15	0	112	19	0	131	0	0	2	0	2	1	90	0	0	91	3	0	0	0	3	227	0
6:30	1	135	29	0	165	0	0	1	0	1	0	115	0	0	115	1	0	0	0	1	282	0
6:45	1	208	57	0	266	0	0	2	0	2	3	110	0	0	113	5	0	0	0	5	386	0
Total	2	558	120	1	681	0	0	6	0	6	5	400	0	0	405	17	0	0	0	17	1109	1
7:00	0	183	77	1	261	0	1	3	0	4	0	113	0	0	113	12	0	1	0	13	391	1
7:15	0	209	50	0	259	1	1	3	0	5	3	132	1	0	136	13	0	0	0	13	413	0
7:30	0	306	61	1	368	0	0	4	0	4	1	153	0	0	154	9	0	0	0	9	535	1
7:45	0	301	117	0	418	0	3	4	0	7	6	178	1	1	186	19	2	1	0	22	633	1
Total	0	999	305	2	1306	1	5	14	0	20	10	576	2	1	589	53	2	2	0	57	1972	3
8:00	1	268	140	1	410	1	2	3	0	6	6	215	0	0	221	41	2	6	0	49	686	1
8:15	0	234	70	0	304	2	2	3	0	7	3	166	1	0	170	35	0	3	0	38	519	0
8:30	0	195	70	0	265	1	2	1	0	4	3	127	1	0	131	18	0	4	0	22	422	0
8:45	1	216	68	0	285	2	1	2	0	5	2	141	1	0	144	13	0	1	0	14	448	0
Total	2	913	348	1	1264	6	7	9	0	22	14	649	3	0	666	107	2	14	0	123	2075	1
16:00	1	162	30	0	193	0	0	1	0	1	3	210	1	0	214	67	0	4	0	71	479	0
16:15	3	178	33	0	214	0	1	1	0	2	0	327	2	0	329	122	1	3	0	126	671	0
16:30	3	205	29	0	237	0	0	0	0	0	0	230	2	0	232	93	1	3	0	97	566	0
16:45	4	161	34	0	199	0	1	2	0	3	3	295	3	0	301	117	1	5	0	123	626	0
Total	11	706	126	0	843	0	2	4	0	6	6	1062	8	0	1076	399	3	15	0	417	2342	0
17:00	5	158	42	0	205	1	2	4	0	7	3	223	1	1	228	76	1	4	0	81	521	1
17:15	8	191	29	1	229	1	1	6	0	8	1	199	0	0	200	69	1	4	0	74	511	1
17:30	3	188	23	0	214	1	0	2	0	3	1	215	1	0	217	46	1	2	0	49	483	0
17:45	2	150	19	1	172	1	3	0	0	4	3	229	0	0	232	43	1	3	0	47	455	1
Total	18	687	113	2	820	4	6	12	0	22	8	866	2	1	877	234	4	13	0	251	1970	3
18:00	1	161	17	1	180	3	0	1	0	4	1	128	1	0	130	42	1	2	0	45	359	1
18:15	3	124	14	1	142	1	0	5	0	6	0	107	1	0	108	58	1	0	0	59	315	1
18:30	6	127	16	0	149	0	0	0	0	0	0	93	0	0	93	34	0	3	0	37	279	0
18:45	6	127	16	0	149	0	0	0	0	0	0	93	0	0	93	34	0	3	0	37	279	0
Total	16	539	63	2	620	4	0	6	0	10	1	421	2	0	424	168	2	8	0	178	1232	2
Grand Total	49	4402	1075	8	5534	15	20	51	0	86	44	3974	17	2	4037	978	13	52	0	1043	10700	10
Apprch %	0.9%	79.5%	19.4%	0.1%		17.4%	23.3%	59.3%	0.0%		1.1%	98.4%	0.4%	0.0%		93.8%	1.2%	5.0%	0.0%			
Total %	0.5%	41.1%	10.0%	0.1%	51.7%	0.1%	0.2%	0.5%	0.0%	0.8%	0.4%	37.1%	0.2%	0.0%	37.7%	9.1%	0.1%	0.5%	0.0%	9.7%	100.0%	

AM PEAK HOUR	Latrobe Rd Southbound					Golden Foothill Pkwy Westbound					Latrobe Rd Northbound					Golden Foothill Pkwy Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	0	306	61	1	368	0	0	4	0	4	1	153	0	0	154	9	0	0	0	9	535
7:45	0	301	117	0	418	0	3	4	0	7	6	178	1	1	186	19	2	1	0	22	633
8:00	1	268	140	1	410	1	2	3	0	6	6	215	0	0	221	41	2	6	0	49	686
8:15	0	234	70	0	304	2	2	3	0	7	3	166	1	0	170	35	0	3	0	38	519
Total Volume	1	1109	388	2	1500	3	7	14	0	24	16	712	2	1	731	104	4	10	0	118	2373
% App Total	0.1%	73.9%	25.9%	0.1%		12.5%	29.2%	58.3%	0.0%		2.2%	97.4%	0.3%	0.1%		88.1%	3.4%	8.5%	0.0%		
PHF	.250	.906	.693	.500	.897	.375	.583	.875	.000	.857	.667	.828	.500	.250	.827	.634	.500	.417	.000	.602	.865

PM PEAK HOUR	Latrobe Rd Southbound					Golden Foothill Pkwy Westbound					Latrobe Rd Northbound					Golden Foothill Pkwy Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	3	178	33	0	214	0	1	1	0	2	0	327	2	0	329	122	1	3	0	126	671
16:30	3	205	29	0	237	0	0	0	0	0	0	230	2	0	232	93	1	3	0	97	566
16:45	4	161	34	0	199	0	1	2	0	3	3	295	3	0	301	117	1	5	0	123	626
17:00	5	158	42	0	205	1	2	4	0	7	3	223	1	1	228	76	1	4	0	81	521
Total Volume	15	702	138	0	855	1	4	7	0	12	6	1075	8	1	1090	408	4	15	0	427	2384
% App Total	1.8%	82.1%	16.1%	0.0%		8.3%	33.3%	58.3%	0.0%		0.6%	98.6%	0.7%	0.1%		95.6%	0.9%	3.5%	0.0%		
PHF	.750	.856	.821	.000	.902	.250	.500	.438	.000	.429	.500	.822	.667	.250	.828	.836	1.000	.750	.000	.847	.888

Analysis ID: 1473003
Analysis: Creekside #8 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-13
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Latrobe north (Southb		Suncaste (Eastbound)		Latrobe south (Northbound)			
	Thru	Right	Left	Right	Left	Thru	Total	Total %
7:30am	164	9	4	0	2	310	489	0.2428
7:45am	260	23	7	0	8	227	525	0.2607
8:00am	242	42	11	0	11	256	562	0.279
8:15am	166	36	7	0	22	207	438	0.2175
Hourly Tot	832	110	29	0	43	1000	2014	1
Hourly Tot	0.8832	0.1168	1	0	0.0412	0.9588		
PHF	0.8	0.65	0.66	0	0.49	0.81		

All Days, Peak PM

	Latrobe north (Southb		Suncaste (Eastbound)		Latrobe south (Northbound)			
	Thru	Right	Left	Right	Left	Thru	Total	Total %
2:30pm	292	18	25	14	7	172	528	0.2359
2:45pm	338	24	15	13	11	207	608	0.2717
3:00pm	160	25	25	9	11	277	507	0.2265
3:15pm	241	24	35	10	8	277	595	0.2659
Hourly Tot	1031	91	100	46	37	933	2238	1
Hourly Tot	0.9189	0.0811	0.6849	0.3151	0.0381	0.9619		
PHF	0.76	0.91	0.71	0.82	0.84	0.84		

Tues-Thurs, Peak AM

	Latrobe north (Southb		Suncaste (Eastbound)		Latrobe south (Northbound)			
	Thru	Right	Left	Right	Left	Thru	Total	Total %
7:30am	184	13	2	0	4	365	568	0.2397
7:45am	299	34	9	0	9	275	626	0.2641
8:00am	254	55	10	0	16	306	641	0.2705
8:15am	209	46	9	0	31	240	535	0.2257
Hourly Tot	946	148	30	0	60	1186	2370	1
Hourly Tot	0.8647	0.1353	1	0	0.0482	0.9518		
PHF	0.79	0.67	0.75	0	0.48	0.81		

Tues-Thurs, Peak PM

	Latrobe north (Southb		Suncaste (Eastbound)		Latrobe south (Northbound)			
	Thru	Right	Left	Right	Left	Thru	Total	Total %
2:30pm	347	21	28	20	12	188	616	0.2259
2:45pm	406	29	19	18	15	257	744	0.2728
3:00pm	245	28	30	11	12	346	672	0.2464
3:15pm	261	31	42	12	9	340	695	0.2549
Hourly Tot	1259	109	119	61	48	1131	2727	1
Hourly Tot	0.9203	0.0797	0.6611	0.3389	0.0407	0.9593		
PHF	0.78	0.88	0.71	0.76	0.8	0.82		

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

#8

File Name : 17-07982-004
Date : 11/16/2017

Unshifted Count = All Vehicles & Uturns

	Latrobe Rd Southbound					Suncast Ln Westbound					Latrobe Rd Northbound					Suncast Ln Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	0	102	5	0	107	0	0	0	0	0	1	89	0	0	90	2	0	0	0	2	199	0
6:15	0	108	5	0	113	0	0	0	0	0	0	90	0	0	90	2	0	1	0	3	206	0
6:30	0	132	9	0	141	0	0	0	0	0	1	122	0	0	123	1	0	0	0	1	265	0
6:45	0	195	17	0	212	0	0	0	0	0	1	109	0	0	110	2	0	0	0	2	324	0
Total	0	537	36	0	573	0	0	0	0	0	3	410	0	0	413	7	0	1	0	8	994	0
7:00	0	176	16	0	192	0	0	0	0	0	1	119	0	0	120	5	0	1	0	6	318	0
7:15	0	211	20	0	231	0	0	0	0	0	3	136	0	0	139	2	0	1	0	3	373	0
7:30	0	255	24	0	279	0	0	0	0	0	6	147	0	0	153	2	0	0	0	2	434	0
7:45	0	294	31	0	325	0	0	0	0	0	8	191	0	0	199	7	0	0	0	7	531	0
Total	0	936	91	0	1027	0	0	0	0	0	18	593	0	0	611	16	0	2	0	18	1656	0
8:00	0	207	41	0	248	0	0	0	0	0	14	205	0	1	220	16	0	1	0	17	485	1
8:15	0	223	22	0	245	0	0	0	0	0	5	133	0	0	138	10	0	4	0	14	397	0
8:30	0	180	25	0	205	0	0	0	0	0	3	144	0	0	147	5	0	1	0	6	358	0
8:45	0	174	41	0	215	0	0	0	0	0	3	129	0	0	132	10	0	0	0	10	357	0
Total	0	784	129	0	913	0	0	0	0	0	25	611	0	1	637	41	0	6	0	47	1597	1
16:00	0	140	23	0	163	0	0	0	0	0	5	270	0	0	275	43	0	10	0	53	491	0
16:15	0	151	17	0	168	0	0	0	0	0	0	180	0	0	180	29	0	4	0	33	381	0
16:30	0	167	21	0	188	0	0	0	0	0	0	292	0	0	292	45	0	3	0	48	528	0
16:45	0	185	16	0	201	0	0	0	0	0	2	213	0	0	215	30	0	6	0	36	452	0
Total	0	643	77	0	720	0	0	0	0	0	7	955	0	0	962	147	0	23	0	170	1852	0
17:00	0	169	12	0	181	0	0	0	0	0	3	234	0	0	237	71	0	6	0	77	495	0
17:15	0	156	14	0	170	0	0	0	0	0	3	182	0	0	185	35	0	6	0	41	396	0
17:30	0	186	9	0	195	0	0	0	0	0	0	193	0	1	194	26	0	4	0	30	419	1
17:45	0	175	11	0	186	0	0	0	0	0	0	179	0	0	179	29	0	4	0	33	398	0
Total	0	686	46	0	732	0	0	0	0	0	6	788	0	1	795	161	0	20	0	181	1708	1
18:00	0	152	19	0	171	0	0	0	0	0	1	205	0	0	206	23	0	3	0	26	403	0
18:15	0	139	13	0	152	0	0	0	0	0	1	106	0	0	107	10	0	2	0	12	271	0
18:30	0	116	9	0	125	0	0	0	0	0	2	101	0	0	103	10	0	1	0	11	239	0
18:45	0	119	12	0	131	0	0	0	0	0	0	75	0	0	75	12	0	1	0	13	219	0
Total	0	526	53	0	579	0	0	0	0	0	4	487	0	0	491	55	0	7	0	62	1132	0
Grand Total	0	4112	432	0	4544	0	0	0	0	0	63	3844	0	2	3909	427	0	59	0	486	8939	2
Apprch %	0.0%	90.5%	9.5%	0.0%		0.0%	0.0%	0.0%	0.0%		1.6%	98.3%	0.0%	0.1%		87.9%	0.0%	12.1%	0.0%			
Total %	0.0%	46.0%	4.8%	0.0%	50.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	43.0%	0.0%	0.0%	43.7%	4.8%	0.0%	0.7%	0.0%	5.4%	100.0%	

AM PEAK HOUR	Latrobe Rd Southbound					Suncast Ln Westbound					Latrobe Rd Northbound					Suncast Ln Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	0	255	24	0	279	0	0	0	0	0	6	147	0	0	153	2	0	0	0	2	434
7:45	0	294	31	0	325	0	0	0	0	0	8	191	0	0	199	7	0	0	0	7	531
8:00	0	207	41	0	248	0	0	0	0	0	14	205	0	1	220	16	0	1	0	17	485
8:15	0	223	22	0	245	0	0	0	0	0	5	133	0	0	138	10	0	4	0	14	397
Total Volume	0	979	118	0	1097	0	0	0	0	0	33	676	0	1	710	35	0	5	0	40	1847
% App Total	0.0%	89.2%	10.8%	0.0%		0.0%	0.0%	0.0%	0.0%		4.6%	95.2%	0.0%	0.1%		87.5%	0.0%	12.5%	0.0%		
PHF	.000	.832	.720	.000	.844	.000	.000	.000	.000	.000	.589	.824	.000	.250	.807	.547	.000	.313	.000	.588	.870

PM PEAK HOUR	Latrobe Rd Southbound					Suncast Ln Westbound					Latrobe Rd Northbound					Suncast Ln Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	0	167	21	0	188	0	0	0	0	0	0	292	0	0	292	45	0	3	0	48	528
16:45	0	185	16	0	201	0	0	0	0	0	2	213	0	0	215	30	0	6	0	36	452
17:00	0	169	12	0	181	0	0	0	0	0	3	234	0	0	237	71	0	6	0	77	495
17:15	0	156	14	0	170	0	0	0	0	0	3	182	0	0	185	35	0	6	0	41	396
Total Volume	0	677	63	0	740	0	0	0	0	0	8	921	0	0	929	181	0	21	0	202	1871
% App Total	0.0%	91.5%	8.5%	0.0%		0.0%	0.0%	0.0%	0.0%		0.9%	99.1%	0.0%	0.0%		89.6%	0.0%	10.4%	0.0%		
PHF	.000	.915	.750	.000	.920	.000	.000	.000	.000	.000	.667	.789	.000	.000	.795	.637	.000	.875	.000	.656	.886

Analysis ID: 1475494
Analysis: Creekside #9 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-19
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R126-M128

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Latrobe north (Southbound)			Clubview (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:30am	42	25	95	0	5	179	3	116	0
7:45am	48	39	158	0	13	90	9	144	2
8:00am	46	54	130	1	24	51	8	124	3
8:15am	35	61	101	0	24	41	3	107	0
Hourly Tot	171	179	484	1	66	361	23	491	5
Hourly Tot	0.205	0.2146	0.5803	0.0023	0.1542	0.8435	0.0443	0.9461	0.0096
PHF	0.89	0.73	0.77	0.25	0.69	0.5	0.64	0.85	0.42

All Days, Peak PM

	Latrobe north (Southbound)			Clubview (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2:30pm	52	109	139	0	17	32	2	109	0
2:45pm	54	100	199	2	19	28	4	111	3
3:00pm	55	78	106	3	14	26	4	124	5
3:15pm	58	75	72	4	6	28	10	123	4
Hourly Tot	219	362	516	9	56	114	20	467	12
Hourly Tot	0.1996	0.33	0.4704	0.0503	0.3128	0.6369	0.0401	0.9359	0.024
PHF	0.94	0.83	0.65	0.56	0.74	0.89	0.5	0.94	0.6

Tues-Thurs, Peak AM

	Latrobe north (Southbound)			Clubview (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:30am	40	23	122	1	8	143	6	139	0
7:45am	47	36	163	0	19	98	16	183	2
8:00am	55	54	159	0	35	48	14	159	4
8:15am	36	60	119	0	32	46	5	124	1
Hourly Tot	178	173	563	1	94	335	41	605	7
Hourly Tot	0.1947	0.1893	0.616	0.0023	0.2186	0.7791	0.0628	0.9265	0.0107
PHF	0.81	0.72	0.86	0.25	0.67	0.59	0.64	0.83	0.44

Tues-Thurs, Peak PM

	Latrobe north (Southbound)			Clubview (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2:30pm	56	120	182	1	22	33	3	113	0
2:45pm	62	114	192	2	26	24	6	129	2
3:00pm	63	78	131	4	20	22	8	153	5
3:15pm	67	73	98	6	9	24	12	150	4
Hourly Tot	248	385	603	13	77	103	29	545	11
Hourly Tot	0.2006	0.3115	0.4879	0.0674	0.399	0.5337	0.0496	0.9316	0.0188
PHF	0.93	0.8	0.79	0.54	0.74	0.78	0.6	0.89	0.55

GF (south) (Eastbound)

Left	Thru	Right	Total	Total %
25	7	0	497	0.2399
50	8	0	561	0.2708
90	9	1	541	0.2611
92	7	2	473	0.2283
257	31	3	2072	1
0.8832	0.1065	0.0103		
0.7	0.86	0.38		

GF (south) (Eastbound)

Left	Thru	Right	Total	Total %
53	14	2	529	0.2319
104	20	6	650	0.285
128	26	6	575	0.2521
121	19	7	527	0.231
406	79	21	2281	1
0.8024	0.1561	0.0415		
0.79	0.76	0.75		

GF (south) (Eastbound)

Left	Thru	Right	Total	Total %
26	9	0	517	0.2193
62	13	0	639	0.2711
110	11	2	651	0.2762
116	8	3	550	0.2333
314	41	5	2357	1
0.8722	0.1139	0.0139		
0.68	0.79	0.42		

GF (south) (Eastbound)

Left	Thru	Right	Total	Total %
62	14	2	608	0.2309
128	24	8	717	0.2723
154	35	8	681	0.2586
150	26	8	627	0.2381
494	99	26	2633	1
0.7981	0.1599	0.042		
0.8	0.71	0.81		

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

File Name : 17-07982-003
Date : 11/16/2017

#9

Unshifted Count = All Vehicles & Uturns

	Latrobe Rd Southbound					Golden Foothill Pkwy /Clubview Dr Westbound					Latrobe Rd Northbound					Golden Foothill Pkwy /Clubview Dr Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	6	46	64	0	116	3	0	23	0	26	3	50	1	0	54	19	4	0	0	23	219	0
6:15	9	46	33	0	88	1	1	30	0	32	2	53	2	0	57	7	0	0	0	7	184	0
6:30	14	64	59	0	137	2	3	36	0	41	2	62	1	0	65	11	0	0	0	11	254	0
6:45	27	82	64	0	173	1	6	50	0	57	4	60	2	0	66	5	3	0	0	8	304	0
Total	56	238	220	0	514	7	10	139	0	156	11	225	6	0	242	42	7	0	0	49	961	0
7:00	30	65	81	0	176	1	2	32	0	35	6	63	1	0	70	13	1	1	0	15	296	0
7:15	34	75	71	0	180	2	4	52	0	58	2	78	1	0	81	11	0	3	0	14	333	0
7:30	56	105	107	0	268	5	11	47	0	63	5	81	2	0	88	16	1	1	0	18	437	0
7:45	82	104	81	0	267	5	14	104	0	123	7	83	0	0	90	10	5	1	0	16	496	0
Total	202	349	340	0	891	13	31	235	0	279	20	305	4	0	329	50	7	6	0	63	1562	0
8:00	41	98	119	0	258	4	18	105	0	127	9	93	0	0	102	21	5	0	0	26	513	0
8:15	29	79	100	0	208	2	13	43	0	58	4	75	2	0	81	33	6	0	0	39	386	0
8:30	23	81	87	0	191	2	9	46	1	58	7	55	1	0	63	30	4	1	0	35	347	1
8:45	21	81	71	1	174	3	10	58	0	71	4	63	0	0	67	13	4	5	0	22	334	1
Total	114	339	377	1	831	11	50	252	1	314	24	286	3	0	313	97	19	6	0	122	1580	2
16:00	48	69	32	0	149	2	6	35	0	43	4	110	3	0	117	104	6	3	0	113	422	0
16:15	31	68	51	0	150	0	9	27	1	37	5	87	4	1	97	74	12	1	0	87	371	2
16:30	45	78	34	0	157	1	4	24	0	29	0	135	7	0	142	130	14	5	0	149	477	0
16:45	84	79	34	0	197	2	11	25	0	38	2	112	0	0	114	72	8	3	0	83	432	0
Total	208	294	151	0	653	5	30	111	1	147	11	444	14	1	470	380	40	12	0	432	1702	2
17:00	55	79	29	0	163	1	6	32	0	39	3	92	6	0	101	116	28	2	0	146	449	0
17:15	65	83	26	0	174	0	6	29	0	35	3	93	8	0	104	58	6	2	0	66	379	0
17:30	59	91	29	0	179	0	6	23	0	29	4	85	1	0	90	78	16	0	0	94	392	0
17:45	43	98	46	0	187	0	9	36	0	45	2	89	4	0	95	58	13	4	0	75	402	0
Total	222	351	130	0	703	1	27	120	0	148	12	359	19	0	390	310	63	8	0	381	1622	0
18:00	44	67	29	0	140	0	4	37	0	41	1	94	2	0	97	77	5	4	0	86	364	0
18:15	57	73	29	0	159	0	2	15	0	17	1	59	2	0	62	33	4	1	0	38	276	0
18:30	46	58	18	0	122	1	1	23	0	25	0	42	2	0	44	36	13	1	0	50	241	0
18:45	46	54	20	0	120	2	5	14	0	21	2	26	2	0	30	34	8	1	0	43	214	0
Total	193	252	96	0	541	3	12	89	0	104	4	221	8	0	233	180	30	7	0	217	1095	0
Grand Total	995	1823	1314	1	4133	40	160	946	2	1148	82	1840	54	1	1977	1059	166	39	0	1264	8522	4
Apprch %	24.1%	44.1%	31.8%	0.0%		3.5%	13.9%	82.4%	0.2%		4.1%	93.1%	2.7%	0.1%		83.8%	13.1%	3.1%	0.0%			
Total %	11.7%	21.4%	15.4%	0.0%	48.5%	0.5%	1.9%	11.1%	0.0%	13.5%	1.0%	21.6%	0.6%	0.0%	23.2%	12.4%	1.9%	0.5%	0.0%	14.8%	100.0%	

AM PEAK HOUR	Latrobe Rd Southbound					Golden Foothill Pkwy /Clubview Dr Westbound					Latrobe Rd Northbound					Golden Foothill Pkwy /Clubview Dr Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	56	105	107	0	268	5	11	47	0	63	5	81	2	0	88	16	1	1	0	18	437
7:45	82	104	81	0	267	5	14	104	0	123	7	83	0	0	90	10	5	1	0	16	496
8:00	41	98	119	0	258	4	18	105	0	127	9	93	0	0	102	21	5	0	0	26	513
8:15	29	79	100	0	208	2	13	43	0	58	4	75	2	0	81	33	6	0	0	39	386
Total Volume	208	386	407	0	1001	16	56	299	0	371	25	332	4	0	361	80	17	2	0	99	1832
% App Total	20.8%	38.6%	40.7%	0.0%		4.3%	15.1%	80.6%	0.0%		6.9%	92.0%	1.1%	0.0%		80.8%	17.2%	2.0%	0.0%		
PHF	.634	.919	.855	.000	.934	.800	.778	.712	.000	.730	.694	.892	.500	.000	.885	.606	.708	.500	.000	.635	.893

PM PEAK HOUR	Latrobe Rd Southbound					Golden Foothill Pkwy /Clubview Dr Westbound					Latrobe Rd Northbound					Golden Foothill Pkwy /Clubview Dr Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	45	78	34	0	157	1	4	24	0	29	0	135	7	0	142	130	14	5	0	149	477
16:45	84	79	34	0	197	2	11	25	0	38	2	112	0	0	114	72	8	3	0	83	432
17:00	55	79	29	0	163	1	6	32	0	39	3	92	6	0	101	116	28	2	0	146	449
17:15	65	83	26	0	174	0	6	29	0	35	3	93	8	0	104	58	6	2	0	66	379
Total Volume	249	319	123	0	691	4	27	110	0	141	8	432	21	0	461	376	56	12	0	444	1737
% App Total	36.0%	46.2%	17.8%	0.0%		2.8%	19.1%	78.0%	0.0%		1.7%	93.7%	4.6%	0.0%		84.7%	12.6%	2.7%	0.0%		
PHF	.741	.961	.904	.000	.877	.500	.614	.859	.000	.904	.667	.800	.656	.000	.812	.723	.500	.600	.000	.745	.910

Analysis ID: 1475496
Analysis: Creekside #10 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-19
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R126-M128

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Latrobe north (Southb		Investment (Eastboun		Latrobe south (Northbound)			
	Thru	Right	Left	Right	Left	Thru	Total	Total %
7:45am	47	0	47	2	6	123	225	0.2679
8:00am	68	0	46	8	6	97	225	0.2679
8:15am	71	0	38	12	3	74	198	0.2357
8:30am	66	0	16	8	2	100	192	0.2286
Hourly Tot	252	0	147	30	17	394	840	1
Hourly Tot	1	0	0.8305	0.1695	0.0414	0.9586		
PHF	0.89	0	0.78	0.62	0.71	0.8		

All Days, Peak PM

	Latrobe north (Southb		Investment (Eastboun		Latrobe south (Northbound)			
	Thru	Right	Left	Right	Left	Thru	Total	Total %
2:30pm	119	0	27	12	7	88	253	0.2336
2:45pm	117	0	45	9	11	76	258	0.2382
3:00pm	97	0	96	14	7	62	276	0.2548
3:15pm	107	0	102	19	3	65	296	0.2733
Hourly Tot	440	0	270	54	28	291	1083	1
Hourly Tot	1	0	0.8333	0.1667	0.0878	0.9122		
PHF	0.92	0	0.66	0.71	0.64	0.83		

Tues-Thurs, Peak AM

	Latrobe north (Southb		Investment (Eastboun		Latrobe south (Northbound)			
	Thru	Right	Left	Right	Left	Thru	Total	Total %
7:45am	45	0	64	1	9	158	277	0.2809
8:00am	67	0	65	11	9	119	271	0.2748
8:15am	71	0	49	16	6	80	222	0.2252
8:30am	71	0	24	9	4	108	216	0.2191
Hourly Tot	254	0	202	37	28	465	986	1
Hourly Tot	1	0	0.8452	0.1548	0.0568	0.9432		
PHF	0.89	0	0.78	0.58	0.78	0.74		

Tues-Thurs, Peak PM

	Latrobe north (Southb		Investment (Eastboun		Latrobe south (Northbound)			
	Thru	Right	Left	Right	Left	Thru	Total	Total %
2:45pm	135	0	48	11	14	84	292	0.2345
3:00pm	99	0	128	20	9	72	328	0.2635
3:15pm	108	0	132	26	4	71	341	0.2739
3:30pm	105	0	72	20	0	87	284	0.2281
Hourly Tot	447	0	380	77	27	314	1245	1
Hourly Tot	1	0	0.8315	0.1685	0.0792	0.9208		
PHF	0.83	0	0.72	0.74	0.48	0.9		

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

File Name : 17-07982-002
Date : 11/16/2017

#10

Unshifted Count = All Vehicles & Uturns

	Latrobe Rd Southbound					Investment Blvd Westbound					Latrobe Rd Northbound					Investment Blvd Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	0	17	22	0	39	0	0	0	0	0	2	27	0	0	29	23	0	0	0	23	91	0
6:15	0	23	32	0	55	0	0	0	0	0	1	61	0	0	62	5	0	0	0	5	122	0
6:30	0	27	30	0	57	0	0	0	0	0	2	52	0	0	54	0	0	0	0	0	111	0
6:45	0	23	50	0	73	0	0	0	0	0	5	62	0	0	67	0	0	0	0	0	140	0
Total	0	90	134	0	224	0	0	0	0	0	10	202	0	0	212	28	0	0	0	28	464	0
7:00	0	37	36	0	73	0	0	0	0	0	1	68	0	0	69	3	0	0	0	3	145	0
7:15	0	37	40	0	77	0	0	0	0	0	2	70	0	0	72	3	0	0	0	3	152	0
7:30	0	30	87	0	117	0	0	0	0	0	2	85	0	0	87	5	0	1	0	6	210	0
7:45	0	33	75	0	108	0	0	0	0	0	6	81	0	0	87	8	0	0	0	8	203	0
Total	0	137	238	0	375	0	0	0	0	0	11	304	0	0	315	19	0	1	0	20	710	0
8:00	0	38	63	0	101	0	0	0	0	0	5	74	0	0	79	8	0	0	0	8	188	0
8:15	0	35	48	0	83	0	0	0	0	0	5	65	0	0	70	3	0	1	0	4	157	0
8:30	0	32	50	0	82	0	0	0	0	0	1	56	0	0	57	4	0	1	0	5	144	0
8:45	0	35	53	0	88	0	0	0	0	0	3	51	0	0	54	4	0	1	0	5	147	0
Total	0	140	214	0	354	0	0	0	0	0	14	246	0	0	260	19	0	3	0	22	636	0
16:00	0	74	6	0	80	0	0	0	0	0	1	36	0	0	37	71	0	5	0	76	193	0
16:15	0	65	3	0	68	0	0	0	0	0	0	40	0	0	40	39	0	0	0	39	147	0
16:30	0	76	8	0	84	0	0	0	0	0	2	49	0	0	51	112	0	7	0	119	254	0
16:45	0	75	7	0	82	0	0	0	0	0	1	40	0	0	41	55	0	3	0	58	181	0
Total	0	290	24	0	314	0	0	0	0	0	4	165	0	0	169	277	0	15	0	292	775	0
17:00	0	73	8	0	81	0	0	0	0	0	1	43	0	0	44	58	0	7	0	65	190	0
17:15	0	69	15	0	84	0	0	0	0	0	1	38	0	0	39	56	0	1	0	57	180	0
17:30	0	69	21	0	90	0	0	0	0	0	0	50	0	0	50	49	0	1	0	50	190	0
17:45	0	68	32	0	100	0	0	0	0	0	0	51	0	0	51	25	0	5	0	30	181	0
Total	0	279	76	0	355	0	0	0	0	0	2	182	0	0	184	188	0	14	0	202	741	0
18:00	0	60	9	0	69	0	0	0	0	0	0	39	0	0	39	58	0	4	0	62	170	0
18:15	0	67	8	0	75	0	0	0	0	0	0	35	0	0	35	15	0	0	0	15	125	0
18:30	0	53	5	0	58	0	0	0	0	0	0	24	0	0	24	16	0	1	0	17	99	0
18:45	0	51	6	0	57	0	0	0	0	0	1	26	0	0	27	5	0	1	0	6	90	0
Total	0	231	28	0	259	0	0	0	0	0	1	124	0	0	125	94	0	6	0	100	484	0
Grand Total	0	1167	714	0	1881	0	0	0	0	0	42	1223	0	0	1265	625	0	39	0	664	3810	0
Apprch %	0.0%	62.0%	38.0%	0.0%		0.0%	0.0%	0.0%	0.0%		3.3%	96.7%	0.0%	0.0%		94.1%	0.0%	5.9%	0.0%			
Total %	0.0%	30.6%	18.7%	0.0%	49.4%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	32.1%	0.0%	0.0%	33.2%	16.4%	0.0%	1.0%	0.0%	17.4%	100.0%	

AM PEAK HOUR	Latrobe Rd Southbound					Investment Blvd Westbound					Latrobe Rd Northbound					Investment Blvd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	0	30	87	0	117	0	0	0	0	0	2	85	0	0	87	5	0	1	0	6	210
7:45	0	33	75	0	108	0	0	0	0	0	6	81	0	0	87	8	0	0	0	8	203
8:00	0	38	63	0	101	0	0	0	0	0	5	74	0	0	79	8	0	0	0	8	188
8:15	0	35	48	0	83	0	0	0	0	0	5	65	0	0	70	3	0	1	0	4	157
Total Volume	0	136	273	0	409	0	0	0	0	0	18	305	0	0	323	24	0	2	0	26	758
% App Total	0.0%	33.3%	66.7%	0.0%		0.0%	0.0%	0.0%	0.0%		5.6%	94.4%	0.0%	0.0%		92.3%	0.0%	7.7%	0.0%		
PHF	.000	.895	.784	.000	.874	.000	.000	.000	.000	.000	.750	.897	.000	.000	.928	.750	.000	.500	.000	.813	.902

PM PEAK HOUR	Latrobe Rd Southbound					Investment Blvd Westbound					Latrobe Rd Northbound					Investment Blvd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	0	76	8	0	84	0	0	0	0	0	2	49	0	0	51	112	0	7	0	119	254
16:45	0	75	7	0	82	0	0	0	0	0	1	40	0	0	41	55	0	3	0	58	181
17:00	0	73	8	0	81	0	0	0	0	0	1	43	0	0	44	58	0	7	0	65	190
17:15	0	69	15	0	84	0	0	0	0	0	1	38	0	0	39	56	0	1	0	57	180
Total Volume	0	293	38	0	331	0	0	0	0	0	5	170	0	0	175	281	0	18	0	299	805
% App Total	0.0%	88.5%	11.5%	0.0%		0.0%	0.0%	0.0%	0.0%		2.9%	97.1%	0.0%	0.0%		94.0%	0.0%	6.0%	0.0%		
PHF	.000	.964	.633	.000	.985	.000	.000	.000	.000	.000	.625	.867	.000	.000	.858	.627	.000	.643	.000	.628	.792

Analysis ID: 1473012
Analysis: Creekside #11 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-13
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Latrobe north (Southb		Avanti (Westbound)		Latrobe south (Northbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
11:00am	0	66	0	4	88	0	158	0.2293
11:15am	0	77	0	7	92	0	176	0.2554
11:30am	0	98	0	2	85	0	185	0.2685
11:45am	0	93	0	4	73	0	170	0.2467
Hourly Tot	0	334	0	17	338	0	689	1
Hourly Tot	0	1	0	1	1	0		
PHF	0	0.85	0	0.61	0.92	0		

All Days, Peak PM

	Latrobe north (Southb		Avanti (Westbound)		Latrobe south (Northbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
3:45pm	2	129	0	3	82	0	216	0.2477
4:00pm	0	124	0	9	86	0	219	0.2511
4:15pm	1	107	0	16	94	0	218	0.25
4:30pm	3	101	0	17	98	0	219	0.2511
Hourly Tot	6	461	0	45	360	0	872	1
Hourly Tot	0.0128	0.9872	0	1	1	0		
PHF	0.5	0.89	0	0.66	0.92	0		

Tues-Thurs, Peak AM

	Latrobe north (Southb		Avanti (Westbound)		Latrobe south (Northbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
8:00am	0	64	0	5	122	0	191	0.252
8:15am	0	72	0	5	82	0	159	0.2098
8:30am	0	75	0	16	103	0	194	0.2559
8:45am	0	84	0	13	117	0	214	0.2823
Hourly Tot	0	295	0	39	424	0	758	1
Hourly Tot	0	1	0	1	1	0		
PHF	0	0.88	0	0.61	0.87	0		

Tues-Thurs, Peak PM

	Latrobe north (Southb		Avanti (Westbound)		Latrobe south (Northbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
3:45pm	0	131	0	2	88	0	221	0.2415
4:00pm	0	137	0	10	85	0	232	0.2536
4:15pm	2	111	0	19	102	0	234	0.2557
4:30pm	5	100	0	18	105	0	228	0.2492
Hourly Tot	7	479	0	49	380	0	915	1
Hourly Tot	0.0144	0.9856	0	1	1	0		
PHF	0.35	0.87	0	0.64	0.9	0		

Analysis ID: 1475498
Analysis: Creekside #12 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-19
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R126-M128

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Latrobe north (Southb		Royal Oaks (Westbour		Latrobe south (Northbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
11:00am	17	47	1	14	72	11	162	0.2411
11:15am	17	60	5	15	73	5	175	0.2604
11:30am	22	73	2	15	64	0	176	0.2619
11:45am	26	64	0	14	55	0	159	0.2366
Hourly Tot	82	244	8	58	264	16	672	1
Hourly Tot	0.2515	0.7485	0.1212	0.8788	0.9429	0.0571		
PHF	0.79	0.84	0.4	0.97	0.9	0.36		

All Days, Peak PM

	Latrobe north (Southb		Royal Oaks (Westbour		Latrobe south (Northbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
2:15pm	22	79	3	21	67	12	204	0.2503
2:30pm	21	104	6	14	77	4	226	0.2773
2:45pm	22	102	8	11	68	0	211	0.2589
3:00pm	27	78	6	16	47	0	174	0.2135
Hourly Tot	92	363	23	62	259	16	815	1
Hourly Tot	0.2022	0.7978	0.2706	0.7294	0.9418	0.0582		
PHF	0.85	0.87	0.72	0.74	0.84	0.33		

Tues-Thurs, Peak AM

	Latrobe north (Southb		Royal Oaks (Westbour		Latrobe south (Northbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
7:30am	5	27	0	36	99	7	174	0.2403
7:45am	5	35	0	35	127	18	220	0.3039
8:00am	2	61	0	20	98	7	188	0.2597
8:15am	2	65	0	12	63	0	142	0.1961
Hourly Tot	14	188	0	103	387	32	724	1
Hourly Tot	0.0693	0.9307	0	1	0.9236	0.0764		
PHF	0.7	0.72	0	0.72	0.76	0.44		

Tues-Thurs, Peak PM

	Latrobe north (Southb		Royal Oaks (Westbour		Latrobe south (Northbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
2:15pm	22	82	4	24	68	12	212	0.234
2:30pm	22	122	7	15	91	4	261	0.2881
2:45pm	23	118	10	14	79	0	244	0.2693
3:00pm	27	85	5	16	56	0	189	0.2086
Hourly Tot	94	407	26	69	294	16	906	1
Hourly Tot	0.1876	0.8124	0.2737	0.7263	0.9484	0.0516		
PHF	0.87	0.83	0.65	0.72	0.81	0.33		

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

#12

File Name : 17-07982-001
Date : 11/16/2017

Unshifted Count = All Vehicles & Uturns

	Latrobe Rd Southbound					Royal Oaks Dr Westbound					Latrobe Rd Northbound					Royal Oaks Dr Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	0	17	0	0	17	0	0	4	0	4	0	24	0	0	24	0	0	0	0	0	45	0
6:15	1	20	0	0	21	0	0	9	0	9	0	46	0	0	46	0	0	0	0	0	76	0
6:30	3	27	0	0	30	0	0	12	0	12	0	48	0	0	48	0	0	0	0	0	90	0
6:45	8	23	0	0	31	2	0	8	0	10	0	49	2	0	51	0	0	0	0	0	92	0
Total	12	87	0	0	99	2	0	33	0	35	0	167	2	0	169	0	0	0	0	0	303	0
7:00	3	26	0	0	29	0	0	15	0	15	0	58	0	0	58	0	0	0	0	0	102	0
7:15	6	36	0	0	42	1	0	12	0	13	0	57	1	0	58	0	0	0	0	0	113	0
7:30	7	21	0	0	28	0	0	21	0	21	0	62	2	0	64	0	0	0	0	0	113	0
7:45	15	23	0	0	38	0	0	19	0	19	0	69	3	0	72	0	0	0	0	0	129	0
Total	31	106	0	0	137	1	0	67	0	68	0	246	6	0	252	0	0	0	0	0	457	0
8:00	13	27	0	0	40	2	0	14	0	16	0	69	0	0	69	0	0	0	0	0	125	0
8:15	4	29	0	0	33	1	0	9	0	10	0	58	0	0	58	0	0	0	0	0	101	0
8:30	5	25	0	0	30	0	0	11	0	11	0	42	0	0	42	0	0	0	0	0	83	0
8:45	6	35	0	0	41	0	0	11	0	11	0	45	1	0	46	0	0	0	0	0	98	0
Total	28	116	0	0	144	3	0	45	0	48	0	214	1	0	215	0	0	0	0	0	407	0
16:00	8	63	0	0	71	0	0	6	0	6	0	26	1	0	27	0	0	0	0	0	104	0
16:15	9	64	0	0	73	0	0	5	0	5	0	29	0	0	29	0	0	0	0	0	107	0
16:30	9	67	0	0	76	1	0	4	0	5	0	51	0	0	51	0	0	0	0	0	132	0
16:45	10	76	0	0	86	0	0	5	0	5	0	38	2	0	40	0	0	0	0	0	131	0
Total	36	270	0	0	306	1	0	20	0	21	0	144	3	0	147	0	0	0	0	0	474	0
17:00	11	68	0	0	79	0	0	7	0	7	0	31	0	0	31	0	0	0	0	0	117	0
17:15	15	56	0	0	71	0	0	5	0	5	0	34	0	0	34	0	0	0	0	0	110	0
17:30	8	68	0	0	76	0	0	6	0	6	0	43	1	0	44	0	0	0	0	0	126	0
17:45	23	52	0	0	75	2	0	3	0	5	0	50	1	0	51	0	0	0	0	0	131	0
Total	57	244	0	0	301	2	0	21	0	23	0	158	2	0	160	0	0	0	0	0	484	0
18:00	15	53	0	0	68	1	0	7	0	8	0	31	0	0	31	0	0	0	0	0	107	0
18:15	9	56	0	0	65	0	0	5	0	5	0	25	1	0	26	0	0	0	0	0	96	0
18:30	6	51	0	0	57	0	0	5	0	5	0	19	0	0	19	0	0	0	0	0	81	0
18:45	11	41	0	0	52	1	0	7	0	8	0	19	0	0	19	0	0	0	0	0	79	0
Total	41	201	0	0	242	2	0	24	0	26	0	94	1	0	95	0	0	0	0	0	363	0
Grand Total	205	1024	0	0	1229	11	0	210	0	221	0	1023	15	0	1038	0	0	0	0	0	2488	0
Apprch %	16.7%	83.3%	0.0%	0.0%		5.0%	0.0%	95.0%	0.0%		0.0%	98.6%	1.4%	0.0%		0.0%	0.0%	0.0%	0.0%			
Total %	8.2%	41.2%	0.0%	0.0%	49.4%	0.4%	0.0%	8.4%	0.0%	8.9%	0.0%	41.1%	0.6%	0.0%	41.7%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

AM PEAK HOUR	Latrobe Rd Southbound					Royal Oaks Dr Westbound					Latrobe Rd Northbound					Royal Oaks Dr Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:15 to 08:15																					
Peak Hour For Entire Intersection Begins at 07:15																					
7:15	6	36	0	0	42	1	0	12	0	13	0	57	1	0	58	0	0	0	0	0	113
7:30	7	21	0	0	28	0	0	21	0	21	0	62	2	0	64	0	0	0	0	0	113
7:45	15	23	0	0	38	0	0	19	0	19	0	69	3	0	72	0	0	0	0	0	129
8:00	13	27	0	0	40	2	0	14	0	16	0	69	0	0	69	0	0	0	0	0	125
Total Volume	41	107	0	0	148	3	0	66	0	69	0	257	6	0	263	0	0	0	0	0	480
% App Total	27.7%	72.3%	0.0%	0.0%		4.3%	0.0%	95.7%	0.0%		0.0%	97.7%	2.3%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.683	.743	.000	.000	.881	.375	.000	.786	.000	.821	.000	.931	.500	.000	.913	.000	.000	.000	.000	.000	.930

PM PEAK HOUR	Latrobe Rd Southbound					Royal Oaks Dr Westbound					Latrobe Rd Northbound					Royal Oaks Dr Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	9	67	0	0	76	1	0	4	0	5	0	51	0	0	51	0	0	0	0	0	132
16:45	10	76	0	0	86	0	0	5	0	5	0	38	2	0	40	0	0	0	0	0	131
17:00	11	68	0	0	79	0	0	7	0	7	0	31	0	0	31	0	0	0	0	0	117
17:15	15	56	0	0	71	0	0	5	0	5	0	34	0	0	34	0	0	0	0	0	110
Total Volume	45	267	0	0	312	1	0	21	0	22	0	154	2	0	156	0	0	0	0	0	490
% App Total	14.4%	85.6%	0.0%	0.0%		4.5%	0.0%	95.5%	0.0%		0.0%	98.7%	1.3%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.750	.878	.000	.000	.907	.250	.000	.750	.000	.786	.000	.755	.250	.000	.765	.000	.000	.000	.000	.000	.928

Analysis ID: 1473014
Analysis: #13 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-13
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	GF west (Eastbound)		GF east (Westbound)		RJM (Northbound)			
	Thru	Right	Left	Thru	Left	Right	Total	Total %
7:45am	26	10	238	27	2	33	336	0.294
8:00am	30	20	203	30	4	63	350	0.3062
8:15am	23	9	143	21	5	62	263	0.2301
8:30am	27	2	92	17	6	50	194	0.1697
Hourly Tot	106	41	676	95	17	208	1143	1
Hourly Tot	0.7211	0.2789	0.8768	0.1232	0.0756	0.9244		
PHF	0.88	0.51	0.71	0.79	0.71	0.83		

All Days, Peak PM

	GF west (Eastbound)		GF east (Westbound)		RJM (Northbound)			
	Thru	Right	Left	Thru	Left	Right	Total	Total %
2:30pm	32	6	146	26	4	42	256	0.1902
2:45pm	34	7	209	40	17	99	406	0.3016
3:00pm	41	11	132	37	32	128	381	0.2831
3:15pm	41	13	85	36	22	106	303	0.2251
Hourly Tot	148	37	572	139	75	375	1346	1
Hourly Tot	0.8	0.2	0.8045	0.1955	0.1667	0.8333		
PHF	0.9	0.71	0.68	0.87	0.59	0.73		

Tues-Thurs, Peak AM

	GF west (Eastbound)		GF east (Westbound)		RJM (Northbound)			
	Thru	Right	Left	Thru	Left	Right	Total	Total %
7:45am	32	15	320	39	4	45	455	0.306
8:00am	32	31	257	42	6	82	450	0.3026
8:15am	28	11	177	29	8	77	330	0.2219
8:30am	34	0	129	22	7	60	252	0.1695
Hourly Tot	126	57	883	132	25	264	1487	1
Hourly Tot	0.6885	0.3115	0.87	0.13	0.0865	0.9135		
PHF	0.93	0.46	0.69	0.79	0.78	0.8		

Tues-Thurs, Peak PM

	GF west (Eastbound)		GF east (Westbound)		RJM (Northbound)			
	Thru	Right	Left	Thru	Left	Right	Total	Total %
2:30pm	32	8	188	37	5	51	321	0.1929
2:45pm	40	10	216	54	23	126	469	0.2819
3:00pm	48	15	164	50	46	157	480	0.2885
3:15pm	48	15	124	44	27	136	394	0.2368
Hourly Tot	168	48	692	185	101	470	1664	1
Hourly Tot	0.7778	0.2222	0.7891	0.2109	0.1769	0.8231		
PHF	0.88	0.8	0.8	0.86	0.55	0.75		

ALL TRAFFIC DATA

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#13

File Name : 17-07982-007
Date : 11/16/2017

Unshifted Count = All Vehicles & Uturns

	Robert J Matthews Pkwy Southbound					Golden Foothill Pkwy Westbound					Robert J Matthews Pkwy Northbound					Golden Foothill Pkwy Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	0	0	0	0	0	38	13	0	0	51	8	0	20	0	28	0	2	2	0	4	83	0
6:15	0	0	0	0	0	38	8	0	0	46	1	0	6	0	7	0	0	5	0	5	58	0
6:30	0	0	0	0	0	41	13	0	0	54	2	0	9	0	11	0	4	4	0	8	73	0
6:45	0	0	0	0	0	62	32	0	0	94	1	0	4	0	5	0	3	9	0	12	111	0
Total	0	0	0	0	0	179	66	0	0	245	12	0	39	0	51	0	9	20	0	29	325	0
7:00	0	0	0	0	0	59	20	0	0	79	2	0	14	0	16	0	6	3	0	9	104	0
7:15	0	0	0	0	0	78	18	0	0	96	1	0	5	0	6	0	6	15	0	21	123	0
7:30	0	0	0	0	0	87	21	0	0	108	3	0	9	0	12	0	8	8	0	16	136	0
7:45	0	0	0	0	0	92	33	0	0	125	4	0	8	0	12	0	11	17	0	28	165	0
Total	0	0	0	0	0	316	92	0	0	408	10	0	36	0	46	0	31	43	0	74	528	0
8:00	0	0	0	0	0	91	31	0	0	122	2	0	21	0	23	0	7	6	0	13	158	0
8:15	0	0	0	0	0	102	18	0	0	120	4	0	31	0	35	0	6	14	0	20	175	0
8:30	0	0	0	0	0	69	25	0	0	94	3	0	20	0	23	0	6	8	0	14	131	0
8:45	0	0	0	0	0	68	23	0	0	91	2	0	16	0	18	0	15	14	0	29	138	0
Total	0	0	0	0	0	330	97	0	0	427	11	0	88	0	99	0	34	42	0	76	602	0
16:00	0	0	0	0	0	26	15	0	0	41	18	0	108	0	126	0	12	7	0	19	186	0
16:15	0	0	0	0	0	50	14	0	0	64	13	0	75	0	88	0	10	5	0	15	167	0
16:30	0	0	0	0	0	27	11	0	0	38	19	0	108	0	127	0	38	7	0	45	210	0
16:45	0	0	0	0	0	35	17	0	0	52	17	0	69	0	86	0	15	5	0	20	158	0
Total	0	0	0	0	0	138	57	0	0	195	67	0	360	0	427	0	75	24	0	99	721	0
17:00	0	0	0	0	0	19	16	0	1	36	17	0	111	0	128	0	27	10	0	37	201	1
17:15	0	0	0	0	0	21	17	0	0	38	14	0	56	0	70	0	16	3	0	19	127	0
17:30	0	0	0	0	0	31	13	0	0	44	11	0	71	0	82	0	22	12	0	34	160	0
17:45	0	0	0	0	0	41	10	0	0	51	9	0	49	0	58	0	25	7	0	32	141	0
Total	0	0	0	0	0	112	56	0	1	169	51	0	287	0	338	0	90	32	0	122	629	1
18:00	0	0	0	0	0	25	10	0	0	35	17	0	78	0	95	0	12	4	0	16	146	0
18:15	0	0	0	0	0	18	10	0	0	28	6	0	27	0	33	0	10	3	0	13	74	0
18:30	0	0	0	0	0	14	5	0	0	19	2	0	40	0	42	0	14	1	0	15	76	0
18:45	0	0	0	0	0	20	8	0	0	28	2	0	31	0	33	0	8	6	0	14	75	0
Total	0	0	0	0	0	77	33	0	0	110	27	0	176	0	203	0	44	14	0	58	371	0
Grand Total	0	0	0	0	0	1152	401	0	1	1554	178	0	986	0	1164	0	283	175	0	458	3176	1
Apprch %	0.0%	0.0%	0.0%	0.0%		74.1%	25.8%	0.0%	0.1%		15.3%	0.0%	84.7%	0.0%		0.0%	61.8%	38.2%	0.0%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	36.3%	12.6%	0.0%	0.0%	48.9%	5.6%	0.0%	31.0%	0.0%	36.6%	0.0%	8.9%	5.5%	0.0%	14.4%	100.0%	

AM PEAK HOUR	Robert J Matthews Pkwy Southbound					Golden Foothill Pkwy Westbound					Robert J Matthews Pkwy Northbound					Golden Foothill Pkwy Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	0	0	0	0	0	87	21	0	0	108	3	0	9	0	12	0	8	8	0	16	136
7:45	0	0	0	0	0	92	33	0	0	125	4	0	8	0	12	0	11	17	0	28	165
8:00	0	0	0	0	0	91	31	0	0	122	2	0	21	0	23	0	7	6	0	13	158
8:15	0	0	0	0	0	102	18	0	0	120	4	0	31	0	35	0	6	14	0	20	175
Total Volume	0	0	0	0	0	372	103	0	0	475	13	0	69	0	82	0	32	45	0	77	634
% App Total	0.0%	0.0%	0.0%	0.0%		78.3%	21.7%	0.0%	0.0%		15.9%	0.0%	84.1%	0.0%		0.0%	41.6%	58.4%	0.0%		
PHF	.000	.000	.000	.000	.000	.912	.780	.000	.000	.950	.813	.000	.556	.000	.586	.000	.727	.662	.000	.688	.906

PM PEAK HOUR	Robert J Matthews Pkwy Southbound					Golden Foothill Pkwy Westbound					Robert J Matthews Pkwy Northbound					Golden Foothill Pkwy Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	0	0	0	0	0	50	14	0	0	64	13	0	75	0	88	0	10	5	0	15	167
16:30	0	0	0	0	0	27	11	0	0	38	19	0	108	0	127	0	38	7	0	45	210
16:45	0	0	0	0	0	35	17	0	0	52	17	0	69	0	86	0	15	5	0	20	158
17:00	0	0	0	0	0	19	16	0	1	36	17	0	111	0	128	0	27	10	0	37	201
Total Volume	0	0	0	0	0	131	58	0	1	190	66	0	363	0	429	0	90	27	0	117	736
% App Total	0.0%	0.0%	0.0%	0.0%		68.9%	30.5%	0.0%	0.5%		15.4%	0.0%	84.6%	0.0%		0.0%	76.9%	23.1%	0.0%		
PHF	.000	.000	.000	.000	.000	.655	.853	.000	.250	.742	.868	.000	.818	.000	.838	.000	.592	.675	.000	.650	.876

Analysis ID: 1473016
Analysis: Creekside #14 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-14
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	RJM north (Southbound)			Investment east (Westbound)			RJM south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:30am	15	43	1	11	1	1	0	2	10
7:45am	8	107	1	51	5	11	1	6	21
8:00am	4	108	0	67	2	15	0	14	18
8:15am	4	61	1	33	0	8	0	18	5
Hourly Tot	31	319	3	162	8	35	1	40	54
Hourly Tot	0.0878	0.9037	0.0085	0.7902	0.039	0.1707	0.0105	0.4211	0.5684
PHF	0.52	0.74	0.75	0.6	0.4	0.58	0.25	0.56	0.64

All Days, Peak PM

	RJM north (Southbound)			Investment east (Westbound)			RJM south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2:30pm	6	46	2	32	0	2	0	0	2
2:45pm	7	86	3	43	0	7	3	25	9
3:00pm	5	73	5	36	0	12	4	65	17
3:15pm	8	40	2	24	0	9	3	40	12
Hourly Tot	26	245	12	135	0	30	10	130	40
Hourly Tot	0.0919	0.8657	0.0424	0.8182	0	0.1818	0.0556	0.7222	0.2222
PHF	0.81	0.71	0.6	0.78	0	0.62	0.62	0.5	0.59

Tues-Thurs, Peak AM

	RJM north (Southbound)			Investment east (Westbound)			RJM south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:30am	16	64	0	20	2	3	0	0	12
7:45am	6	143	0	71	7	13	0	3	28
8:00am	2	154	0	90	2	22	0	14	19
8:15am	6	82	0	44	0	8	0	22	4
Hourly Tot	30	443	0	225	11	46	0	39	63
Hourly Tot	0.0634	0.9366	0	0.7979	0.039	0.1631	0	0.3824	0.6176
PHF	0.47	0.72	0	0.62	0.39	0.52	0	0.44	0.56

Tues-Thurs, Peak PM

	RJM north (Southbound)			Investment east (Westbound)			RJM south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2:30pm	8	57	4	53	0	3	0	0	3
2:45pm	4	116	6	67	0	11	2	39	14
3:00pm	3	93	8	55	0	18	5	99	25
3:15pm	10	53	4	36	0	13	2	57	17
Hourly Tot	25	319	22	211	0	45	9	195	59
Hourly Tot	0.0683	0.8716	0.0601	0.8242	0	0.1758	0.0342	0.7414	0.2243
PHF	0.62	0.69	0.69	0.79	0	0.62	0.45	0.49	0.59

Investment west (Eastbound)

Left	Thru	Right	Total	Total %
0	1	0	85	0.129
0	3	0	214	0.3247
0	2	0	230	0.349
0	0	0	130	0.1973
0	6	0	659	1
0	1	0		
0	0.5	0		

Investment west (Eastbound)

Left	Thru	Right	Total	Total %
0	4	3	97	0.1499
0	3	6	192	0.2968
0	1	2	220	0.34
0	0	0	138	0.2133
0	8	11	647	1
0	0.4211	0.5789		
0	0.5	0.46		

Investment west (Eastbound)

Left	Thru	Right	Total	Total %
0	2	0	119	0.1374
0	5	0	276	0.3187
0	2	0	305	0.3522
0	0	0	166	0.1917
0	9	0	866	1
0	1	0		
0	0.45	0		

Investment west (Eastbound)

Left	Thru	Right	Total	Total %
0	2	5	135	0.1479
0	5	10	274	0.3001
0	2	4	312	0.3417
0	0	0	192	0.2103
0	9	19	913	1
0	0.3214	0.6786		
0	0.45	0.47		

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

File Name : 17-07982-006
Date : 11/16/2017

#14

Unshifted Count = All Vehicles & Uturns

	Robert J Matthews Pkwy Southbound					Investment Blvd Westbound					Robert J Matthews Pkwy Northbound					Investment Blvd Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	1	2	0	0	3	7	3	1	0	11	0	10	7	0	17	8	7	0	0	15	46	0
6:15	1	3	1	0	5	8	3	1	0	12	0	1	3	0	4	0	3	0	0	3	24	0
6:30	2	3	3	1	9	8	3	5	0	16	0	1	0	0	1	1	0	0	0	1	27	1
6:45	2	1	3	0	6	11	6	4	0	21	0	1	0	0	1	0	0	0	0	0	28	0
Total	6	9	7	1	23	34	15	11	0	60	0	13	10	0	23	9	10	0	0	19	125	1
7:00	0	0	0	0	0	9	3	2	0	14	0	0	1	0	1	0	0	0	0	0	15	0
7:15	1	3	1	1	6	4	7	4	0	15	0	0	0	0	0	0	2	0	0	2	23	1
7:30	2	2	4	0	8	19	4	3	0	26	0	1	0	0	1	1	2	0	0	3	38	0
7:45	4	3	2	0	9	14	9	4	0	27	0	0	2	0	2	1	1	0	0	2	40	0
Total	7	8	7	1	23	46	23	13	0	82	0	1	3	0	4	2	5	0	0	7	116	1
8:00	3	2	5	0	10	20	6	6	0	32	0	1	3	0	4	1	1	0	0	2	48	0
8:15	2	6	1	0	9	12	5	3	0	20	1	1	0	0	2	0	0	0	0	0	31	0
8:30	4	2	5	2	13	15	6	3	0	24	1	0	1	0	2	0	1	0	0	1	40	2
8:45	0	4	1	0	5	11	4	6	0	21	0	0	1	0	1	0	2	0	0	2	29	0
Total	9	14	12	2	37	58	21	18	0	97	2	2	5	0	9	1	4	0	0	5	148	2
16:00	4	0	0	0	4	0	1	3	0	4	0	7	28	0	35	2	8	0	0	10	53	0
16:15	6	1	2	1	10	0	0	1	0	1	0	7	16	0	23	0	5	0	0	5	39	1
16:30	13	1	1	0	15	3	0	4	0	7	0	5	19	0	24	4	8	0	0	12	58	0
16:45	3	2	1	0	6	2	0	4	0	6	0	6	11	0	17	2	5	0	0	7	36	0
Total	26	4	4	1	35	5	1	12	0	18	0	25	74	0	99	8	26	0	0	34	186	1
17:00	14	3	3	0	20	1	1	2	0	4	0	2	14	0	16	3	8	0	0	11	51	0
17:15	1	1	2	0	4	4	4	0	0	8	0	3	13	0	16	3	5	0	0	8	36	0
17:30	0	6	6	0	12	12	5	0	0	17	0	6	16	0	22	1	4	0	0	5	56	0
17:45	1	12	3	0	16	19	7	0	0	26	0	6	15	0	21	2	3	0	0	5	68	0
Total	16	22	14	0	52	36	17	2	0	55	0	17	58	0	75	9	20	0	0	29	211	0
18:00	3	4	1	0	8	2	0	0	0	2	0	15	28	0	43	10	11	0	0	21	74	0
18:15	2	0	0	0	2	2	0	0	0	2	0	3	4	0	7	0	0	0	0	0	11	0
18:30	0	1	0	0	1	1	0	0	0	1	0	3	2	0	5	0	5	0	0	5	12	0
18:45	2	0	0	0	2	2	2	2	0	6	0	1	1	0	2	1	0	0	0	1	11	0
Total	7	5	1	0	13	7	2	2	0	11	0	22	35	0	57	11	16	0	0	27	108	0
Grand Total	71	62	45	5	183	186	79	58	0	323	2	80	185	0	267	40	81	0	0	121	894	5
Apprch %	38.8%	33.9%	24.6%	2.7%		57.6%	24.5%	18.0%	0.0%		0.7%	30.0%	69.3%	0.0%		33.1%	66.9%	0.0%	0.0%			
Total %	7.9%	6.9%	5.0%	0.6%	20.5%	20.8%	8.8%	6.5%	0.0%	36.1%	0.2%	8.9%	20.7%	0.0%	29.9%	4.5%	9.1%	0.0%	0.0%	13.5%	100.0%	

AM PEAK HOUR	Robert J Matthews Pkwy Southbound					Investment Blvd Westbound					Robert J Matthews Pkwy Northbound					Investment Blvd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	4	3	2	0	9	14	9	4	0	27	0	0	2	0	2	1	1	0	0	2	40
8:00	3	2	5	0	10	20	6	6	0	32	0	1	3	0	4	1	1	0	0	2	48
8:15	2	6	1	0	9	12	5	3	0	20	1	1	0	0	2	0	0	0	0	0	31
8:30	4	2	5	2	13	15	6	3	0	24	1	0	1	0	2	0	1	0	0	1	40
Total Volume	13	13	13	2	41	61	26	16	0	103	2	2	6	0	10	2	3	0	0	5	159
% App Total	31.7%	31.7%	31.7%	4.9%		59.2%	25.2%	15.5%	0.0%		20.0%	20.0%	60.0%	0.0%		40.0%	60.0%	0.0%	0.0%		
PHF	.813	.542	.650	.250	.788	.763	.722	.667	.000	.805	.500	.500	.500	.000	.625	.500	.750	.000	.000	.625	.828

PM PEAK HOUR	Robert J Matthews Pkwy Southbound					Investment Blvd Westbound					Robert J Matthews Pkwy Northbound					Investment Blvd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 17:15 to 18:15																					
Peak Hour For Entire Intersection Begins at 17:15																					
17:15	1	1	2	0	4	4	4	0	0	8	0	3	13	0	16	3	5	0	0	8	36
17:30	0	6	6	0	12	12	5	0	0	17	0	6	16	0	22	1	4	0	0	5	56
17:45	1	12	3	0	16	19	7	0	0	26	0	6	15	0	21	2	3	0	0	5	68
18:00	3	4	1	0	8	2	0	0	0	2	0	15	28	0	43	10	11	0	0	21	74
Total Volume	5	23	12	0	40	37	16	0	0	53	0	30	72	0	102	16	23	0	0	39	234
% App Total	12.5%	57.5%	30.0%	0.0%		69.8%	30.2%	0.0%	0.0%		0.0%	29.4%	70.6%	0.0%		41.0%	59.0%	0.0%	0.0%		
PHF	.417	.479	.500	.000	.625	.487	.571	.000	.000	.510	.000	.500	.643	.000	.593	.400	.523	.000	.000	.464	.791

Analysis ID: 1473017
Analysis: Creekside #15 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-14
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	driveway (Southbound)			GF east (Westbound)			Carson Crossing (Northbound)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11:00am	0	0	0	20	17	0	2	0	17	
11:15am	0	0	0	25	12	0	0	0	21	
11:30am	0	0	0	22	8	0	1	0	26	
11:45am	0	0	0	19	13	0	1	0	27	
Hourly Tot	0	0	0	86	50	0	4	0	91	
Hourly Tot	0	0	0	0.6324	0.3676	0	0.0421	0	0.9579	
PHF	0	0	0	0.86	0.74	0	0.5	0	0.84	

All Days, Peak PM

	driveway (Southbound)			GF east (Westbound)			Carson Crossing (Northbound)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3:00pm	0	0	0	20	47	0	2	0	17	
3:15pm	0	0	0	20	36	0	2	0	21	
3:30pm	0	0	0	24	24	0	2	0	19	
3:45pm	0	0	0	31	25	0	2	0	26	
Hourly Tot	0	0	0	95	132	0	8	0	83	
Hourly Tot	0	0	0	0.4185	0.5815	0	0.0879	0	0.9121	
PHF	0	0	0	0.77	0.7	0	1	0	0.8	

Tues-Thurs, Peak AM

	driveway (Southbound)			GF east (Westbound)			Carson Crossing (Northbound)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:45am	0	0	0	15	19	0	3	0	30	
8:00am	0	0	0	12	31	0	9	0	40	
8:15am	0	0	0	11	26	0	10	0	18	
8:30am	0	0	0	11	15	0	9	0	20	
Hourly Tot	0	0	0	49	91	0	31	0	108	
Hourly Tot	0	0	0	0.35	0.65	0	0.223	0	0.777	
PHF	0	0	0	0.82	0.73	0	0.78	0	0.68	

Tues-Thurs, Peak PM

	driveway (Southbound)			GF east (Westbound)			Carson Crossing (Northbound)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3:00pm	0	0	0	22	69	0	0	0	17	
3:15pm	0	0	0	21	51	0	2	0	16	
3:30pm	0	0	0	29	36	0	3	0	15	
3:45pm	0	0	0	37	34	0	1	0	32	
Hourly Tot	0	0	0	109	190	0	6	0	80	
Hourly Tot	0	0	0	0.3645	0.6355	0	0.0698	0	0.9302	
PHF	0	0	0	0.74	0.69	0	0.5	0	0.62	

GF west (Eastbound)

Left	Thru	Right	Total	Total %
0	16	0	72	0.2416
0	17	3	78	0.2617
0	10	5	72	0.2416
0	10	6	76	0.255
0	53	14	298	1
0	0.791	0.209		
0	0.78	0.58		

GF west (Eastbound)

Left	Thru	Right	Total	Total %
0	26	5	117	0.274
0	29	4	112	0.2623
0	22	0	91	0.2131
0	22	1	107	0.2506
0	99	10	427	1
0	0.9083	0.0917		
0	0.85	0.5		

GF west (Eastbound)

Left	Thru	Right	Total	Total %
0	14	0	81	0.2269
0	21	3	116	0.3249
0	18	6	89	0.2493
0	12	4	71	0.1989
0	65	13	357	1
0	0.8333	0.1667		
0	0.77	0.54		

GF west (Eastbound)

Left	Thru	Right	Total	Total %
0	39	7	154	0.2836
0	45	6	141	0.2597
0	31	1	115	0.2118
0	28	1	133	0.2449
0	143	15	543	1
0	0.9051	0.0949		
0	0.79	0.54		

Carson Crossing Rd & Golden Foothill Pkwy

#15

Peak Hour Turning Movement Count

ID: 18-07183-016
City: El Dorado Hills

Day: Wednesday
Date: 05/16/2018

PEAK HOURS

AM	07:30 AM - 08:30 AM
NOON	NONE
PM	04:00 PM - 05:00 PM

COUNT PERIODS

AM	06:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 07:00 PM

Carson Crossing Rd — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

Golden Foothill Pkwy — EASTBOUND

AM	NOON	PM		
81	0	78		
1	0	0	0	
0	0	0	0	
62	0	65	2	
3	0	16	0	
AM	NOON	PM		

Golden Foothill Pkwy — WESTBOUND

PM	NOON	AM	
0	0	0	0
75	0	72	1
102	0	44	1
2	0	1	0
118	0	135	
PM	NOON	AM	

CONTROL: 1-Way Stop(NB)

TEV	263 AM	0 NOON	314 PM
PHF	0.95		0.84

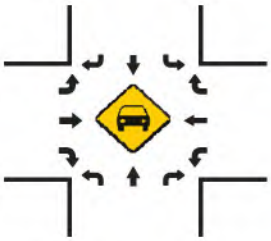
0 1 0 0

0 0 1 1

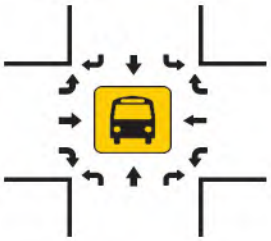
Carson Crossing Rd — NORTHBOUND

PM	118	0	3	0	51	PM
NOON	0	0	0	0	0	NOON
AM	47	0	8	0	72	AM

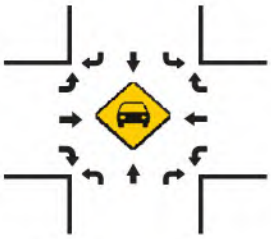
Total Vehicles (AM)



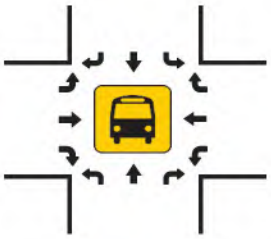
Total Vehicles (AM)



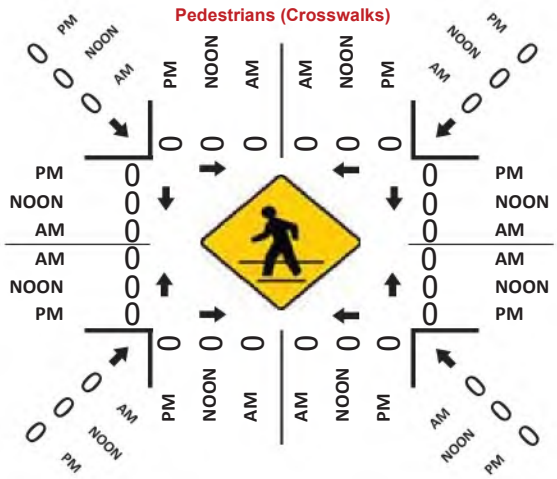
Total Vehicles (NOON)



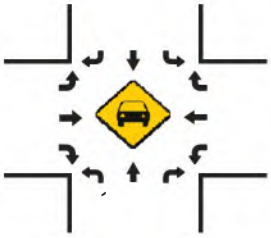
Total Vehicles (NOON)



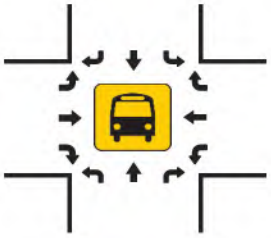
Pedestrians (Crosswalks)



Total Vehicles (PM)



Total Vehicles (PM)



Analysis ID: 1477557
Analysis: revised Creekside #16 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-24
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R126-M128

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	CC east (Westbound)		Palmdale (Northboun		CC west (Eastbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
11:00am	13	5	10	8	7	7	50	0.1969
11:15am	15	9	13	11	8	10	66	0.2598
11:30am	15	11	13	14	12	6	71	0.2795
11:45am	14	10	7	15	13	8	67	0.2638
Hourly Tot	57	35	43	48	40	31	254	1
Hourly Tot	0.6196	0.3804	0.4725	0.5275	0.5634	0.4366		
PHF	0.95	0.8	0.83	0.8	0.77	0.78		

All Days, Peak PM

	CC east (Westbound)		Palmdale (Northboun		CC west (Eastbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
4:00pm	9	33	1	11	17	10	81	0.2555
4:15pm	13	34	4	9	17	5	82	0.2587
4:30pm	11	30	6	8	15	4	74	0.2334
4:45pm	14	25	5	11	16	9	80	0.2524
Hourly Tot	47	122	16	39	65	28	317	1
Hourly Tot	0.2781	0.7219	0.2909	0.7091	0.6989	0.3011		
PHF	0.84	0.9	0.67	0.89	0.96	0.7		

Tues-Thurs, Peak AM

	CC east (Westbound)		Palmdale (Northboun		CC west (Eastbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
11:00am	13	7	9	6	9	7	51	0.1889
11:15am	17	11	16	8	11	11	74	0.2741
11:30am	17	11	15	12	12	6	73	0.2704
11:45am	18	13	5	17	12	7	72	0.2667
Hourly Tot	65	42	45	43	44	31	270	1
Hourly Tot	0.6075	0.3925	0.5114	0.4886	0.5867	0.4133		
PHF	0.9	0.81	0.7	0.63	0.92	0.7		

Tues-Thurs, Peak PM

	CC east (Westbound)		Palmdale (Northboun		CC west (Eastbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
4:00pm	9	44	1	16	24	11	105	0.2699
4:15pm	7	49	2	11	21	8	98	0.2519
4:30pm	9	46	5	8	20	5	93	0.2391
4:45pm	12	35	4	8	22	12	93	0.2391
Hourly Tot	37	174	12	43	87	36	389	1
Hourly Tot	0.1754	0.8246	0.2182	0.7818	0.7073	0.2927		
PHF	0.77	0.89	0.6	0.67	0.91	0.75		

Analysis ID: 1473487
Analysis: Creekside #17 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-17
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	CC north (Southbounc		Four Seasons (Westbc		CC south (Northbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
8:00am	0	28	0	1	14	0	43	0.2671
8:15am	0	23	0	2	15	0	40	0.2484
8:30am	0	19	0	1	17	0	37	0.2298
8:45am	1	17	0	2	21	0	41	0.2547
Hourly Tot	1	87	0	6	67	0	161	1
Hourly Tot	0.0114	0.9886	0	1	1	0		
PHF	0.25	0.78	0	0.75	0.8	0		

All Days, Peak PM

	CC north (Southbounc		Four Seasons (Westbc		CC south (Northbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
4:00pm	0	25	0	0	36	0	61	0.2618
4:15pm	0	24	0	0	39	0	63	0.2704
4:30pm	3	21	0	0	32	0	56	0.2403
4:45pm	4	27	0	1	21	0	53	0.2275
Hourly Tot	7	97	0	1	128	0	233	1
Hourly Tot	0.0673	0.9327	0	1	1	0		
PHF	0.44	0.9	0	0.25	0.82	0		

Tues-Thurs, Peak AM

	CC north (Southbounc		Four Seasons (Westbc		CC south (Northbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
7:45am	0	25	0	1	11	0	37	0.2151
8:00am	0	35	0	2	14	0	51	0.2965
8:15am	0	27	0	1	14	0	42	0.2442
8:30am	1	27	0	0	14	0	42	0.2442
Hourly Tot	1	114	0	4	53	0	172	1
Hourly Tot	0.0087	0.9913	0	1	1	0		
PHF	0.25	0.81	0	0.5	0.95	0		

Tues-Thurs, Peak PM

	CC north (Southbounc		Four Seasons (Westbc		CC south (Northbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
4:00pm	0	31	0	0	48	0	79	0.2508
4:15pm	1	28	0	0	51	0	80	0.254
4:30pm	5	29	0	1	48	0	83	0.2635
4:45pm	7	37	0	2	27	0	73	0.2317
Hourly Tot	13	125	0	3	174	0	315	1
Hourly Tot	0.0942	0.9058	0	1	1	0		
PHF	0.46	0.84	0	0.38	0.85	0		

Analysis ID: 1475500
Analysis: Creekside #18 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-19
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R126-M128

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	WR north (Southbound)			CC (Westbound)			WR south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:45am	11	53	0	12	0	3	0	29	7
8:00am	14	60	3	11	0	4	0	33	10
8:15am	7	50	7	11	0	7	0	34	14
8:30am	3	56	4	14	0	5	0	36	15
Hourly Tot	35	219	14	48	0	19	0	132	46
Hourly Tot	0.1306	0.8172	0.0522	0.7164	0	0.2836	0	0.7416	0.2584
PHF	0.62	0.91	0.5	0.86	0	0.68	0	0.92	0.77

All Days, Peak PM

	WR north (Southbound)			CC (Westbound)			WR south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:45pm	4	50	4	21	0	6	3	70	15
4:00pm	10	42	4	23	0	9	0	69	15
4:15pm	9	57	2	30	1	7	0	59	14
4:30pm	14	71	2	26	0	6	0	41	12
Hourly Tot	37	220	12	100	1	28	3	239	56
Hourly Tot	0.1375	0.8178	0.0446	0.7752	0.0078	0.2171	0.0101	0.802	0.1879
PHF	0.66	0.77	0.75	0.83	0.25	0.78	0.25	0.85	0.93

Tues-Thurs, Peak AM

	WR north (Southbound)			CC (Westbound)			WR south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:45am	13	69	0	12	0	2	0	29	8
8:00am	16	67	3	11	0	6	0	32	14
8:15am	6	63	8	10	0	7	0	42	18
8:30am	2	60	4	9	0	3	1	44	22
Hourly Tot	37	259	15	42	0	18	1	147	62
Hourly Tot	0.119	0.8328	0.0482	0.7	0	0.3	0.0048	0.7	0.2952
PHF	0.58	0.94	0.47	0.88	0	0.64	0.25	0.84	0.7

Tues-Thurs, Peak PM

	WR north (Southbound)			CC (Westbound)			WR south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:00pm	8	46	4	34	1	9	1	87	21
4:15pm	10	60	4	40	3	9	1	69	18
4:30pm	21	90	1	42	1	5	1	46	15
4:45pm	27	70	2	22	1	2	2	63	15
Hourly Tot	66	266	11	138	6	25	5	265	69
Hourly Tot	0.1924	0.7755	0.0321	0.8166	0.0355	0.1479	0.0147	0.7817	0.2035
PHF	0.61	0.74	0.69	0.82	0.5	0.69	0.62	0.76	0.82

Terra Alta (Eastbound)

Left	Thru	Right	Total	Total %
10	0	3	128	0.2218
18	0	2	155	0.2686
18	0	1	149	0.2582
12	0	0	145	0.2513
58	0	6	577	1
0.9062	0	0.0938		
0.81	0	0.5		

Terra Alta (Eastbound)

Left	Thru	Right	Total	Total %
5	1	0	179	0.2479
8	0	3	183	0.2535
2	0	4	185	0.2562
0	0	3	175	0.2424
15	1	10	722	1
0.5769	0.0385	0.3846		
0.47	0.25	0.62		

Terra Alta (Eastbound)

Left	Thru	Right	Total	Total %
12	0	1	146	0.2236
23	0	2	174	0.2665
18	0	2	174	0.2665
13	0	1	159	0.2435
66	0	6	653	1
0.9167	0	0.0833		
0.72	0	0.75		

Terra Alta (Eastbound)

Left	Thru	Right	Total	Total %
4	1	5	221	0.2511
2	0	5	221	0.2511
0	0	6	228	0.2591
1	0	5	210	0.2386
7	1	21	880	1
0.2414	0.0345	0.7241		
0.44	0.25	0.88		

Prepared by National Data & Surveying Services

White Rock Rd & Carson Crossing Rd

#18

Peak Hour Turning Movement Count

ID: 18-07183-018
City: El Dorado Hills

Day: Wednesday
Date: 05/16/2018

PEAK HOURS
AM: 07:45 AM - 08:45 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS
AM: 06:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 07:00 PM

SOUTHBOUND (White Rock Rd)

AM	1	439	16	0	246	AM
NOON	0	0	0	0	0	NOON
PM	0	397	22	0	423	PM

EASTBOUND (Carson Crossing Rd)

AM	NOON	PM	
5	0	7	
0	0	0	0
7	0	4	0
1	0	1	1
8	0	1	0

WESTBOUND (Carson Crossing Rd)

PM	NOON	AM	
11	0	12	1
2	0	0	0
108	0	65	1
0	0	0	0
108	0	88	

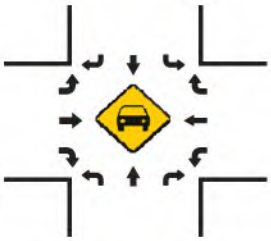
NORTHBOUND (White Rock Rd)

PM	506	0	5	408	85	PM
NOON	0	0	0	0	0	NOON
AM	512	0	4	227	71	AM

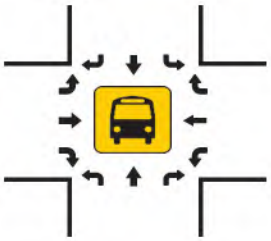
CONTROL: 2-Way Stop(EB/WB)

TEV	851	0	1044
	AM	NOON	PM
PHF	0.97		0.93

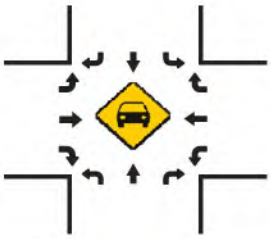
Total Vehicles (AM)



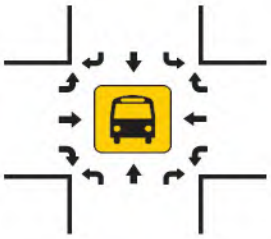
Total Vehicles (AM)



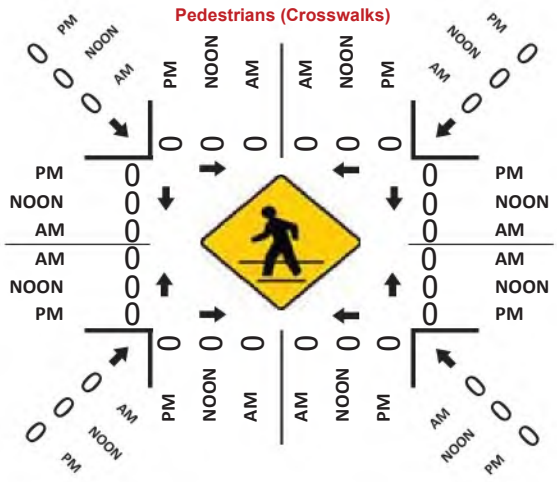
Total Vehicles (NOON)



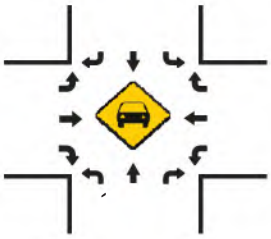
Total Vehicles (NOON)



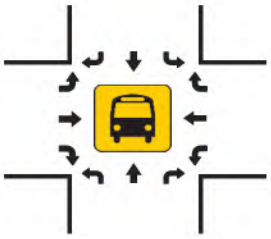
Pedestrians (Crosswalks)



Total Vehicles (PM)



Total Vehicles (PM)



Analysis ID: 1473494
Analysis: Creekside #19 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-17
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Town Center (Southbound)			WR east (Westbound)			Windfield (Northbound)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8:00am	0	0	0	66	54	0	17	0	20	
8:15am	0	0	0	60	59	0	15	0	32	
8:30am	0	0	0	53	77	0	4	0	27	
8:45am	0	0	0	52	79	0	2	0	18	
Hourly Tot	0	0	0	231	269	0	38	0	97	
Hourly Tot	0	0	0	0.462	0.538	0	0.2815	0	0.7185	
PHF	0	0	0	0.88	0.85	0	0.56	0	0.76	

All Days, Peak PM

	Town Center (Southbound)			WR east (Westbound)			Windfield (Northbound)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3:45pm	0	0	0	34	91	0	9	0	30	
4:00pm	0	0	0	32	76	0	12	0	51	
4:15pm	0	0	0	28	73	0	18	0	49	
4:30pm	0	0	0	19	86	0	24	0	42	
Hourly Tot	0	0	0	113	326	0	63	0	172	
Hourly Tot	0	0	0	0.2574	0.7426	0	0.2681	0	0.7319	
PHF	0	0	0	0.83	0.9	0	0.66	0	0.84	

Tues-Thurs, Peak AM

	Town Center (Southbound)			WR east (Westbound)			Windfield (Northbound)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8:00am	0	0	0	85	54	0	23	0	26	
8:15am	0	0	0	78	66	0	20	0	42	
8:30am	0	0	0	63	79	0	6	0	32	
8:45am	0	0	0	58	88	0	2	0	17	
Hourly Tot	0	0	0	284	287	0	51	0	117	
Hourly Tot	0	0	0	0.4974	0.5026	0	0.3036	0	0.6964	
PHF	0	0	0	0.84	0.82	0	0.55	0	0.7	

Tues-Thurs, Peak PM

	Town Center (Southbound)			WR east (Westbound)			Windfield (Northbound)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3:45pm	0	0	0	41	100	0	12	0	40	
4:00pm	0	0	0	38	75	0	13	0	66	
4:15pm	0	0	0	37	74	0	24	0	58	
4:30pm	0	0	0	28	99	0	36	0	53	
Hourly Tot	0	0	0	144	348	0	85	0	217	
Hourly Tot	0	0	0	0.2927	0.7073	0	0.2815	0	0.7185	
PHF	0	0	0	0.88	0.87	0	0.59	0	0.82	

WR west (Eastbound)

Left	Thru	Right	Total	Total %
0	69	34	260	0.2544
0	82	18	266	0.2603
0	93	10	264	0.2583
0	76	5	232	0.227
0	320	67	1022	1
0	0.8269	0.1731		
0	0.86	0.49		

WR west (Eastbound)

Left	Thru	Right	Total	Total %
0	93	11	268	0.2543
0	94	11	276	0.2619
0	81	14	263	0.2495
0	68	8	247	0.2343
0	336	44	1054	1
0	0.8842	0.1158		
0	0.89	0.79		

WR west (Eastbound)

Left	Thru	Right	Total	Total %
0	70	47	305	0.2554
0	93	28	327	0.2739
0	107	13	300	0.2513
0	89	8	262	0.2194
0	359	96	1194	1
0	0.789	0.211		
0	0.84	0.51		

WR west (Eastbound)

Left	Thru	Right	Total	Total %
0	99	13	305	0.2496
0	101	19	312	0.2553
0	87	23	303	0.248
0	76	10	302	0.2471
0	363	65	1222	1
0	0.8481	0.1519		
0	0.9	0.71		

National Data and Surveying Services

(323) 782-0090
info@ndsdata.com

City of El Dorado Hills
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

File Name : 17-7192-006 White Rock Rd & Windfield Way/Town Center Blvd
Date : 3/14/2017

Unshifted Count = All Vehicles & Uturns

	White Rock Rd Southbound					Windfield Way/Town Center Blvd Westbound					White Rock Rd Northbound					Windfield Way/Town Center Blvd Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	0	0	0	0	0	16	19	0	0	35	4	0	5	0	9	0	13	3	0	16	60	0
6:15	0	0	0	0	0	7	35	0	0	42	1	0	2	0	3	0	21	8	0	29	74	0
6:30	0	0	0	0	0	15	54	0	0	69	1	0	6	0	7	0	31	11	0	42	118	0
6:45	0	0	0	0	0	21	54	0	0	75	2	0	7	0	9	0	43	26	0	69	153	0
Total	0	0	0	0	0	59	162	0	0	221	8	0	20	0	28	0	108	48	0	156	405	0
7:00	0	0	0	0	0	35	78	0	0	113	6	0	10	0	16	0	57	16	0	73	202	0
7:15	0	0	0	0	0	42	80	0	1	123	11	0	11	0	22	0	62	20	0	82	227	1
7:30	0	0	0	0	0	32	105	0	4	141	11	0	10	0	21	0	76	24	0	100	262	4
7:45	0	0	0	0	0	73	96	0	3	172	10	0	9	0	19	0	87	33	0	120	311	3
Total	0	0	0	0	0	182	359	0	8	549	38	0	40	0	78	0	282	93	0	375	1002	8
8:00	0	0	0	0	0	76	91	0	0	167	20	0	22	0	42	0	68	28	0	96	305	0
8:15	0	0	0	0	0	77	73	0	2	152	12	0	25	0	37	0	68	27	0	95	284	2
8:30	0	0	0	0	0	74	90	0	3	167	11	0	23	0	34	0	80	27	0	107	308	3
8:45	0	0	0	0	0	55	69	0	1	125	9	0	11	0	20	0	84	30	0	114	259	1
Total	0	0	0	0	0	282	323	0	6	611	52	0	81	0	133	0	300	112	0	412	1156	6
16:00	0	0	0	0	0	27	84	0	5	116	49	0	45	0	94	0	95	8	0	103	313	5
16:15	0	0	0	0	0	24	96	0	4	124	38	0	41	0	79	0	128	18	0	146	349	4
16:30	0	0	0	0	0	22	78	0	3	103	80	0	54	0	134	0	127	14	0	141	378	3
16:45	0	0	0	0	0	27	73	0	7	107	40	0	45	0	85	0	136	22	0	158	350	7
Total	0	0	0	0	0	100	331	0	19	450	207	0	185	0	392	0	486	62	0	548	1390	19
17:00	0	0	0	0	0	21	89	0	1	111	70	0	86	0	156	0	123	17	0	140	407	1
17:15	0	0	0	0	0	29	109	0	3	141	48	0	54	0	102	0	134	18	0	152	395	3
17:30	0	0	0	0	0	24	81	0	3	108	38	0	38	0	76	0	134	21	0	155	339	3
17:45	0	0	0	0	0	38	77	0	0	115	31	0	44	0	75	0	117	21	0	138	328	0
Total	0	0	0	0	0	112	356	0	7	475	187	0	222	0	409	0	508	77	0	585	1469	7
18:00	0	0	0	0	0	10	69	0	2	81	43	0	56	0	99	0	86	11	0	97	277	2
18:15	0	0	0	0	0	12	84	0	3	99	16	0	27	0	43	0	60	3	0	63	205	3
18:30	0	0	0	0	0	9	55	0	0	64	15	0	17	0	32	0	76	8	0	84	180	0
18:45	0	0	0	0	0	14	37	0	0	51	19	0	16	0	35	0	47	5	0	52	138	0
Total	0	0	0	0	0	45	245	0	5	295	93	0	116	0	209	0	269	27	0	296	800	5
Grand Total	0	0	0	0	0	780	1776	0	45	2601	585	0	664	0	1249	0	1953	419	0	2372	6222	45
Apprch %	0.0%	0.0%	0.0%	0.0%		30.0%	68.3%	0.0%	1.7%		46.8%	0.0%	53.2%	0.0%		0.0%	82.3%	17.7%	0.0%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	12.5%	28.5%	0.0%	0.7%	41.8%	9.4%	0.0%	10.7%	0.0%	20.1%	0.0%	31.4%	6.7%	0.0%	38.1%	100.0%	

AM PEAK HOUR	White Rock Rd Southbound					Windfield Way/Town Center Blvd Westbound					White Rock Rd Northbound					Windfield Way/Town Center Blvd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	0	0	0	0	73	96	0	3	172	10	0	9	0	19	0	87	33	0	120	311
8:00	0	0	0	0	0	76	91	0	0	167	20	0	22	0	42	0	68	28	0	96	305
8:15	0	0	0	0	0	77	73	0	2	152	12	0	25	0	37	0	68	27	0	95	284
8:30	0	0	0	0	0	74	90	0	3	167	11	0	23	0	34	0	80	27	0	107	308
Total Volume	0	0	0	0	0	300	350	0	8	658	53	0	79	0	132	0	303	115	0	418	1208
% App Total	0.0%	0.0%	0.0%	0.0%		45.6%	53.2%	0.0%	1.2%		40.2%	0.0%	59.8%	0.0%		0.0%	72.5%	27.5%	0.0%		
PHF	.000	.000	.000	.000	.000	.974	.911	.000	.667	.956	.663	.000	.790	.000	.786	.000	.871	.871	.000	.871	.971

PM PEAK HOUR	White Rock Rd Southbound					Windfield Way/Town Center Blvd Westbound					White Rock Rd Northbound					Windfield Way/Town Center Blvd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	0	0	0	0	0	22	78	0	3	103	80	0	54	0	134	0	127	14	0	141	378
16:45	0	0	0	0	0	27	73	0	7	107	40	0	45	0	85	0	136	22	0	158	350
17:00	0	0	0	0	0	21	89	0	1	111	70	0	86	0	156	0	123	17	0	140	407
17:15	0	0	0	0	0	29	109	0	3	141	48	0	54	0	102	0	134	18	0	152	395
Total Volume	0	0	0	0	0	99	349	0	14	462	238	0	239	0	477	0	520	71	0	591	1530
% App Total	0.0%	0.0%	0.0%	0.0%		21.4%	75.5%	0.0%	3.0%		49.9%	0.0%	50.1%	0.0%		0.0%	88.0%	12.0%	0.0%		
PHF	.000	.000	.000	.000	.000	.853	.800	.000	.500	.819	.744	.000	.695	.000	.764	.000	.956	.807	.000	.935	.940

Analysis ID: 1473497
Analysis: Creekside #20 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-17
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Post (Southbound)			WR east (Westbound)			Drwy (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
11:00am	35	1	37	10	98	41	18	3	8
11:15am	27	2	29	13	168	44	11	3	3
11:30am	26	2	33	11	106	50	14	2	3
11:45am	29	1	40	8	118	45	12	0	3
Hourly Tot	117	6	139	42	490	180	55	8	17
Hourly Tot	0.4466	0.0229	0.5305	0.059	0.6882	0.2528	0.6875	0.1	0.2125
PHF	0.84	0.75	0.87	0.81	0.73	0.9	0.76	0.67	0.53

All Days, Peak PM

	Post (Southbound)			WR east (Westbound)			Drwy (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:15pm	21	2	35	4	96	30	10	1	1
3:30pm	33	0	35	7	94	31	11	3	5
3:45pm	36	0	43	4	99	43	9	3	8
4:00pm	38	0	38	5	92	47	7	3	7
Hourly Tot	128	2	151	20	381	151	37	10	21
Hourly Tot	0.4555	0.0071	0.5374	0.0362	0.6902	0.2736	0.5441	0.1471	0.3088
PHF	0.84	0.25	0.88	0.71	0.96	0.8	0.84	0.83	0.66

Tues-Thurs, Peak AM

	Post (Southbound)			WR east (Westbound)			Drwy (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
11:00am	26	1	40	11	87	31	22	2	9
11:15am	27	2	31	15	106	37	13	2	5
11:30am	28	1	31	16	102	45	12	2	4
11:45am	33	0	45	11	119	49	10	1	2
Hourly Tot	114	4	147	53	414	162	57	7	20
Hourly Tot	0.4302	0.0151	0.5547	0.0843	0.6582	0.2576	0.6786	0.0833	0.2381
PHF	0.86	0.5	0.82	0.83	0.87	0.83	0.65	0.88	0.56

Tues-Thurs, Peak PM

	Post (Southbound)			WR east (Westbound)			Drwy (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:30pm	36	0	44	19	143	39	11	0	7
4:45pm	46	1	53	28	121	45	13	0	5
5:00pm	36	2	52	24	93	49	9	0	6
5:15pm	28	1	28	15	99	37	6	1	8
Hourly Tot	146	4	177	86	456	170	39	1	26
Hourly Tot	0.4465	0.0122	0.5413	0.1208	0.6404	0.2388	0.5909	0.0152	0.3939
PHF	0.79	0.5	0.83	0.77	0.8	0.87	0.75	0.25	0.81

WR west (Eastbound)

Left	Thru	Right	Total	Total %
27	80	4	362	0.224
35	109	2	446	0.276
36	118	4	405	0.2506
38	105	4	403	0.2494
136	412	14	1616	1
0.242	0.7331	0.0249		
0.89	0.87	0.88		

WR west (Eastbound)

Left	Thru	Right	Total	Total %
27	176	0	403	0.2492
35	146	1	401	0.248
36	128	5	414	0.256
51	105	6	399	0.2468
149	555	12	1617	1
0.2081	0.7751	0.0168		
0.73	0.79	0.5		

WR west (Eastbound)

Left	Thru	Right	Total	Total %
28	89	2	348	0.2222
31	116	1	386	0.2465
41	121	4	407	0.2599
45	105	5	425	0.2714
145	431	12	1566	1
0.2466	0.733	0.0204		
0.81	0.89	0.6		

WR west (Eastbound)

Left	Thru	Right	Total	Total %
32	122	1	454	0.2397
42	148	2	504	0.2661
44	179	1	495	0.2614
38	180	0	441	0.2328
156	629	4	1894	1
0.1977	0.7972	0.0051		
0.89	0.87	0.5		

National Data and Surveying Services

City of El Dorado Hills
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7192-007 White Rock Rd & Post St
Date : 3/14/2017

#20

Unshifted Count = All Vehicles & Uturns

	White Rock Rd Southbound					Post St Westbound					White Rock Rd Northbound					Post St Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	2	1	7	0	10	2	22	29	0	53	6	1	0	0	7	6	14	0	0	20	90	0
6:15	10	0	11	0	21	1	47	23	0	71	2	1	1	0	4	5	7	0	0	12	108	0
6:30	14	0	16	0	30	5	58	41	0	104	1	2	2	0	5	7	17	1	0	25	164	0
6:45	7	1	30	0	38	4	82	34	0	120	4	1	1	0	6	7	27	1	0	35	199	0
Total	33	2	64	0	99	12	209	127	0	348	13	5	4	0	22	25	65	2	0	92	561	0
7:00	9	0	17	0	26	5	95	35	0	135	6	1	1	0	8	11	26	2	1	40	209	1
7:15	21	1	24	0	46	4	97	47	0	148	12	3	0	0	15	14	31	1	0	46	255	0
7:30	10	1	26	0	37	6	92	32	0	130	7	1	2	0	10	12	38	1	1	52	229	1
7:45	11	4	26	0	41	11	150	60	0	221	5	2	6	0	13	16	51	4	0	71	346	0
Total	51	6	93	0	150	26	434	174	0	634	30	7	9	0	46	53	146	8	2	209	1039	2
8:00	11	4	21	0	36	9	134	60	0	203	10	0	7	0	17	24	49	0	0	73	329	0
8:15	10	3	28	0	41	8	107	36	0	151	10	1	2	0	13	18	61	1	0	80	285	0
8:30	8	0	29	0	37	14	117	48	0	179	7	1	5	0	13	17	51	4	0	72	301	0
8:45	20	8	34	0	62	4	101	54	0	159	14	3	3	0	20	12	44	2	1	59	300	1
Total	49	15	112	0	176	35	459	198	0	692	41	5	17	0	63	71	205	7	1	284	1215	1
16:00	43	2	38	0	83	10	75	58	0	143	9	7	5	0	21	50	148	5	1	204	451	1
16:15	31	4	33	0	68	15	91	35	0	141	15	3	5	0	23	37	137	4	1	179	411	1
16:30	38	4	30	0	72	9	71	34	0	114	13	6	5	0	24	53	177	5	0	235	445	0
16:45	31	3	33	0	67	10	91	51	0	152	10	5	8	0	23	50	151	7	0	208	450	0
Total	143	13	134	0	290	44	328	178	0	550	47	21	23	0	91	190	613	21	2	826	1757	2
17:00	75	6	62	0	143	13	66	56	0	135	15	3	10	0	28	61	191	5	2	259	565	2
17:15	42	2	50	0	94	11	105	37	0	153	12	2	6	0	20	41	165	4	1	211	478	1
17:30	47	6	40	0	93	12	68	40	0	120	11	0	2	0	13	43	167	1	1	212	438	1
17:45	39	4	30	0	73	5	80	43	0	128	14	5	5	0	24	34	128	0	0	162	387	0
Total	203	18	182	0	403	41	319	176	0	536	52	10	23	0	85	179	651	10	4	844	1868	4
18:00	48	2	31	0	81	6	64	30	0	100	15	1	13	0	29	26	127	1	2	156	366	2
18:15	29	3	29	0	61	8	75	22	0	105	7	0	4	0	11	16	105	1	0	122	299	0
18:30	37	0	19	0	56	5	63	40	0	108	16	3	5	0	24	17	101	4	2	124	312	2
18:45	35	4	20	0	59	6	49	28	0	83	9	5	4	0	18	16	58	2	0	76	236	0
Total	149	9	99	0	257	25	251	120	0	396	47	9	26	0	82	75	391	8	4	478	1213	4
Grand Total	628	63	684	0	1375	183	2000	973	0	3156	230	57	102	0	389	593	2071	56	13	2733	7653	13
Apprch %	45.7%	4.6%	49.7%	0.0%		5.8%	63.4%	30.8%	0.0%		59.1%	14.7%	26.2%	0.0%		21.7%	75.8%	2.0%	0.5%			
Total %	8.2%	0.8%	8.9%	0.0%	18.0%	2.4%	26.1%	12.7%	0.0%	41.2%	3.0%	0.7%	1.3%	0.0%	5.1%	7.7%	27.1%	0.7%	0.2%	35.7%	100.0%	

AM PEAK HOUR	White Rock Rd Southbound					Post St Westbound					White Rock Rd Northbound					Post St Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	11	4	26	0	41	11	150	60	0	221	5	2	6	0	13	16	51	4	0	71	346
8:00	11	4	21	0	36	9	134	60	0	203	10	0	7	0	17	24	49	0	0	73	329
8:15	10	3	28	0	41	8	107	36	0	151	10	1	2	0	13	18	61	1	0	80	285
8:30	8	0	29	0	37	14	117	48	0	179	7	1	5	0	13	17	51	4	0	72	301
Total Volume	40	11	104	0	155	42	508	204	0	754	32	4	20	0	56	75	212	9	0	296	1261
% App Total	25.8%	7.1%	67.1%	0.0%		5.6%	67.4%	27.1%	0.0%		57.1%	7.1%	35.7%	0.0%		25.3%	71.6%	3.0%	0.0%		
PHF	.909	.688	.897	.000	.945	.750	.847	.850	.000	.853	.800	.500	.714	.000	.824	.781	.869	.563	.000	.925	.911

PM PEAK HOUR	White Rock Rd Southbound					Post St Westbound					White Rock Rd Northbound					Post St Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	38	4	30	0	72	9	71	34	0	114	13	6	5	0	24	53	177	5	0	235	445
16:45	31	3	33	0	67	10	91	51	0	152	10	5	8	0	23	50	151	7	0	208	450
17:00	75	6	62	0	143	13	66	56	0	135	15	3	10	0	28	61	191	5	2	259	565
17:15	42	2	50	0	94	11	105	37	0	153	12	2	6	0	20	41	165	4	1	211	478
Total Volume	186	15	175	0	376	43	333	178	0	554	50	16	29	0	95	205	684	21	3	913	1938
% App Total	49.5%	4.0%	46.5%	0.0%		7.8%	60.1%	32.1%	0.0%		52.6%	16.8%	30.5%	0.0%		22.5%	74.9%	2.3%	0.3%		
PHF	.620	.625	.706	.000	.657	.827	.793	.795	.000	.905	.833	.667	.725	.000	.848	.840	.895	.750	.375	.881	.858

Analysis ID: 1473504
Analysis: Creekside #21 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-17
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Vine (Southbound)			WR east (Westbound)			Valley View (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
11:00am	29	11	8	16	109	49	22	12	39
11:15am	36	15	15	13	111	53	30	12	31
11:30am	38	15	12	18	109	68	22	20	21
11:45am	35	10	9	28	100	69	17	17	16
Hourly Tot	138	51	44	75	429	239	91	61	107
Hourly Tot	0.5923	0.2189	0.1888	0.1009	0.5774	0.3217	0.3514	0.2355	0.4131
PHF	0.91	0.85	0.73	0.67	0.97	0.87	0.76	0.76	0.69

All Days, Peak PM

	Vine (Southbound)			WR east (Westbound)			Valley View (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:15pm	46	22	6	50	98	47	14	13	56
4:30pm	51	21	8	36	108	42	8	16	60
4:45pm	51	24	8	37	118	60	7	18	48
5:00pm	53	24	10	42	100	60	9	19	41
Hourly Tot	201	91	32	165	424	209	38	66	205
Hourly Tot	0.6204	0.2809	0.0988	0.2068	0.5313	0.2619	0.123	0.2136	0.6634
PHF	0.95	0.95	0.8	0.82	0.9	0.87	0.68	0.87	0.85

Tues-Thurs, Peak AM

	Vine (Southbound)			WR east (Westbound)			Valley View (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
8:00am	8	1	1	38	178	65	23	14	61
8:15am	20	8	4	18	137	63	29	13	30
8:30am	54	11	19	12	130	60	25	11	16
8:45am	73	16	22	12	136	50	18	12	26
Hourly Tot	155	36	46	80	581	238	95	50	133
Hourly Tot	0.654	0.1519	0.1941	0.089	0.6463	0.2647	0.3417	0.1799	0.4784
PHF	0.53	0.56	0.52	0.53	0.82	0.92	0.82	0.89	0.55

Tues-Thurs, Peak PM

	Vine (Southbound)			WR east (Westbound)			Valley View (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:00pm	60	23	4	80	109	44	12	13	63
4:15pm	58	26	6	70	119	37	10	13	71
4:30pm	58	24	9	43	130	32	9	16	78
4:45pm	54	27	9	41	129	44	8	19	56
Hourly Tot	230	100	28	234	487	157	39	61	268
Hourly Tot	0.6425	0.2793	0.0782	0.2665	0.5547	0.1788	0.106	0.1658	0.7283
PHF	0.96	0.93	0.78	0.73	0.94	0.89	0.81	0.8	0.86

WR west (Eastbound)

Left	Thru	Right	Total	Total %
11	77	16	399	0.2409
18	74	10	418	0.2524
13	76	14	426	0.2572
7	82	23	413	0.2494
49	309	63	1656	1
0.1164	0.734	0.1496		
0.68	0.94	0.68		

WR west (Eastbound)

Left	Thru	Right	Total	Total %
6	96	22	476	0.242
5	97	17	469	0.2384
13	112	21	517	0.2628
13	113	21	505	0.2567
37	418	81	1967	1
0.069	0.7799	0.1511		
0.71	0.92	0.92		

WR west (Eastbound)

Left	Thru	Right	Total	Total %
11	27	7	434	0.258
12	36	11	381	0.2265
21	52	9	420	0.2497
24	55	3	447	0.2658
68	170	30	1682	1
0.2537	0.6343	0.1119		
0.71	0.77	0.68		

WR west (Eastbound)

Left	Thru	Right	Total	Total %
6	134	28	576	0.2619
4	108	25	547	0.2487
7	108	18	532	0.2419
16	124	17	544	0.2474
33	474	88	2199	1
0.0555	0.7966	0.1479		
0.52	0.88	0.79		

Prepared by National Data & Surveying Services

Valley View Pkwy & White Rock Rd

Peak Hour Turning Movement Count

#21

ID: 18-07183-021
City: El Dorado Hills

Day: Wednesday
Date: 05/16/2018

PEAK HOURS

AM: 07:30 AM - 08:30 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS

AM: 06:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 07:00 PM

Valley View Pkwy

SOUTHBOUND

AM	27	19	50	0	229	AM
NOON	0	0	0	0	0	NOON
PM	36	66	222	0	231	PM

EASTBOUND (White Rock Rd)

AM	NOON	PM		
691	0	411	⇦	
0	0	0	↩	0
19	0	31	↱	1
194	0	514	→	1
25	0	121	↳	0

WESTBOUND (White Rock Rd)

PM	NOON	AM		
158	0	172	↰	0
318	0	578	←	1
130	0	162	↲	1
0	0	0	↪	0
880	0	500	⇨	

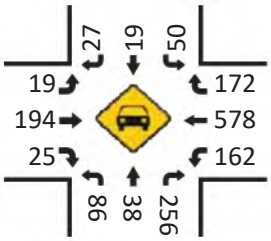
NORTHBOUND

PM	317	0	57	42	144	PM
NOON	0	0	0	0	0	NOON
AM	206	0	86	38	256	AM

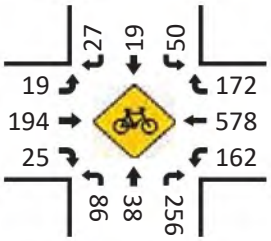
Valley View Pkwy

CONTROL			
Signalized			
TEV	1626	0	1839
	AM	NOON	PM
PHF	0.87		0.97

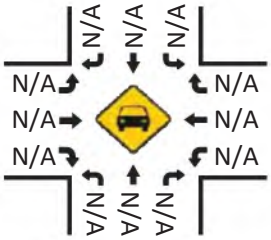
Total Vehicles (AM)



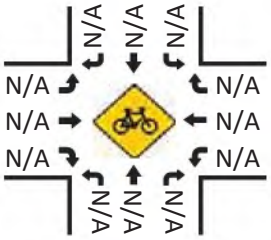
(AM)



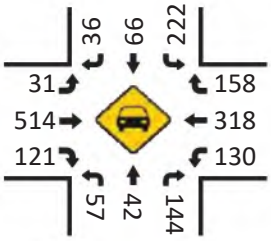
Total Vehicles (Noon)



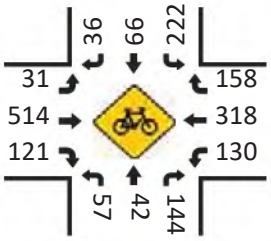
(NOON)



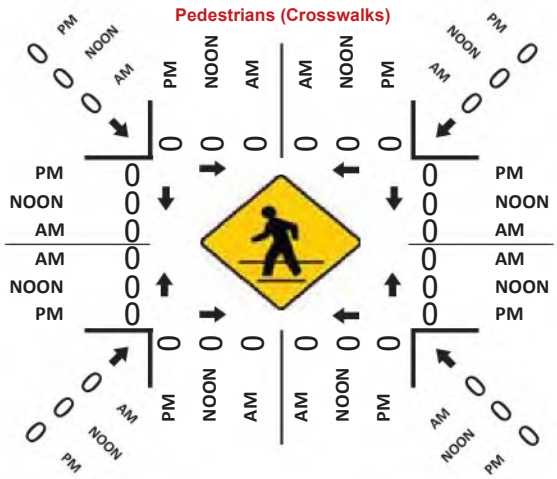
Total Vehicles (PM)



(PM)



Pedestrians (Crosswalks)



Analysis ID: 1473513
Analysis: Creekside #22 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-17
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Clarksville north (Southbound)			WR east (Westbound)			Clarksville south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
8:00am	0	0	92	0	190	0	0	0	0
8:15am	0	0	87	0	148	0	0	0	0
8:30am	0	0	74	0	141	0	0	0	0
8:45am	0	0	60	0	182	0	0	0	0
Hourly Tot	0	0	313	0	661	0	0	0	0
Hourly Tot	0	0	1	0	1	0	0	0	0
PHF	0	0	0.85	0	0.87	0	0	0	0

All Days, Peak PM

	Clarksville north (Southbound)			WR east (Westbound)			Clarksville south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:00pm	0	0	83	0	137	0	0	0	0
4:15pm	0	0	71	0	140	0	0	0	0
4:30pm	0	0	59	0	147	0	0	0	0
4:45pm	0	0	73	0	207	0	0	0	0
Hourly Tot	0	0	286	0	631	0	0	0	0
Hourly Tot	0	0	1	0	1	0	0	0	0
PHF	0	0	0.86	0	0.76	0	0	0	0

Tues-Thurs, Peak AM

	Clarksville north (Southbound)			WR east (Westbound)			Clarksville south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
8:00am	0	0	103	0	214	0	0	0	0
8:15am	0	0	100	0	161	0	0	0	0
8:30am	0	0	87	0	157	0	0	0	0
8:45am	0	0	64	0	167	0	0	0	0
Hourly Tot	0	0	354	0	699	0	0	0	0
Hourly Tot	0	0	1	0	1	0	0	0	0
PHF	0	0	0.86	0	0.82	0	0	0	0

Tues-Thurs, Peak PM

	Clarksville north (Southbound)			WR east (Westbound)			Clarksville south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:45pm	1	0	76	0	159	0	0	0	0
4:00pm	0	0	100	0	150	0	0	0	0
4:15pm	0	0	88	0	159	0	0	0	0
4:30pm	0	0	70	0	152	0	0	0	0
Hourly Tot	1	0	334	0	620	0	0	0	0
Hourly Tot	0.003	0	0.997	0	1	0	0	0	0
PHF	0.25	0	0.83	0	0.97	0	0	0	0

WR west (Eastbound)

Left	Thru	Right	Total	Total %
0	97	0	379	0.2647
0	94	0	329	0.2297
0	123	0	338	0.236
0	144	0	386	0.2696
0	458	0	1432	1
0	1	0		
0	0.8	0		

WR west (Eastbound)

Left	Thru	Right	Total	Total %
0	242	0	462	0.2577
0	195	0	406	0.2264
0	223	0	429	0.2393
0	216	0	496	0.2766
0	876	0	1793	1
0	1	0		
0	0.9	0		

WR west (Eastbound)

Left	Thru	Right	Total	Total %
0	98	0	415	0.2693
0	92	0	353	0.2291
0	133	0	377	0.2446
0	165	0	396	0.257
0	488	0	1541	1
0	1	0		
0	0.74	0		

WR west (Eastbound)

Left	Thru	Right	Total	Total %
0	250	0	486	0.2406
1	315	0	566	0.2802
0	250	0	497	0.246
0	249	0	471	0.2332
1	1064	0	2020	1
0.0009	0.9991	0		
0.25	0.84	0		

Prepared by National Data & Surveying Services

White Rock Rd & Clarksville Crossing

#22

Peak Hour Turning Movement Count

ID: 18-07183-022
City: El Dorado Hills

Day: Wednesday
Date: 05/16/2018

PEAK HOURS

AM: 07:30 AM - 08:30 AM
NOON: NONE
PM: 04:45 PM - 05:45 PM

COUNT PERIODS

AM: 06:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 07:00 PM

SOUTHBOUND (White Rock Rd)

AM	3	599	0	0	493	AM
NOON	0	0	0	0	0	NOON
PM	2	404	0	0	889	PM
	1	2	1	0		

EASTBOUND (Clarksville Crossing)

AM	NOON	PM	
6	0	10	
0	0	0	0
1	0	2	0.5
0	0	0	0.5
310	0	181	1
AM	NOON	PM	

WESTBOUND (Clarksville Crossing)

PM	NOON	AM	
1	0	0	1
0	0	0	0.5
0	0	0	0.5
0	0	0	0
0	0	0	
PM	NOON	AM	

CONTROL

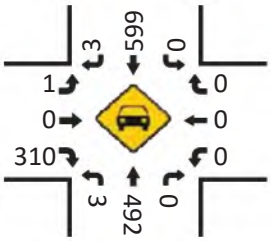
Signalized

TEV	1408 AM	0 NOON	1484 PM
PHF	0.78		0.96

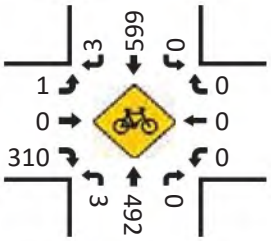
NORTHBOUND (White Rock Rd)

PM	585	0	8	886	0	PM
NOON	0	0	0	0	0	NOON
AM	909	0	3	492	0	AM
		0	1	1.5	0.5	

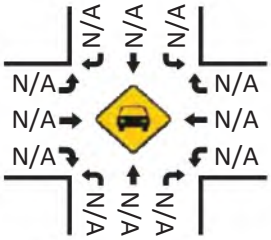
Total Vehicles (AM)



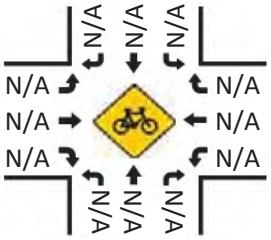
(AM)



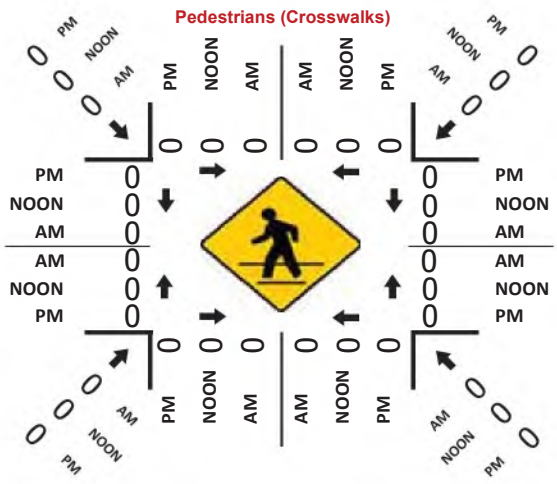
Total Vehicles (Noon)



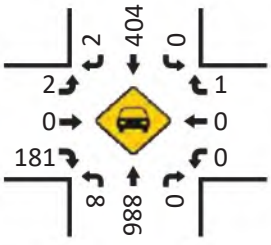
(NOON)



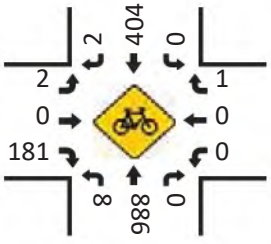
Pedestrians (Crosswalks)



Total Vehicles (PM)



(PM)



Analysis ID: 1475501
Analysis: Creekside #23 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-19
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R126-M128

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	WR north (Southboun		WR south (Northboun		WB ramps (Westbound)			
	Thru	Right	Left	Thru	Left	Right	Total	Total %
11:00am	106	33	85	89	59	23	395	0.2552
11:15am	119	23	93	82	45	12	374	0.2416
11:30am	115	21	95	78	52	27	388	0.2506
11:45am	125	15	89	69	64	29	391	0.2526
Hourly Tot	465	92	362	318	220	91	1548	1
Hourly Tot	0.8348	0.1652	0.5324	0.4676	0.7074	0.2926		
PHF	0.93	0.7	0.95	0.89	0.86	0.78		

All Days, Peak PM

	WR north (Southboun		WR south (Northboun		WB ramps (Westbound)			
	Thru	Right	Left	Thru	Left	Right	Total	Total %
4:15pm	125	35	119	123	122	23	547	0.24
4:30pm	135	39	130	119	112	21	556	0.244
4:45pm	206	45	129	113	107	16	616	0.2703
5:00pm	142	46	138	107	112	15	560	0.2457
Hourly Tot	608	165	516	462	453	75	2279	1
Hourly Tot	0.7865	0.2135	0.5276	0.4724	0.858	0.142		
PHF	0.74	0.9	0.93	0.94	0.93	0.82		

Tues-Thurs, Peak AM

	WR north (Southboun		WR south (Northboun		WB ramps (Westbound)			
	Thru	Right	Left	Thru	Left	Right	Total	Total %
8:00am	207	39	73	41	53	10	423	0.2622
8:15am	153	29	55	57	42	13	349	0.2164
8:30am	161	39	77	95	28	6	406	0.2517
8:45am	176	28	90	108	33	0	435	0.2697
Hourly Tot	697	135	295	301	156	29	1613	1
Hourly Tot	0.8377	0.1623	0.495	0.505	0.8432	0.1568		
PHF	0.84	0.87	0.82	0.7	0.74	0.56		

Tues-Thurs, Peak PM

	WR north (Southboun		WR south (Northboun		WB ramps (Westbound)			
	Thru	Right	Left	Thru	Left	Right	Total	Total %
4:15pm	141	42	145	144	138	26	636	0.2534
4:30pm	140	47	152	140	125	23	627	0.2498
4:45pm	158	56	156	125	121	12	628	0.2502
5:00pm	148	55	170	114	120	12	619	0.2466
Hourly Tot	587	200	623	523	504	73	2510	1
Hourly Tot	0.7459	0.2541	0.5436	0.4564	0.8735	0.1265		
PHF	0.93	0.89	0.92	0.91	0.91	0.7		

Prepared by National Data & Surveying Services

White Rock Rd & U.S. 50 EB

#23

Peak Hour Turning Movement Count

ID: 18-07183-023
City: El Dorado Hills

Day: Wednesday
Date: 05/16/2018

PEAK HOURS

AM	07:30 AM - 08:30 AM
NOON	NONE
PM	04:45 PM - 05:45 PM

COUNT PERIODS

AM	06:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 07:00 PM

SOUTHBOUND — White Rock Rd

AM	118	562	0	0	426	AM
NOON	0	0	0	0	0	NOON
PM	111	342	0	0	925	PM

EASTBOUND — U.S. 50 EB

AM	NOON	PM	
292	0	518	
0	0	0	0
111	0	429	1.5
0	0	0	0
33	0	56	1.5

WESTBOUND — U.S. 50 EB

PM	NOON	AM	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	

NORTHBOUND — White Rock Rd

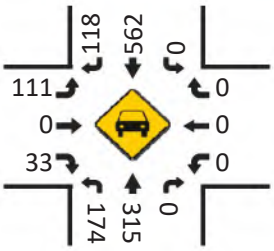
PM	398	0	407	496	0	PM
NOON	0	0	0	0	0	NOON
AM	595	0	174	315	0	AM

	1	2	0	0
	0	2	2	0

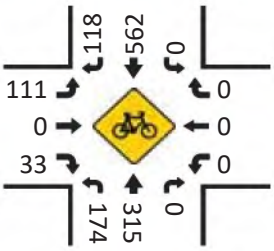
CONTROL: Signalized

TEV	1313 AM	0 NOON	1841 PM
PHF	0.83		0.91

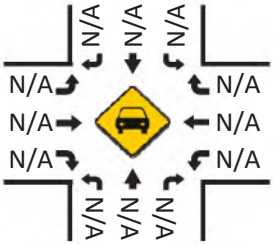
Total Vehicles (AM)



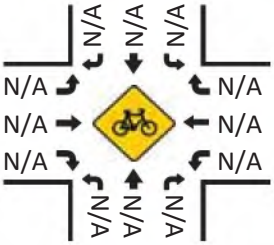
(AM)



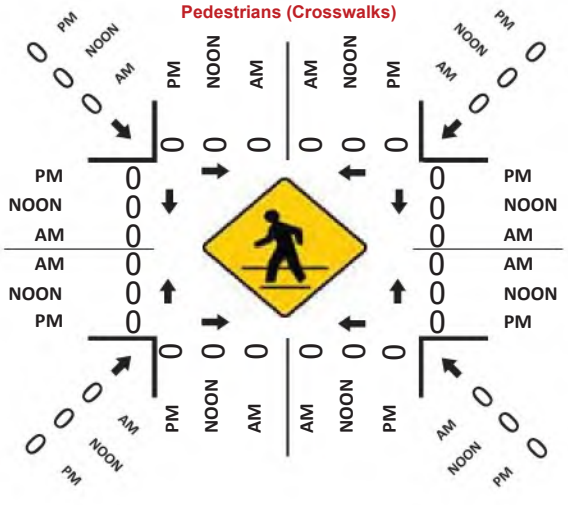
Total Vehicles (Noon)



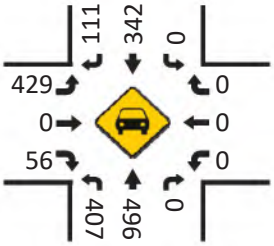
(NOON)



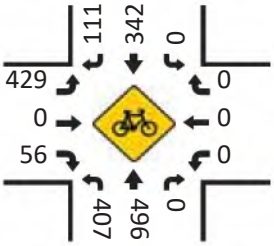
Pedestrians (Crosswalks)



Total Vehicles (PM)



(PM)



Analysis ID: 1473534
Analysis: Creekside #24 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-17
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	WR north (Southbound)			offramp (Westbound)			WR south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:30am	0	30	129	149	0	41	9	93	0
7:45am	0	51	184	203	0	36	14	81	0
8:00am	0	74	124	139	0	24	23	69	0
8:15am	0	66	107	102	0	17	24	70	0
Hourly Tot	0	221	544	593	0	118	70	313	0
Hourly Tot	0	0.2889	0.7111	0.834	0	0.166	0.1828	0.8172	0
PHF	0	0.75	0.74	0.73	0	0.72	0.73	0.84	0

All Days, Peak PM

	WR north (Southbound)			offramp (Westbound)			WR south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:45pm	0	66	68	100	0	40	27	216	0
4:00pm	0	62	53	89	0	44	37	192	0
4:15pm	0	77	51	83	0	49	37	188	0
4:30pm	0	81	52	92	0	46	22	224	0
Hourly Tot	0	286	224	364	0	179	123	820	0
Hourly Tot	0	0.5608	0.4392	0.6703	0	0.3297	0.1304	0.8696	0
PHF	0	0.88	0.82	0.91	0	0.91	0.83	0.92	0

Tues-Thurs, Peak AM

	WR north (Southbound)			offramp (Westbound)			WR south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:15am	0	15	106	147	0	44	6	110	0
7:30am	0	29	151	187	0	52	7	114	0
7:45am	0	55	186	201	0	43	17	87	0
8:00am	0	83	147	159	0	30	22	67	0
Hourly Tot	0	182	590	694	0	169	52	378	0
Hourly Tot	0	0.2358	0.7642	0.8042	0	0.1958	0.1209	0.8791	0
PHF	0	0.55	0.79	0.86	0	0.81	0.59	0.83	0

Tues-Thurs, Peak PM

	WR north (Southbound)			offramp (Westbound)			WR south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:45pm	0	68	64	113	1	41	35	213	0
4:00pm	0	62	51	101	0	42	48	215	0
4:15pm	0	83	42	97	0	61	43	229	0
4:30pm	0	89	50	94	0	54	26	224	0
Hourly Tot	0	302	207	405	1	198	152	881	0
Hourly Tot	0	0.5933	0.4067	0.6705	0.0017	0.3278	0.1471	0.8529	0
PHF	0	0.85	0.81	0.9	0.25	0.81	0.79	0.96	0

onramp (Eastbound)

Left	Thru	Right	Total	Total %
0	0	0	451	0.2426
0	0	0	569	0.3061
0	0	0	453	0.2437
0	0	0	386	0.2076
0	0	0	1859	1
0	0	0		
0	0	0		

onramp (Eastbound)

Left	Thru	Right	Total	Total %
0	0	0	517	0.259
0	0	0	477	0.239
0	0	0	485	0.243
0	0	0	517	0.259
0	0	0	1996	1
0	0	0		
0	0	0		

onramp (Eastbound)

Left	Thru	Right	Total	Total %
0	0	0	428	0.2073
0	0	0	540	0.2615
0	0	0	589	0.2852
0	0	0	508	0.246
0	0	0	2065	1
0	0	0		
0	0	0		

onramp (Eastbound)

Left	Thru	Right	Total	Total %
0	0	0	535	0.2493
0	0	0	519	0.2418
0	0	0	555	0.2586
0	0	0	537	0.2502
0	0	0	2146	1
0	0	0		
0	0	0		

Prepared by National Data & Surveying Services

#24

Silva Valley Pkwy & U.S. 50 WB

Peak Hour Turning Movement Count

ID: 18-07183-024
City: El Dorado Hills

Day: Wednesday
Date: 05/16/2018

PEAK HOURS

AM	07:15 AM - 08:15 AM
NOON	NONE
PM	05:00 PM - 06:00 PM

COUNT PERIODS

AM	06:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 07:00 PM

Silva Valley Pkwy — SOUTHBOUND

AM	483	223	0	0	494	AM
NOON	0	0	0	0	0	NOON
PM	207	200	0	0	1019	PM
	1	2	0	0		

U.S. 50 WB — EASTBOUND

AM	NOON	PM	
561	0	279	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

CONTROL

Signalized

TEV	1721	0	1755
	AM	NOON	PM
PHF	0.79		0.90

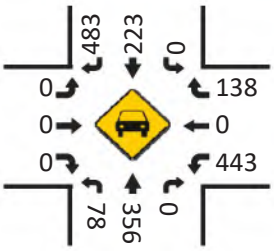
U.S. 50 WB — WESTBOUND

PM	NOON	AM	
154	0	138	1
0	0	0	0.5
256	0	443	1.5
0	0	0	0
0	0	0	

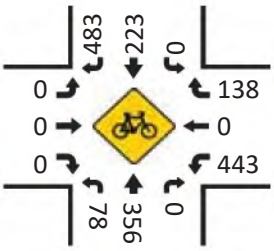
Silva Valley Pkwy — NORTHBOUND

PM	457	1	72	865	0	PM
NOON	0	0	0	0	0	NOON
AM	666	0	78	356	0	AM
		0	1	2	0	

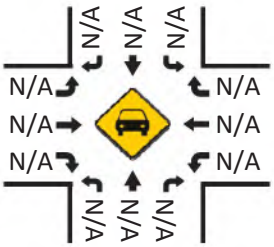
Total Vehicles (AM)



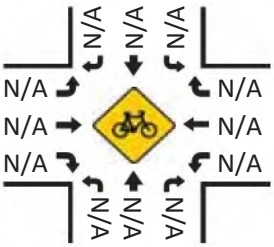
(AM)



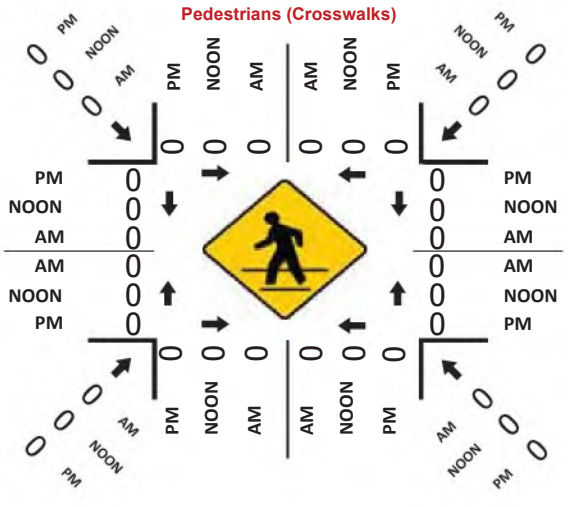
Total Vehicles (Noon)



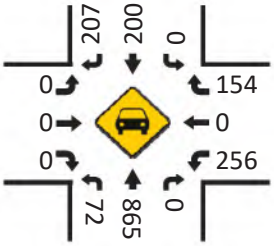
(NOON)



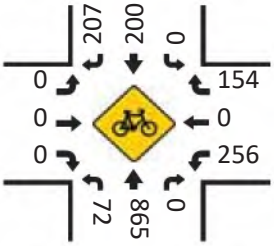
Pedestrians (Crosswalks)



Total Vehicles (PM)



(PM)



Analysis ID: 1473537
Analysis: Creekside #26 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-17
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Latrobe north (Southb		Latrobe south (Northb		Wetsel-Oviatt (Eastbound)			
	Thru	Right	Left	Right	Left	Right	Total	Total %
8:00am	60	1	0	89	0	0	150	0.2613
8:15am	66	0	0	61	0	0	127	0.2213
8:30am	56	3	0	82	2	0	143	0.2491
8:45am	58	3	0	91	2	0	154	0.2683
Hourly Tot	240	7	0	323	4	0	574	1
Hourly Tot	0.9717	0.0283	0	1	1	0		
PHF	0.91	0.58	0	0.89	0.5	0		

All Days, Peak PM

	Latrobe north (Southb		Latrobe south (Northb		Wetsel-Oviatt (Eastbound)			
	Thru	Right	Left	Right	Left	Right	Total	Total %
2:00pm	69	0	0	70	4	0	143	0.2072
2:15pm	87	0	0	79	1	0	167	0.242
2:30pm	112	0	0	81	3	0	196	0.2841
2:45pm	112	2	0	64	6	0	184	0.2667
Hourly Tot	380	2	0	294	14	0	690	1
Hourly Tot	0.9948	0.0052	0	1	1	0		
PHF	0.85	0.25	0	0.91	0.58	0		

Tues-Thurs, Peak AM

	Latrobe north (Southb		Latrobe south (Northb		Wetsel-Oviatt (Eastbound)			
	Thru	Right	Left	Right	Left	Right	Total	Total %
7:45am	33	3	0	149	0	0	185	0.2859
8:00am	63	1	0	111	0	0	175	0.2705
8:15am	68	0	0	68	1	0	137	0.2117
8:30am	62	1	0	84	3	0	150	0.2318
Hourly Tot	226	5	0	412	4	0	647	1
Hourly Tot	0.9784	0.0216	0	1	1	0		
PHF	0.83	0.42	0	0.69	0.33	0		

Tues-Thurs, Peak PM

	Latrobe north (Southb		Latrobe south (Northb		Wetsel-Oviatt (Eastbound)			
	Thru	Right	Left	Right	Left	Right	Total	Total %
2:15pm	88	0	0	81	1	0	170	0.2196
2:30pm	130	0	0	93	3	0	226	0.292
2:45pm	128	3	0	73	11	0	215	0.2778
3:00pm	95	3	0	53	12	0	163	0.2106
Hourly Tot	441	6	0	300	27	0	774	1
Hourly Tot	0.9866	0.0134	0	1	1	0		
PHF	0.85	0.5	0	0.81	0.56	0		

Analysis ID: 1473546
Analysis: Creekside #27 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-17
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Latrobe north (Southbound)			SS east (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:45am	4	30	2	4	8	5	1	39	0
8:00am	10	40	1	1	1	9	0	35	1
8:15am	21	38	0	7	0	7	0	47	1
8:30am	17	39	0	7	0	5	0	54	0
Hourly Tot	52	147	3	19	9	26	1	175	2
Hourly Tot	0.2574	0.7277	0.0149	0.3519	0.1667	0.4815	0.0056	0.9831	0.0112
PHF	0.62	0.92	0.38	0.68	0.28	0.72	0.25	0.81	0.5

All Days, Peak PM

	Latrobe north (Southbound)			SS east (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2:00pm	6	43	12	3	2	3	0	45	10
2:15pm	5	52	5	3	1	13	0	40	14
2:30pm	9	67	7	3	2	29	0	34	15
2:45pm	15	74	3	4	8	16	1	28	10
Hourly Tot	35	236	27	13	13	61	1	147	49
Hourly Tot	0.1174	0.7919	0.0906	0.1494	0.1494	0.7011	0.0051	0.7462	0.2487
PHF	0.58	0.8	0.56	0.81	0.41	0.53	0.25	0.82	0.82

Tues-Thurs, Peak AM

	Latrobe north (Southbound)			SS east (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:30am	0	29	2	6	21	3	4	60	0
7:45am	5	27	5	5	10	8	2	47	0
8:00am	16	34	2	3	0	15	0	37	0
8:15am	31	35	0	4	0	12	0	53	0
Hourly Tot	52	125	9	18	31	38	6	197	0
Hourly Tot	0.2796	0.672	0.0484	0.2069	0.3563	0.4368	0.0296	0.9704	0
PHF	0.42	0.89	0.45	0.75	0.37	0.63	0.38	0.82	0

Tues-Thurs, Peak PM

	Latrobe north (Southbound)			SS east (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2:00pm	8	45	11	1	0	4	0	38	11
2:15pm	3	50	6	0	0	18	0	40	21
2:30pm	13	75	8	1	2	37	0	33	22
2:45pm	19	71	6	3	11	20	0	30	12
Hourly Tot	43	241	31	5	13	79	0	141	66
Hourly Tot	0.1365	0.7651	0.0984	0.0515	0.134	0.8144	0	0.6812	0.3188
PHF	0.57	0.8	0.7	0.42	0.3	0.53	0	0.88	0.75

SS west (Eastbound)

Left	Thru	Right	Total	Total %
19	20	0	132	0.2645
7	10	0	115	0.2305
2	1	0	124	0.2485
6	0	0	128	0.2565
34	31	0	499	1
0.5231	0.4769	0		
0.45	0.39	0		

SS west (Eastbound)

Left	Thru	Right	Total	Total %
6	20	2	152	0.2424
1	9	0	143	0.2281
2	2	0	170	0.2711
2	0	1	162	0.2584
11	31	3	627	1
0.2444	0.6889	0.0667		
0.46	0.39	0.38		

SS west (Eastbound)

Left	Thru	Right	Total	Total %
14	22	0	161	0.272
22	33	0	164	0.277
7	16	0	130	0.2196
1	1	0	137	0.2314
44	72	0	592	1
0.3793	0.6207	0		
0.5	0.55	0		

SS west (Eastbound)

Left	Thru	Right	Total	Total %
6	23	0	147	0.2217
2	9	0	149	0.2247
0	0	0	191	0.2881
2	0	2	176	0.2655
10	32	2	663	1
0.2273	0.7273	0.0455		
0.42	0.35	0.25		

PHASE TIMING

LOCATION: El Dorado Hills Boulevard at Serrano Parkway/Lassen Lane

PROGRAM: C7 DATE: 3/24/92

F PAGE

	INTERVAL	PHASE 1	2	3	4	5	6	7	8	9
0	WALK		7						7	CLK RST
1	DON'T WALK		12						19	CHK SUM
2	MIN GREEN	3	6			3	3	3	3	
3	TYPE 3 DET		10				10		5	
4	ADD/VEH	0.0	2.5			0.0	2.5	0.0	1.0	
5	PASSAGE	2.0	2.0			2.0	2.0	2.0	4.0	
6	MAX GAP									
7	MIN GAP									
8	MAX EXT	25	40			25	40	35	35	
9	MAX 2									YEAR
A	MAX 3									MONTH
B										DAY
C	REDUCE BY									DAY OF WEEK
D	REDUCE EVERY									HOUR
E	YELLOW	3.0	4.7			3.0	4.7	3.0	3.0	MINUTE
F	RED	0	0.5			0	0.5	0.0	0.0	SECOND

	PRE-EMPTION	E
	EV SELECT	
	RR1 CLEAR	
	EVA DELAY	0
	EVA CLEAR	5
	EVB DELAY	0
	EVB CLEAR	5
	EVC DELAY	10
	EVC CLEAR	5
	EVD DELAY	5
	EVD CLEAR	5
	MAX EV	30
	RR2 CLEAR	

	F FLAGS	1	2	3	4	5	6	7	8
0	PERMIT	X	X			X	X	X	X
1	RED LOCK								
2	YEL LOCK								
3	V RECALL		X				X		
4	P RECALL								
5	PED PHASES		X						X
6	ARROW A								
7	ARROW B								
8	DBL ENTRY								
9	MAX 2 PH								
A	LAG PHASES	FOR OBSERVATION ONLY							
B	RED REST								
C	REST IN WALK								
D	MAX 3 PH								
E	YEL STARTUP								X
F	FIRST PHASE		X				X		

F0E	MAX VAR INITIAL	
FC0	GAP SET	
FC1	MAX SET	
FC2		
FCA	OLA-GREEN	
FCB	OLB-GREEN	
FCC	OLC-GREEN	
FCD	OLD-GREEN	

F0F	RED REVERT	
FD0	TIME BASE SELECT	
FD3	PED SELECT	
FD4	7 - WIRE SELECT	
FD8	OFFSET SEEKING	
C05	FLASH TYPE	
F0C	LONG FAIL	
F0D	SHORT FAIL	

LOCATION: El Dorado Hills Boulevard at Serrano Parkway/Lassen Lane

PROGRAM: C7 DATE: 3/24/92

D PAGE

INPUT	ADDRESS	DELAY	OBSV DELAY	ADDRESS	CARRY	OBSV CARRY		INPUT	ADDRESS	DELAY	OBSV DELAY	ADDRESS	CARRY	OBSV CARRY
1I1	D-1-0		D-7-0	D-3-0		D-9-0	0	5J1	D-2-0		D-8-0	D-4-0		D-A-0
2I2U	D-1-1		D-7-1	D-3-1	1.2	D-9-1	1	6J2U	D-2-1		D-8-1	D-4-1	1.2	D-A-1
2I2L	D-1-2		D-7-2	D-3-2	1.2	D-9-2	2	6J2L	D-2-2		D-8-2	D-4-2	1.2	D-A-2
2I3U	D-1-3		D-7-3	D-3-3	1.2	D-9-3	3	6J3U	D-2-3		D-8-3	D-4-3	1.2	D-A-3
2I3L	D-1-4		D-7-4	D-3-4	1.2	D-9-4	4	6J3L	D-2-4		D-8-4	D-4-4	1.2	D-A-4
2I4	D-1-5		D-7-5	D-3-5		D-9-5	5	6J4	D-2-5		D-8-5	D-4-5		D-A-5
3I5	D-1-6		D-7-6	D-3-6		D-9-6	6	7J5	D-2-6	2.0	D-8-6	D-4-6		D-A-6
4I6U	D-1-7		D-7-7	D-3-7		D-9-7	7	8J6U	D-2-7	2.0	D-8-7	D-4-7		D-A-7
4I6L	D-1-8		D-7-8	D-3-8		D-9-8	8	8J6L	D-2-8	2.0	D-8-8	D-4-8		D-A-8
4I7U	D-1-9		D-7-9	D-3-9		D-9-9	9	8J7U	D-2-9	2.0	D-8-9	D-4-9		D-A-9
4I7L	D-1-A		D-7-A	D-3-A		D-9-A	A	8J7L	D-2-A	8.0	D-8-A	D-4-A		D-A-A
4I8	D-1-B		D-7-B	D-3-B		D-9-B	B	8J8	D-2-B		D-8-B	D-4-B		D-A-B
1I9U	D-1-C		D-7-C	D-3-C		D-9-C	C	5J9U	D-2-C		D-8-C	D-4-C		D-A-C
3I9L	D-1-D		D-7-D	D-3-D		D-9-D	D	7J9L	D-2-D	8.0	D-8-D	D-4-D		D-A-D

Assignable Detectors - (FCF)=123
Key Action = "E" + X Coord. + Y Coord. (See Shaded Areas)
Select Phase/Function Using Call Lights
EX. E-C-0 = 1 (FZ 1) E-D-0 =5,6 (Ext../Cnt. i.e. TYPE)
*5 = Ext..
6 = Cnt.
7 = Call
8 = Type 3

NOTE: Reset location F-C-F to zero after viewing or assigning detectors.

PHASE TIMING

LOCATION: El Dorado Hills Bl @ Park Dr BY: _____

PROGRAM: C8 DATE: 6/28/2005

F PAGE

	INTERVAL	PHASE 1	2	3	4	5	6	7	8	9
0	WALK		7				7	6	6	CLK RST
1	DON'T WALK		18				16	24	24	CHK SUM
2	MIN GREEN	4	5			4	4	5	5	
3	TYPE 3 DET		15				15			
4	ADD/VEH	0	0			0	0	0	0	
5	PASSAGE	2.0	3.5			2.0	3.5	2.0	2.0	
6	MAX GAP		4.2				4.2			
7	MIN GAP		1.2				1.2			
8	MAX EXT	20	50			20	50	20	20	
9	MAX 2									YEAR
A	MAX 3									MONTH
B										DAY
C	REDUCE BY		0.1				0.1			DAY OF WK
D	REDUCE EVERY		1.0				1.0			HOUR
E	YELLOW	3.0	4.7			3.0	4.7	3.0	3.0	MINUTE
F	RED	1.0	1.0			1.0	1.0	1.0	1.0	SECOND
	PED XING - FT									

PRE-EMPTION	E
EV SELECT	
RR1 CLR	
EVA DLY	
EVA CLR	5
EVB DLY	
EVB CLR	5
EVC DLY	
EVC CLR	5
EVD DLY	
EVD CLR	5
MAX EV	40
RR2 CLR	

	FLAGS	F 1	2	3	4	5	6	7	8	
0	PERMIT	X	X			X	X	X	X	0
1	RED LOCK									1
2	YEL LOCK		X				X			2
3	V RECALL		X				X			3
4	P RECALL									4
5	PED PHASES		X				X	X	X	5
6	ARROW A									6
7	ARROW B									7
8	DBL ENTRY									8
9	MAX 2 PH									9
A	LAG PHASES	FOR OBSERVATION ONLY								A
B	RED REST									B
C	REST IN WALK									C
D	MAX 3 PH									D
E	YEL STARTUP							X		E
F	FIRST PHASE		X				X			F

F0E	MAX VAR INITIAL	
FC0	GAP SET	
FC1	MAX SET	
FC2		
FCA	OLA-GREEN	
FCB	OLB-GREEN	
FCC	OLC-GREEN	
FCD	OLD-GREEN	

F0F	RED REVERT	2.0
FD0	TIME BASE SELECT	
FD3	PED SELECT	
FD4	7 - WIRE SELECT	
FD8	OFFSET SEEKING	
C05	FLASH TYPE	
F0C	LONG FAIL	
F0D	SHORT FAIL	

LOCATION: El Dorado Hills Bl @ Park Dr

PROGRAM: C8 **DATE:** 6/28/2005

D PAGE

INPUT	ADDRESS	DELAY	OBSV DELAY	ADDRESS	CARRY	OBSV CARRY		INPUT	ADDRESS	DELAY	OBSV DELAY	ADDRESS	CARRY	OBSV CARRY
1I1	D-1-0		D-7-0	D-3-0		D-9-0	0	5J1	D-2-0		D-8-0	D-4-0		D-A-0
2I2U	D-1-1		D-7-1	D-3-1		D-9-1	1	6J2U	D-2-1		D-8-1	D-4-1		D-A-1
2I2L	D-1-2		D-7-2	D-3-2		D-9-2	2	6J2L	D-2-2		D-8-2	D-4-2		D-A-2
2I3U	D-1-3		D-7-3	D-3-3		D-9-3	3	6J3U	D-2-3		D-8-3	D-4-3		D-A-3
2I3L	D-1-4		D-7-4	D-3-4		D-9-4	4	6J3L	D-2-4		D-8-4	D-4-4		D-A-4
2I4	D-1-5		D-7-5	D-3-5		D-9-5	5	6J4	D-2-5		D-8-5	D-4-5		D-A-5
3I5	D-1-6		D-7-6	D-3-6		D-9-6	6	7J5	D-2-6	5.0	D-8-6	D-4-6		D-A-6
4I6U	D-1-7		D-7-7	D-3-7		D-9-7	7	8J6U	D-2-7		D-8-7	D-4-7		D-A-7
4I6L	D-1-8		D-7-8	D-3-8		D-9-8	8	8J6L	D-2-8		D-8-8	D-4-8		D-A-8
4I7U	D-1-9		D-7-9	D-3-9		D-9-9	9	8J7U	D-2-9	15.0	D-8-9	D-4-9		D-A-9
4I7L	D-1-A		D-7-A	D-3-A		D-9-A	A	8J7L	D-2-A	10.0	D-8-A	D-4-A		D-A-A
4I8	D-1-B		D-7-B	D-3-B		D-9-B	B	8J8	D-2-B	5.0	D-8-B	D-4-B		D-A-B
1I9U	D-1-C		D-7-C	D-3-C		D-9-C	C	5J9U	D-2-C		D-8-C	D-4-C		D-A-C
3I9L	D-1-D		D-7-D	D-3-D		D-9-D	D	7J9L	D-2-D	10.0	D-8-D	D-4-D		D-A-D

Assignable Detectors - (FCF)=123
Key Action = "E" + X Coord. + Y Coord. (See Shaded Areas)
Select Phase/Function Using Call Lights
EX. E-C-0 = 1 (FZ 1) E-D-0 =5,6 (Ext../Cnt. i.e. TYPE)
*5 = Ext..
6 = Cnt.
7 = Call
8 = Type 3

NOTE: Reset location F-C-F to zero after viewing or assigning detectors.

LOCATION: El Dorado Hills Bl @ Park Dr

PROGRAM: C8

DATE: 6/28/2005

D PAGE

	D	FLAGS								E	FLAGS								F	FLAGS							
	MAX	1	2	3	4	5	6	7	8	MIN	1	2	3	4	5	6	7	8	PED	1	2	3	4	5	6	7	8
0	RCL									RCL									RCL								
1	CP 1									CP 1									CP 1								
2	CP 2									CP 2									CP 2								
3	CP 3									CP 3									CP 3								
4	CP 4									CP 4									CP 4								
5	CP 5									CP 5									CP 5								
6	CP 6									CP 6									CP 6								
7	CP 7									CP 7									CP 7								
8	CP 8									CP 8									CP 8								
9	CP 9									CP 9									CP 9								
A																											
B																											
C																											
D																											
E										VER.																	
F										BAT.																	

NOTE: IF THIS IS THE MASTER FOR SYSTEM, ENTER NO. OF SLAVES IN RAM LOCATION D-0-0

CONTROL CODE "D" SYSTEM DETECTOR	
	0
0	
1	
2	
3	
4	
5	
6	
7	
8	

E PAGE

	E	FLAGS								F	FLAGS							
	FUNCTION	1	2	3	4	5	6	7	8	FUNCTION	1	2	3	4	5	6	7	8
0										CODE 4								
1										CODE 5								
2										"Y" RCL C								
3										"Y" RCL D								
4	Bike - A									Bike - B								
5	OLA OUT									2 PED		X						
6	OLB OUT									6 PED						X		
7	OLC OUT									4 PED							X	
8	OLD OUT									8 PED								X
9																		
A	OLA NOT									OLA ON								
B	OLB NOT									OLB ON								
C	OLC NOT									OLC ON								
D	OLD NOT									OLD ON								
E																		
F																		

C8 VERSION NUMBER = D-E-E

CONTROL CODE "D"				
		A	B	C
LAST PWR FAIL	E	H	M	D
LAST FLASH	F	H	M	D

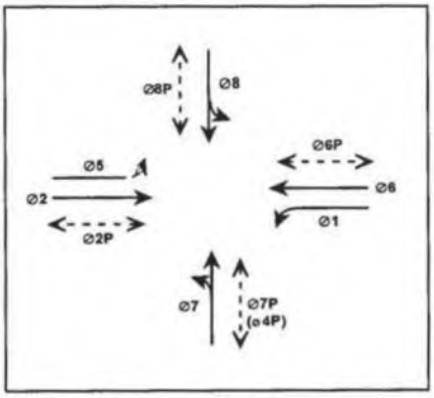
LOCATION: El Dorado Hills Bl @ Park Dr BY: SLK

DATE: 6/28/2005

TYPE 170 CONTROLLER MODEL 210
CONFLICT MONITOR PROGRAMMING INSTRUCTIONS

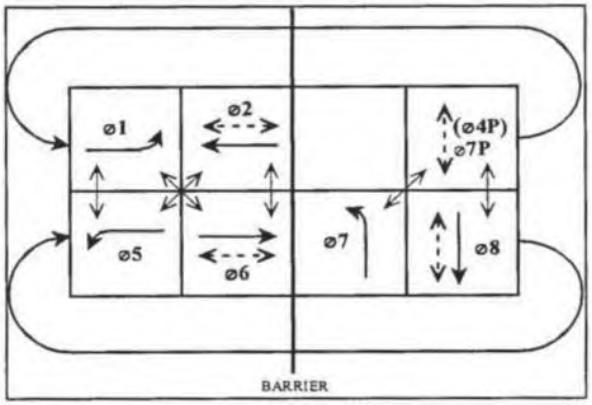
CHANNELS AND PHASES

CHANNEL 16 = Ø8 PED	CHANNEL 15 = Ø6 PED	CHANNEL 14 = Ø4 PED	CHANNEL 13 = Ø2 PED	CHANNEL 12 = SPECIAL	CHANNEL 11 = SPECIAL	CHANNEL 10 = OVERLAP "B"	CHANNEL 9 = OVERLAP "A"
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	
10	10	10	10	10	10		
11	11	11	11	11			
12	12	12	12				
13	13	13					
14	14						
15							



CHANNELS AND PHASES

CHANNEL 8 = Ø8	CHANNEL 7 = Ø7	CHANNEL 6 = Ø6	CHANNEL 5 = Ø5	CHANNEL 4 = Ø4	CH. 3 = Ø3	CH2= Ø2
1	1	1	1	1	1	1
2	2	2	2	2	2	
3	3	3	3	3		
4	4	4	4			
5	5	5				
6	6					
7						



The conflict monitor program card is supplied with all 120 diodes installed. Diodes for phases **NOT** in conflict must be removed.

1. Mark channels (phases) that are not conflicting.
2. Remove corresponding diodes from diode board.
3. Mark diode board with name of intersection.

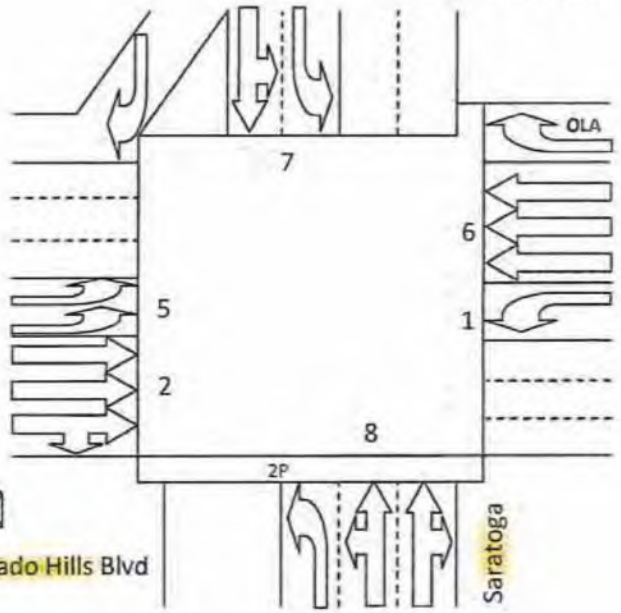
Location: ED 50 @ El Dorado Hills WB Ramp
System: **District:**
Master At: This Location **I/C:**

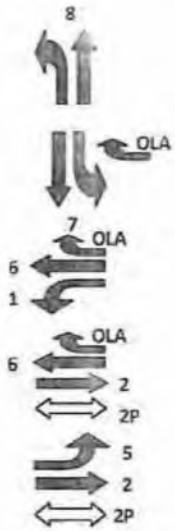
Designed By: El Dorado Co, Y&C Trans.
Installed By: EA 03-2E5104
Service Info: 03250500000860b

Timing Change: **Date Start:** **Date End:** **Designed:** **Installed:**

		FLASH
PHASE	1) SB El Dorado Hills LT to Saratoga	[ ]
	2) NB El Dorado Hills	[ ]
	3)	[ ]
	4)	[ ]
	5) NB LT to WB on	[ ]
	6) SB El Dorado Hills	[ ]
	7) WB Off	[ ]
	8) WB On from Saratoga Shopping Cente	[ ]
OVERLAP	A) 6+7 ***load resistor on 4 Ped Green***	[ ]
	B)	[ ]
	C)	[ ]
	D)	[ ]
	E)	[ ]
	F)	[ ]

Intersection Layout





Comments and Notes:
2000-01-04 MODIFIED SIGNAL: CHANGED TO 6 PHASE OPERATION BY: P.A.DIAZ, A. HEBERT, B. MURPHY, J. ELAM AND S. KOCH (ED CO) AND M. VAN DORMICK (ED CO)
2000-04-19 APPLIED QUICNET
2003-08-27 CHANGED FROM C8V3 TO C8V4 BY P.A.DIAZ
2005-11-11 REMOVED PHASE 5 & 7 BY: P.A.DIAZ & S. KOCH
2009-03-20 installed 2070 by PAD
2013-07-28 Upgrade to TSCP 2.17, prohibit 1 & 5 due to new on-ramp.
2014-08-22 New 332 w/new 2070E TSCP v2.20 Build 118 at SE corner, new location: dh

RAM Checksum

Page 2: 2A0C	Page 8: 69C8 CF64
Page 3: 76FB	Page 9: D2FD
Page 4: 6FD6	Page 10: 6F66
Page 5: 191A	Page 11: FDAC
Page 6: 191A	Page 12: 27C3
Page 7: 554E	Page 13: 86F7

Post Mile: ED 50 @ (EDH) El Dorado Hills WB Ramp ***Printed: 4/2/2018***

CONFIGURATION PHASE FLAGS

Cabinet
332
Configuration
CALTRANS

Phases (2-1-1-1)	
Permitted	12..5678
Restricted	.....

Phase Recalls (2-1-1-2)	
Vehicle Min	.2...6..
Vehicle Max	.....
Pedestrian	.....
Bicycle	.....

Phase Locks (2-1-1-3)	
Red	.....
Yellow	.....
Force/Max	.....

Phase Features (2-1-1-4)	
Double Entry	.....
Rest In Walk	.....
Rest In Red	.....
Walk 2	.....
Max Green 2	.....
Max Green 3	.....

Startup (2-1-1-5)	
First Green Phases	.2...6..
Yellow Start Phases	.....
Vehicle Calls	12..5678
Pedestrian Calls	.2.....
Yellow Start Overlaps	.....
Startup All-Red	6.0

Call To Phase (2-1-2-1)		Omit On Green	
1	.....	1	.....
2	.....	2	.....
3	.....	3	.....
4	.....	4	.....
5	.....	5	.....
6	.....	6	.....
7	.....	7	.....
8	.....	8	.....

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	.....
Yellow Flash Overlap	.....
Flash In Red Phases	.....
Flash In Red Overlap	.....

Special Operation (2-1-2-3)	
Single Exit Phase	.....
Driveway Signal Phases	.....
Driveway Signal Overlaps	.....
Leading Ped Phases	.....

Protected Permissive (2-1-2-4)	
Protected Permissive	.....

Pedestrian (2-1-3)	
P1	.....
P2	.2.....
P3	.....
P4	...4....
P5	.....
P6	.....
P7	.....
P8	.....

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
A	.....67.	.....6..	.....	.....
B	.....	.....	.....	.....
C	.....	.....	.....	.....
D	.....	.....	.....	.....
E	.....	.....	.....	.....
F	.....	.....	.....	.....

PHASE TIMING

Phase (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	7	0	0	0	0	0	0
Flash Don't Walk	0	19	0	0	0	0	0	0
Minimum Green	8	10	0	0	10	10	10	10
Det Limit	10	10	0	0	10	10	10	10
Max Initial	0	0	0	0	0	0	0	0
Max Green 1	15	60	0	0	60	40	40	20
Max Green 2	50	50	0	0	40	50	50	50
Max Green 3	50	50	0	0	50	50	50	50
Extension	2.0	3.0	0.0	0.0	2.0	2.0	2.5	2.0
Maximum Gap	2.0	3.5	0.0	0.0	5.0	2.5	2.5	2.0
Minimum Gap	2.0	1.0	0.0	0.0	2.0	1.0	2.5	2.0
Add Per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Gap By	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0
Reduce Every	1.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0
Yellow	3.6	4.8	3.0	3.0	3.6	4.8	4.1	3.6
All-Red	1.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0
Ped/Bike (2-3)	**-1-**	**-2-**	**-3-**	**-4-**	**-5-**	**-6-**	**-7-**	**-8-**
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	20	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A	B	C	D	E	F
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	4.3	5.0	5.0	5.0	5.0	5.0
Red	1.0	0.0	0.0	0.0	0.0	0.0

Red Revert

Red Revert (2-5)	
Time	5.0
All-Red Sec/Min (2-6)	
All-Red Sec/Min:	OFF

Max 2 Extension

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor	90		.....				10	26			15	18	20	14
Plan 2	Green Factor	120		.....				10	51			26	33	21	16
Plan 3	Green Factor	136		.....				14	62			35	39	22	16
Plan 4	Green Factor	136		.....				14	62			45	29	22	16
Plan 5	Green Factor			.....											
Plan 6	Green Factor			.....											
Plan 7	Green Factor			.....											
Plan 8	Green Factor			.....											
Plan 9	Green Factor			.....											

Master Timer Sync (7-A)	
Enable in Plans	
1-9	.....
11-19	.....
21-29	.....

Master Sub Master	
Input	
Output	

FREE PLAN PHASE FLAGS

(7-E) Free	
Lag	Omit
.2.45.7.	.....
Veh Min	Veh Max
.....	.....
Ped	Bike
.....	.....
Cond	Cond Grn
.....	10

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	.2.45.7.	.2...6..	.....	.....	.....	.....	.....	.....
Plan 2	.2.45.7.	.2...6..	.....	.....	.....	.....	.....	.....
Plan 3	.2.45.7.	.2...6..	.....	.....	.....	.....	.....	.....
Plan 4	.2.45.7.	.2...6..	.....	.....	.....	.....	.....	....5...
Plan 5	.....	.....	.....	.....	.....	.....	.....	.....
Plan 6	.....	.....	.....	.....	.....	.....	.....	.....
Plan 7	.....	.....	.....	.....	.....	.....	.....	.....
Plan 8	.....	.....	.....	.....	.....	.....	.....	.....
Plan 9	.....	.....	.....	.....	.....	.....	.....	.....

MANUAL COMMANDS

Manual Plan (4-1)	
Plan	OffSet
	A

Plan: 1-9
15 or 254 = Flash
14 or 255 = Free
Offset A, B, or C

Special Function Override (4-2)			
#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

DETECTORS

Detector Attributes (5-1)				Slot	Detector Configuration (5-2)				
Det	Type	Phases	Lock		Det	Delay	Extend	Recall	Port
1	COUNT+CALL+EXTEND	1.....	NO	I1U	1			10	3.2
2	COUNT+CALL+EXTEND	1.....	NO	I1L	2			10	7.2
3	COUNT+CALL+EXTEND	.2.....	NO	I2U	3		2.0	10	1.1
4	COUNT+CALL+EXTEND	.2.....	NO	I2L	4		2.0	10	1.5
5	COUNT+CALL+EXTEND	.2.....	NO	I3U	5		2.0	10	4.5
6	CALL+EXTEND	.2.....	NO	I3L	6		2.0	10	6.2
7	LIMITED	.2.....	NO	I4U	7			10	2.1
8	LIMITED	.2.....	NO	I4L	8			10	7.4
9	LIMITED	.2.....	NO	I5U	9			10	3.4
10	LIMITED	.2.....	NO	I5L	10			10	7.6
11	LIMITED	.....6..	NO	I6U	11			10	1.3
12	LIMITED	.....6..	NO	I6L	12			10	1.7
13	COUNT+CALL+EXTEND	.....7.	NO	I7U	13		2.0	10	4.7
14	COUNT+CALL+EXTEND	.....7.	NO	I7L	14		2.0	10	6.4
15	LIMITED	.....7.	NO	I8U	15			10	2.3
16	LIMITED	.....7.	NO	I8L	16			10	7.8
17	COUNT+CALL+EXTEND	1.....	NO	I9U	17		2.0	10	3.6
18	COUNT+CALL+EXTEND	..3....	NO	I9L	18			10	3.8
19	COUNT+CALL+EXTEND	.2.....	NO	I10U	19			10	4.1
20	COUNT+CALL+EXTEND	...4....	NO	I10L	20			10	4.2
21	COUNT+CALL+EXTEND	....5...	NO	J1U	21			10	3.1
22	COUNT+CALL+EXTEND	....5...	NO	J1L	22			10	7.1
23	COUNT+CALL+EXTEND	.....6..	NO	J2U	23		2.0	10	1.2
24	COUNT+CALL+EXTEND	.....6..	NO	J2L	24		2.0	10	1.6
25	COUNT+CALL+EXTEND	.....6..	NO	J3U	25		2.0	10	4.6
26	COUNT+CALL+EXTEND	.....6..	NO	J3L	26		2.0	10	6.3
27	LIMITED	.....6..	NO	J4U	27			10	2.2
28	LIMITED	.....6..	NO	J4L	28			10	7.3
29	COUNT+CALL+EXTEND	.....7.	NO	J5U	29			10	3.3
30	COUNT+CALL+EXTEND	.....7.	NO	J5L	30			10	7.5
31	COUNT+CALL+EXTEND	8	NO	J6U	31			10	1.4
32	COUNT+CALL+EXTEND	8	NO	J6L	32			10	1.8
33	COUNT+CALL+EXTEND	....5...	NO	J7U	33		3.0	10	4.8
34	CALL+EXTEND	8	NO	J7L	34			10	6.5
35	COUNT+CALL+EXTEND	8	NO	J8U	35			10	2.4
36	COUNT+CALL+EXTEND	8	NO	J8L	36			10	7.7
37	COUNT+CALL+EXTEND	.2.....	NO	J9U	37			10	3.5
38	COUNT+CALL+EXTEND	.2.....	NO	J9L	38			10	3.7
39	COUNT+CALL+EXTEND	.....6..	NO	J10U	39			10	4.3
40	COUNT+CALL+EXTEND	8	NO	J10L	40			10	4.4
41	PEDESTRIAN	.2.....	NO	I12U	41			10	5.1
42	PEDESTRIAN	...4....	NO	I12L	42			10	5.3
43	PEDESTRIAN	.....6..	NO	I13U	43			10	5.2
44	PEDESTRIAN	8	NO	I13L	44			10	5.4

Failure Times(5-3)	Minutes
Maximum On Time	
Fail Reset Time	

Failure Override (5-4)	
Detectors 1-8	.....
Detectors 9-16	.....
Detectors17-24	.....
Detectors 25-32	.....
Detectors 33-40	.....
Detectors 41-44	.....

System Detector Assignment (5-5)

Sys Det	1	2	3	4	5	6	7	8
Det Nu	2	3	23	24				
Sys Det	9	10	11	12	13	14	15	16
Det Nu								

CIC Operation (5-6-1)	
Enable in Plans	.....

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.00	

Detector-to-Phase Assignment (5-6-3)

Sys Det	1	2	3	4	5	6	7	8
Phase								
Sys Det	9	10	11	12	13	14	15	16
Phase								

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1)		
Time	Plan	OS
0001	255	A
0600	2	A
0700	3	A
1500	4	A
1900	255	A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 2 (8-2-2)		
Time	Plan	OS
0001	255	A
0600	2	A
1900	255	A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 3 (8-2-3)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 4 (8-2-4)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 5 (8-2-5)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 6 (8-2-6)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

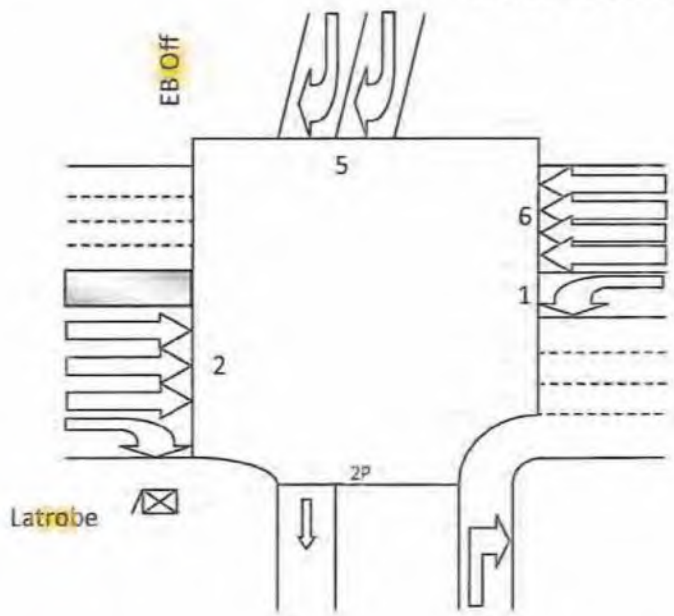
Location: ED 50 @ Latrobe Rd & EB Ramps
System: District:
Master At: WB off to El Dorado I/C:

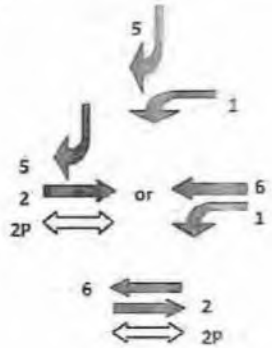
Designed By:
Installed By:
Service Info:

Timing Change: Date Start: Date End: Designed: Installed:

		FLASH
PHASE	1) SB El Dorado LT to EB on	[ ]
	2) NB thru to El Dorado Hills Blvd	[ ]
	3)	[ ]
	4)	[ ]
	5) EB off to Latrobe	[ ]
	6) SB thru to Latrobe	[ ]
	7)	[ ]
	8)	[ ]
OVERLAP	A)	[ ]
	B)	[ ]
	C)	[ ]
	D)	[ ]
	E)	[ ]
	F)	[ ]

Intersection Layout







Comments and Notes:
2000-01-05 O.T.O. @ 12:40 BY P.A. DIAZ, A. HEBERT, J. ELEM (CT), S. KOCH, M. VAN DORMICK (ED CO)
2000-04-19 APPLIED QUICNET BY P.A.DIAZ
2002-05-09 @ Appproximate 11:05 Removed phase 8 & Permitted Phase 5. Modified Traffic Signal Interseciton - New EB Off-Ramp. By P.A.Diaz, State Maintenance: Gary B. & Robert R.
2003-08-29 Changed from C8V3 to C8V4 and Applied CTNet by P.A.Diaz
????-??-?? Upgrade to 2070 w/TSCP Vers. 2.16 - add bicycle detection.
2013-07-28 Upgraded to TSCP 2.17
2014-08-29 Upgraded to TSCP 2.20 Build 118 dh

RAM Checksum

Page 2: 2F29	Page 8: ~~E578~~ 692B
Page 3: 407E	Page 9: D2FD
Page 4: D732	Page 10: 8564
Page 5: 191A	Page 11: FDAC
Page 6: 191A	Page 12: EF20
Page 7: 2980	Page 13: 86F7

Post Mile: ED 50 @ (EDH) Latrobe Rd & EB Ramps

Printed: 4/2/2018

CONFIGURATION PHASE FLAGS

Cabinet
332
Configuration
CALTRANS

Phases (2-1-1-1)	
Permitted	1 2 . . 5 6 . .
Restricted	. . . . .

Phase Recalls (2-1-1-2)	
Vehicle Min	. 2 . . . 6 . .
Vehicle Max	. . . . .
Pedestrian	. . . . .
Bicycle	. . . . .

Phase Locks (2-1-1-3)	
Red	. . . . .
Yellow	1 . . . . .
Force/Max	. . . . .

Phase Features (2-1-1-4)	
Double Entry	. 2 . . . 6 . .
Rest In Walk	. . . . .
Rest In Red	. . . . .
Walk 2	. . . . .
Max Green 2	. . . . .
Max Green 3	. . . . .

Startup (2-1-1-5)	
First Green Phases	. 2 . . . 6 . .
Yellow Start Phases	. . . . .
Vehicle Calls	1 2 . . 5 6 . .
Pedestrian Calls	. 2 . . . . .
Yellow Start Overlaps	. . . . .
Startup All-Red	6.0

Call To Phase (2-1-2-1)		Omit On Green	
1	. . . . .	1	. . . . .
2	. . . . .	2	. . . . .
3	. . . . .	3	. . . . .
4	. . . . .	4	. . . . .
5	. . . . .	5	. . . . .
6	. . . . .	6	. . . . .
7	. . . . .	7	. . . . .
8	. . . . .	8	. . . . .

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	. . . . .
Yellow Flash Overlap	. . . . .
Flash In Red Phases	. . . . .
Flash In Red Overlap	. . . . .

Special Operation (2-1-2-3)	
Single Exit Phase	. . . . .
Driveway Signal Phases	. . . . .
Driveway Signal Overlaps	. . . . .
Leading Ped Phases	. . . . .

Protected Permissive (2-1-2-4)	
Protected Permissive	. . . . .

Pedestrian (2-1-3)	
P1	. . . . .
P2	. 2 . . . . .
P3	. . . . .
P4	. . . . .
P5	. . . . .
P6	. . . . .
P7	. . . . .
P8	. . . . .

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
A	. . . . .	. . . . .	. . . . .	. . . . .
B	. . . . .	. . . . .	. . . . .	. . . . .
C	. . . . .	. . . . .	. . . . .	. . . . .
D	. . . . .	. . . . .	. . . . .	. . . . .
E	. . . . .	. . . . .	. . . . .	. . . . .
F	. . . . .	. . . . .	. . . . .	. . . . .

PHASE TIMING

Phase (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	7	0	0	0	0	0	0
Flash Don't Walk	0	22	0	0	0	0	0	0
Minimum Green	10	15	0	0	10	15	0	0
Det Limit	10	10	0	0	10	10	0	0
Max Initial	6	9	0	0	5	9	0	0
Max Green 1	39	50	0	0	45	50	0	0
Max Green 2	20	50	0	0	50	15	0	0
Max Green 3	10	50	0	0	50	50	0	0
Extension	2.5	1.0	0.0	0.0	1.0	1.0	0.0	0.0
Maximum Gap	2.5	3.2	0.0	0.0	2.5	3.2	0.0	0.0
Minimum Gap	2.5	1.0	0.0	0.0	1.0	1.0	0.0	0.0
Add Per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Gap By	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0
Reduce Every	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0
Yellow	3.6	5.2	3.0	3.0	3.6	5.2	3.0	3.0
All-Red	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0
Ped/Bike (2-3)	**-1-**	**-2-**	**-3-**	**-4-**	**-5-**	**-6-**	**-7-**	**-8-**
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A	B	C	D	E	F
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert

Red Revert (2-5)	
Time	5.0
All-Red Sec/Min (2-6)	
All-Red Sec/Min:	OFF

Max 2 Extension

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor	90		.....	74			39	39			30	48		
Plan 2	Green Factor	60		.....	59			18	30			20	28		
Plan 3	Green Factor	68		.....	26			26	30			22	34		
Plan 4	Green Factor	68		.....	26			26	30			22	34		
Plan 5	Green Factor			.....											
Plan 6	Green Factor			.....											
Plan 7	Green Factor			.....											
Plan 8	Green Factor			.....											
Plan 9	Green Factor			.....											

Master Timer Sync (7-A)	
Enable in Plans	
1-9	.....
11-19	.....
21-29	.....

Master Sub Master	
Input	
Output	

FREE PLAN PHASE FLAGS

(7-E) Free	
Lag	Omit
.2.4.6.8	.....
Veh Min	Veh Max
.....	.....
Ped	Bike
.....	.....
Cond	Cond Grn
.....	10

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	.2.4.6.8	.2...6..	.....	.....	.....	.....	.....	.....
Plan 2	.2.4.6.8	.2...6..	.....	.....	.....	.....	.....	.....
Plan 3	.2.4.6.8	.2...6..	.....	.....	.....	.....	.....	.....
Plan 4	.2.4.6.8	.2...6..	.....	.....	.....	.....	.....	.....
Plan 5	.....	.....	.....	.....	.....	.....	.....	.....
Plan 6	.....	.....	.....	.....	.....	.....	.....	.....
Plan 7	.....	.....	.....	.....	.....	.....	.....	.....
Plan 8	.....	.....	.....	.....	.....	.....	.....	.....
Plan 9	.....	.....	.....	.....	.....	.....	.....	.....

MANUAL COMMANDS

Manual Plan (4-1)	
Plan	OffSet
	A

Plan: 1-9
15 or 254 = Flash
14 or 255 = Free
Offset A, B, or C

Special Function Override (4-2)			
#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

DETECTORS

Detector Attributes (5-1) / Detector Configuration (5-2)

Det	Type	Phases	Lock	Slot	Det	Delay	Extend	Recall	Port
1	COUNT+CALL+EXTEND	1.....	NO	I1U	1	2		10	3.2
2	COUNT+CALL+EXTEND	1.....	NO	I1L	2	2		10	7.2
3	COUNT+CALL+EXTEND	.2.....	YEL	I2U	3		1.2	10	1.1
4	COUNT+CALL+EXTEND	.2.....	NO	I2L	4		1.0	10	1.5
5	LIMITED	.2.....	NO	I3U	5			10	4.5
6	CALL+EXTEND	.2.....	NO	I3L	6			10	6.2
7	LIMITED	.2.....	NO	I4U	7			10	2.1
8	COUNT+CALL+EXTEND	.2.....	NO	I4L	8			10	7.4
9	LIMITED	.2.....	NO	I5U	9			10	3.4
10	LIMITED	.2.....	NO	I5L	10			10	7.6
11	LIMITED	.2.....	NO	I6U	11			10	1.3
12	COUNT+CALL+EXTEND	...4....	NO	I6L	12			10	1.7
13	COUNT+CALL+EXTEND	...4....	NO	I7U	13			10	4.7
14	CALL+EXTEND	...4....	NO	I7L	14			10	6.4
15	LIMITED	.....6..	NO	I8U	15			10	2.3
16	LIMITED	.....6..	NO	I8L	16			10	7.8
17	COUNT+CALL+EXTEND	1.....	NO	I9U	17			10	3.6
18	COUNT+CALL+EXTEND	..3....	NO	I9L	18		2.2	10	3.8
19	COUNT+CALL+EXTEND	.2.....	NO	I10U	19			10	4.1
20	COUNT+CALL+EXTEND	...4....	NO	I10L	20			10	4.2
21	COUNT+CALL+EXTEND	....5...	NO	J1U	21	2	2.0	10	3.1
22	COUNT+CALL+EXTEND	....5...	NO	J1L	22	2	2.0	10	7.1
23	COUNT+CALL+EXTEND	.....6..	YEL	J2U	23		1.2	10	1.2
24	COUNT+CALL+EXTEND	.....6..	YEL	J2L	24		1.2	10	1.6
25	COUNT+CALL+EXTEND	.....6..	YEL	J3U	25		1.2	10	4.6
26	CALL+EXTEND	.....6..	NO	J3L	26		1.0	10	6.3
27	LIMITED	.....6..	NO	J4U	27			10	2.2
28	LIMITED	.....6..	NO	J4L	28			10	7.3
29	LIMITED	.....6..	NO	J5U	29			10	3.3
30	LIMITED	.....6..	NO	J5L	30			10	7.5
31	COUNT+CALL+EXTEND	.....6..	NO	J6U	31		1.0	10	1.4
32	COUNT+CALL+EXTEND	.2.....	NO	J6L	32			10	1.8
33	LIMITED	.....6..	NO	J7U	33			10	4.8
34	LIMITED	.....6..	NO	J7L	34			10	6.5
35	CALL+EXTEND	....5...	NO	J8U	35		0.5	10	2.4
36	CALL+EXTEND	....5...	NO	J8L	36		2.0	10	7.7
37	COUNT+CALL+EXTEND	....5...	NO	J9U	37		0.5	10	3.5
38	COUNT+CALL+EXTEND	....5...	NO	J9L	38		0.5	10	3.7
39	COUNT+CALL+EXTEND	.....6..	NO	J10U	39			10	4.3
40	COUNT+CALL+EXTEND	8	NO	J10L	40			10	4.4
41	PEDESTRIAN	.2.....	NO	I12U	41			10	5.1
42	PEDESTRIAN	...4....	NO	I12L	42			10	5.3
43	PEDESTRIAN	.....6..	NO	I13U	43			10	5.2
44	PEDESTRIAN	8	NO	I13L	44			10	5.4

Failure Times(5-3)	Minutes
Maximum On Time	
Fail Reset Time	

Failure Override (5-4)	
Detectors 1-8	.....
Detectors 9-16	.....
Detectors17-24	.....
Detectors 25-32	.....
Detectors 33-40	.....
Detectors 41-44	.....

System Detector Assignment (5-5)

Sys Det	1	2	3	4	5	6	7	8
Det Nu	3	4	23	24				
Sys Det	9	10	11	12	13	14	15	16
Det Nu								

CIC Operation (5-6-1)	
Enable in Plans	.....

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.00	

Detector-to-Phase Assignment (5-6-3)

Sys Det	1	2	3	4	5	6	7	8
Phase								
Sys Det	9	10	11	12	13	14	15	16
Phase								

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1)		
Time	Plan	OS
0001	255	A
0600	2	A
0700	3	A
1500	4	A
1900	~~2~~ 255	A
~~2100~~	~~255~~	A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 2 (8-2-2)		
Time	Plan	OS
0001	255	A
0600	2	A
2100	255	A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 3 (8-2-3)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 4 (8-2-4)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 5 (8-2-5)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 6 (8-2-6)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

PHASE TIMING

LOCATION: Latrobe Rd @ Town Center Dr

PROGRAM: C8 - V3 DATE: 5/15/2004

F PAGE

		PHASE									PRE-EMPTION		F								
	INTERVAL	1	2	3	4	5	6	7	8	9		E	FLAGS	1	2	3	4	5	6	7	8	
0	WALK		7		10		7			CLK RST	EV SELECT		PERMIT	X	X	X	X	X	X			0
1	DON'T WALK		15		20		15			CHK SUM	RR1 CLEAR		RED LOCK									1
2	MIN GREEN	4	5	6	6	4	5				EVA DELAY	0	YEL LOCK									2
3	TYPE 3 DET										EVA CLEAR	5	V RECALL		X				X			3
4	ADD/VEH		1.2				1.2				EVB DELAY	0	P RECALL									4
5	PASSAGE	2.0	2.0	2.5	2.5	2.0	2.0				EVB CLEAR	5	PED PHASES		X		X		X			5
6	MAX GAP										EVC DELAY	0	ARROW A									6
7	MIN GAP										EVC CLEAR	5	ARROW B									7
8	MAX EXT	20	50	15	20	15	50				EVD DELAY	0	DBL ENTRY									8
9	MAX 2	20	40	15	20	12	60			YEAR	EVD CLEAR	5	MAX 2 PH	X	X	X	X	X	X			9
A	MAX 3	20	65	15	20	12	40			MONTH	MAX EV	30	LAG PHASES	FOR OBSERVATION ONLY								A
B										DAY	RR2 CLEAR		RED REST									B
C	REDUCE BY									DAY OF WEEK			REST IN WALK									C
D	REDUCE EVERY									HOUR			MAX 3 PH	X	X	X	X	X	X			D
E	YELLOW	3.0	4.5	3.0	3.0	3.0	4.5			MINUTE			YEL STARTUP				X					E
F	RED	0.5	1.0	0.5	0.5	0.5	1.0			SECOND			FIRST PHASE		X				X			F

F0E	MAX VAR INITIAL	
FC0	GAP SET	
FC1	MAX SET	
FC2		
FCA	OLA-GREEN	
FCB	OLB-GREEN	
FCC	OLC-GREEN	
FCD	OLD-GREEN	

F0F	RED REVERT	
FD0	TIME BASE SELECT	
FD3	PED SELECT	
FD4	7 - WIRE SELECT	
FD8	OFFSET SEEKING	
C05	FLASH TYPE	
F0C	LONG FAIL	
F0D	SHORT FAIL	

PHASE TIMING

LOCATION: Latrobe Rd @ Town Center Dr

PROGRAM: C7 DATE: 9/17/2001

F PAGE

		PHASE									PRE-EMPTION		F								
	INTERVAL	1	2	3	4	5	6	7	8	9		E	FLAGS	1	2	3	4	5	6	7	8	
0	WALK		7		10		7			CLK RST	EV SELECT		PERMIT	X	X	X	X	X	X			0
1	DON'T WALK		12		20		12			CHK SUM	RR1 CLEAR		RED LOCK									1
2	MIN GREEN	4	5	6	6	4	5				EVA DELAY	0	YEL LOCK									2
3	TYPE 3 DET										EVA CLEAR	5	V RECALL		X				X			3
4	ADD/VEH		1.2				1.2				EVB DELAY	0	P RECALL									4
5	PASSAGE	2.0	2.0	2.5	2.5	2.0	2.0				EVB CLEAR	5	PED PHASES		X		X		X			5
6	MAX GAP										EVC DELAY	0	ARROW A									6
7	MIN GAP										EVC CLEAR	5	ARROW B									7
8	MAX EXT	15	50	20/15	20	15	50				EVD DELAY	0	DBL ENTRY									8
9	MAX 2	12	40	20/15	15	12	60			YEAR	EVD CLEAR	5	MAX 2 PH	X	X	X	X	X	X			9
A	MAX 3	12	65	20/15	12	12	40			MONTH	MAX EV	30	LAG PHASES	FOR OBSERVATION ONLY								A
B										DAY	RR2 CLEAR		RED REST									B
C	REDUCE BY									DAY OF WEEK			REST IN WALK									C
D	REDUCE EVERY									HOUR			MAX 3 PH	X	X	X	X	X	X			D
E	YELLOW	3.0	4.5	3.0	3.0	3.0	4.5			MINUTE			YEL STARTUP				X					E
F	RED	0.5	1.0	0.5	0.5	0.5	1.0			SECOND			FIRST PHASE		X				X			F

F0E	MAX VAR INITIAL	
FC0	GAP SET	
FC1	MAX SET	
FC2		
FCA	OLA-GREEN	
FCB	OLB-GREEN	
FCC	OLC-GREEN	
FCD	OLD-GREEN	

F0F	RED REVERT	
FD0	TIME BASE SELECT	
FD3	PED SELECT	
FD4	7 - WIRE SELECT	
FD8	OFFSET SEEKING	
C05	FLASH TYPE	
F0C	LONG FAIL	
F0D	SHORT FAIL	

LOCATION: Latrobe Rd @ Town Center Dr

PROGRAM: C7 DATE: 9/17/2001

7-KEY

TIME OF DAY ACTIVITY TABLE

7 + EVENT + HR + MIN + ACT + "E" + on/off + DOW LTS

	HR	MIN	ACT	on/off 0		M 1	T 2	W 3	T 4	F 5	S 6	S 7
0	07	30	2	on		X	X	X	X	X		
1	09	00	2		off	X	X	X	X	X		
2	16	30	3	on		X	X	X	X	X		
3	18	00	3		off	X	X	X	X	X		
4												
5												
6												
7												
8												
9												
A												
B												
C												
D												
E												
F												

ACTIVITY CODES

1	TYPE OF SIMULTANEOUS PHASE TERMINATION
2	MAX 2
3	MAX 3
4	CONDITIONAL SERVICE (1st SELECT)
5	CONDITIONAL SERVICE (2nd SELECT)
6	ENERGIZE AUXILLARY OUTPUT - RED
7	ENERGIZE AUXILLARY OUTPUT - GREEN
8	ENERGIZE AUXILLARY OUTPUT - YELLOW
9	
A	TRAFFIC ACTUATED MAX 2 OPERATION
B	
C	YELLOW YIELD COORDINATION "C"
D	YELLOW YIELD COORDINATION "D"
E	
F	FLASHING OPERATION

LOCATION: Latrobe Rd @ Town Center Dr

PROGRAM: C7

DATE: 9/17/2001

C PAGE

(DOF = 123)

(DOF = 000 = Default Condition)

	D	FLAGS								E	FLAGS								F	FLAGS							
	RST	1	2	3	4	5	6	7	8	MIN	1	2	3	4	5	6	7	8	MAX	1	2	3	4	5	6	7	8
0	WLK									RCL									RCL								
1	CP 1									CP 1									CP 1								
2	CP 2									CP 2									CP 2								
3	CP 3									CP 3									CP 3								
4	CP 4									CP 4									CP 4								
5	CP 5									CP 5									CP 5								
6	CP 6									CP 6									CP 6								
7	CP 7									CP 7									CP 7								
8	CP 8									CP 8									CP 8								
9	CP 9									CP 9									CP 9								
A																											
B																											
C																											
D																											
E										VER.																	
F										BAT.																	

E PAGE

	E	FLAGS								F	FLAGS								
	FUNCTION	1	2	3	4	5	6	7	8	FUNCTION	1	2	3	4	5	6	7	8	
0										CODE 4									0
1										CODE 5									1
2										"Y" RCL C									2
3										"Y" RCL D									3
4	Bike - A									Bike - B									4
5	OLA OUT									2 PED		X							5
6	OLB OUT									6 PED						X			6
7	OLC OUT									4 PED				X					7
8	OLD OUT									8 PED									8
9																			9
A	OLA NOT									OLA ON									A
B	OLB NOT									OLB ON									B
C	OLC NOT									OLC ON									C
D	OLD NOT									OLD ON									D
E																			E
F																			F

LOCATION: Latrobe Rd @ Town Center Dr

PROGRAM: C7 DATE: 9/17/2001

D PAGE

INPUT	ADDRESS	DELAY	OBSV DELAY	ADDRESS	CARRY	OBSV CARRY		INPUT	ADDRESS	DELAY	OBSV DELAY	ADDRESS	CARRY	OBSV CARRY
1I1	D-1-0		D-7-0	D-3-0		D-9-0	0	5J1	D-2-0		D-8-0	D-4-0		D-A-0
2I2U	D-1-1		D-7-1	D-3-1		D-9-1	1	6J2U	D-2-1		D-8-1	D-4-1		D-A-1
2I2L	D-1-2		D-7-2	D-3-2		D-9-2	2	6J2L	D-2-2		D-8-2	D-4-2		D-A-2
2I3U	D-1-3		D-7-3	D-3-3		D-9-3	3	6J3U	D-2-3		D-8-3	D-4-3		D-A-3
2I3L	D-1-4		D-7-4	D-3-4		D-9-4	4	6J3L	D-2-4	8.0	D-8-4	D-4-4		D-A-4
2I4	D-1-5		D-7-5	D-3-5		D-9-5	5	6J4	D-2-5		D-8-5	D-4-5		D-A-5
3I5	D-1-6		D-7-6	D-3-6		D-9-6	6	7J5	D-2-6		D-8-6	D-4-6		D-A-6
4I6U	D-1-7		D-7-7	D-3-7		D-9-7	7	8J6U	D-2-7		D-8-7	D-4-7		D-A-7
4I6L	D-1-8		D-7-8	D-3-8		D-9-8	8	8J6L	D-2-8		D-8-8	D-4-8		D-A-8
4I7U	D-1-9		D-7-9	D-3-9		D-9-9	9	8J7U	D-2-9		D-8-9	D-4-9		D-A-9
4I7L	D-1-A		D-7-A	D-3-A		D-9-A	A	8J7L	D-2-A		D-8-A	D-4-A		D-A-A
4I8	D-1-B		D-7-B	D-3-B		D-9-B	B	8J8	D-2-B		D-8-B	D-4-B		D-A-B
1I9U	D-1-C		D-7-C	D-3-C		D-9-C	C	5J9U	D-2-C		D-8-C	D-4-C		D-A-C
3I9L	D-1-D	10.0	D-7-D	D-3-D		D-9-D	D	7J9L	D-2-D		D-8-D	D-4-D		D-A-D

Assignable Detectors - (FCF)=123
Key Action = "E" + X Coord. + Y Coord. (See Shaded Areas)
Select Phase/Function Using Call Lights
EX. E-C-0 = 1 (FZ 1) E-D-0 =5,6 (Ext./Cnt. i.e. TYPE)
*5 = Ext..
6 = Cnt.
7 = Call
8 = Type 3

NOTE: Reset location F-C-F to zero after viewing or assigning detectors.

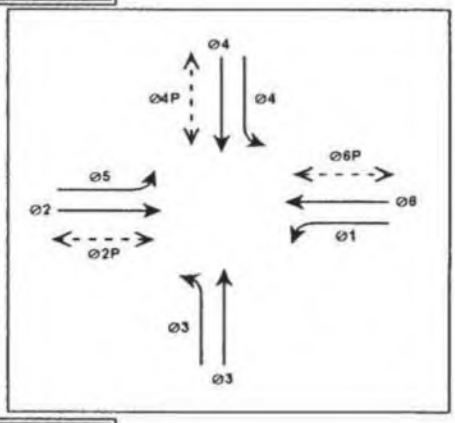
LOCATION: Latrobe Rd @ Town Center Dr BY: S.L. Koch

DATE: 9/17/2001

TYPE 170 CONTROLLER MODEL 210
CONFLICT MONITOR PROGRAMMING INSTRUCTIONS

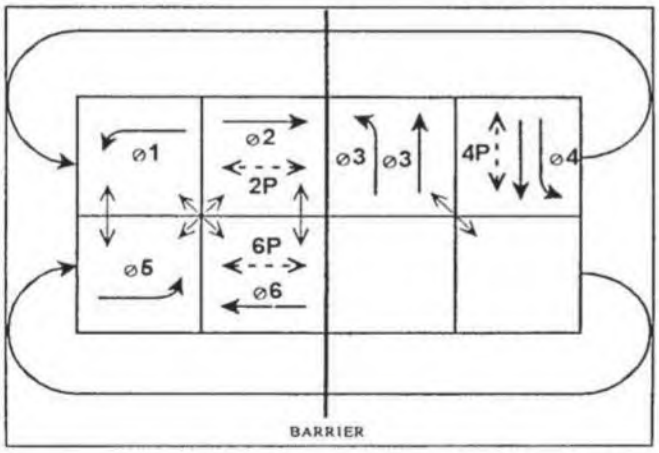
CHANNELS AND PHASES

CHANNEL 16 = Ø8 PED	CHANNEL 15 = Ø6 PED	CHANNEL 14 = Ø4 PED	CHANNEL 13 = Ø2 PED	CHANNEL 12 = SPECIAL	CHANNEL 11 = SPECIAL	CHANNEL 10 = OVERLAP "B"	CHANNEL 9 = OVERLAP "A"
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	
10	10	10	10	10	10		
11	11	11	11	11			
12	12	12	12				
13	13	13					
14	14						
15							



CHANNELS AND PHASES

CHANNEL 8 = Ø8	CHANNEL 7 = Ø7	CHANNEL 6 = Ø6	CHANNEL 5 = Ø5	CHANNEL 4 = Ø4	CH. 3 = Ø3	CH2= Ø2
1	1	1	1	1	1	1
2	2	2	2	2	2	
3	3	3	3	3		
4	4	4	4			
5	5	5				
6	6					
7						



The conflict monitor program card is supplied with all 120 diodes installed. Diodes for phases **NOT** in conflict must be removed.

1. Mark channels (phases) that are not conflicting.
2. Remove corresponding diodes from diode board.
3. Mark diode board with name of intersection.

Movement	SBLT	NB	WBLT	EB	NBLT	SB	EBLT	WB
Times [1.1.1]	1	2	3	4	5	6	7	8
Min Green	30	30	30	10	30	30	30	30
Gap, Ext	1.5	3	1.5	2	1.5	3	1.5	2
Max 1	25	45	20	25	15	45	30	35
Max 2	35	50	15	15	25	50	25	25
Yel Clearance	4	4.7	4.5	4.7	4	4.7	4.5	4.7
Red Clearance	1	1	1.5	1	1	1	1.5	1
Walk		7		7		7		7
Ped Clearance		39		48		37		50
Red Revert	2	2	2	2	2	2	2	2
Add Initial		1		1		1		1
Max Initial		12		12		12		12
Time B4 Reduct		6		6		6		6
Cars B4 Reduct								
Time To Reduce		10		10		10		10
Reduce By								
Min Gap	2	2	2	2	2	2	2	2
DyMaxLim								
Max Step								
Options [1.1.2]	1	2	3	4	5	6	7	8
Enable	X	X	X	X	X	X	X	X
Min Recall	-	-	-	-	-	-	-	-
Max Recall	-	-	-	-	-	-	-	-
Ped Recall	-	-	-	-	-	-	-	-
Soft Recall	-	-	-	-	-	X	-	-
Lock Calls	X	-	X	-	X	-	X	-
Auto Flash Entry	-	-	-	-	-	-	-	-
Auto Flash Exit	-	-	-	-	-	-	-	-
Dual Entry	-	X	-	-	-	X	-	-
Enable Simul Gap	-	-	-	-	-	-	-	-
Gaurantee Passage	-	-	-	-	-	-	-	-
Rest In Walk	-	-	-	-	-	-	-	-
Conditon Service	-	-	-	-	-	-	-	-
Non-Actuated 1	-	-	-	-	-	-	-	-
Non-Actuated 2	-	-	-	-	-	-	-	-
Add Init Calc								

Pattern Tables [2.4]

Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq
1	0	0	1	1	13					25					37				
2	0	0	2	1	14					26					38				
3	0	0	0	1	15					27					39				
4	0	0	0	1	16					28					40				
5	0	0	0	1	17					29					41				
6	0	0	0	1	18					30					42				
7					19					31					43				
8					20					32					44				
9					21					33					45				
10					22					34					46				
11					23					35					47				
12					24					36					48				

Split	[2.7]	1	2	3	4	5	6	7	8	Split	[2.7]	1	2	3	4	5	6	7	8
1	Coord	0	0	0	0	0	0	0	0	13	Coord								
2	Coord	0	0	0	0	0	0	0	0	14	Coord								
3	Coord	0	0	0	0	0	0	0	0	15	Coord								
4	Coord	0	0	0	0	0	0	0	0	16	Coord								
5	Coord	0	0	0	0	0	0	0	0	17	Coord								
6	Coord									18	Coord								
7	Coord									19	Coord								
8	Coord									20	Coord								
9	Coord									21	Coord								
10	Coord									22	Coord								
11	Coord									23	Coord								
12	Coord									24	Coord								

STD8

Ring/Startup [1.1.4]			[1.1.2]
Phs	Ring	Start	Enable
1	1	RED	X
2	1	RED	X
3	1	RED	X
4	1	RED	X
5	2	RED	X
6	2	RED	X
7	2	RED	X
8	2	YELLOW	X

Coord Modes [2.1]	
Test OpMode	0
Correction	SHRT/LNG
Maximum	MAX INH
Force-Off	FIXED
Closed Loop	OFF
Stop-in-Walk	OFF
Auto Reset	OFF
Expand Splt	OFF
Ped Recycle	NO_RECYCLE
Before	TIMED
After	TIMED
Auto Flash [1.4.1]	
Auto Flash	CHANNEL
Flash Yel	3.5
Flash Red	1.5
Unit Params [1.2.1]	
Phase Mode	STD8
IO Mode	AUTO
Loc Flsh Start	OFF
Start Flash(s)	0
Start AllRed(s)	0
Yellow < 3"	OFF
Display Time	10
Red Revert	2
MCE Timeout	
Feature Profile	0
Free Ring Seq	1
SDLC Retry	0
TS2 Det Faults	ON
Auto Ped Clear	OFF
Date Printed:	10/20/08

Latrobe @ White Rock (ID 7014) (Standard File)

IP Address:

Mask:

Gateway:

Port:

Date Installed:

Date Superceded:

Phase Options+ [1.1.3]

Options+ [1.1.3]	1	2	3	4	5	6	7	8
Reservice	-	-	-	-	-	-	-	-
PedClr Thru Yel	-	-	-	-	-	-	-	-
SkipRed-NoCall	-	-	-	-	-	-	-	-
Red Rest	-	-	-	-	-	-	-	-
Max II	-	-	-	-	-	-	-	-
Ped Delay	-	-	-	-	-	-	-	-
Grn/Ped Delay								
Conflicting Phase								
Omit Yel, Yel P								
Ped Out/Olp Ped								
StartYel, Next P				2				6

Phase Concurrency [1.1.4]

Phase	Ring	StartUp	Concurrent Phases				
1	1	RED	5	6	0	0	0
2	1	RED	5	6	0	0	0
3	1	RED	7	8	0	0	0
4	1	RED	7	8	0	0	0
5	2	RED	1	2	0	0	0
6	2	RED	1	2	0	0	0
7	2	RED	3	4	0	0	0
8	2	YELLOW	3	4	0	0	0
9	0	RED	0	0	0	0	0
10	0	RED	0	0	0	0	0
11	0	RED	0	0	0	0	0
12	0	RED	0	0	0	0	0

User Defined Sequences (MM>1>2>4)

Sequence No.	Ring	Phase						
1	1	1	2	3	4	0	0	0
	2	5	6	7	8	0	0	0
	3	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0
2	1	1	2	3	4	0	0	0
	2	6	5	7	8	0	0	0
	3	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0
3	1	2	1	3	4	0	0	0
	2	5	6	7	8	0	0	0
	3	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0

Overlap 1-8 Program Parms & Parm+ [1.5.2.1] [1.5.2.2]

1	Included Ø									NORMAL	
	Modifier Ø									Grn	
	Conflict Ø									Yel	3.5
A	Conflict Olap									Red	1.5
	Conflict Ped									LG	
2	Included Ø									NORMAL	
	Modifier Ø									Grn	
	Conflict Ø									Yel	3.5
B	Conflict Olap									Red	1.5
	Conflict Ped									LG	
3	Included Ø									NORMAL	
	Modifier Ø									Grn	
	Conflict Ø									Yel	3.5
C	Conflict Olap									Red	1.5
	Conflict Ped									LG	
4	Included Ø									NORMAL	
	Modifier Ø									Grn	
	Conflict Ø									Yel	3.5
D	Conflict Olap									Red	1.5
	Conflict Ped									LG	
5	Included Ø									NORMAL	
	Modifier Ø									Grn	
	Conflict Ø									Yel	3.5
E	Conflict Olap									Red	1.5
	Conflict Ped									LG	
6	Included Ø									NORMAL	
	Modifier Ø									Grn	
	Conflict Ø									Yel	3.5
F	Conflict Olap									Red	1.5
	Conflict Ped									LG	
7	Included Ø									NORMAL	
	Modifier Ø									Grn	
	Conflict Ø									Yel	3.5
G	Conflict Olap									Red	1.5
	Conflict Ped									LG	
8	Included Ø									NORMAL	
	Modifier Ø									Grn	
	Conflict Ø									Yel	3.5
H	Conflict Olap									Red	1.5
	Conflict Ped									LG	

Coord Transition, CoorPhs - [2.5]

Pat#	Short	Long	Dwell	No Shortway Ø				E-Yld	Offset	Min Perms Veh	Min Perms Ped
1	10	17							BegGRN		
2	10	17						10	BegGRN		
3		17							BegGRN		
4		17							BegGRN		
5		17							BegGRN		
6		17							BegGRN		
7		17							BegGRN		
8		17							BegGRN		
9		17							BegGRN		
10		17							BegGRN		
11		17							BegGRN		
12		17							BegGRN		
13		17							BegGRN		
14		17							BegGRN		

Default Phase Sequence Chart [1.2.4]

Seq #	Ring	Phases				
1	1	1	2	3	4	
	2	5	6	7	8	
2	1	1	2	3	4	
	2	6	5	7	8	
3	1	2	1	3	4	
	2	5	6	7	8	
4	1	2	1	3	4	
	2	6	5	7	8	
5	1	1	2	3	4	
	2	5	6	8	7	
6	1	1	2	3	4	
	2	6	5	8	7	
7	1	2	1	3	4	
	2	5	6	8	7	
8	1	2	1	3	4	
	2	6	5	8	7	
9	1	1	2	4	3	
	2	5	6	7	8	
10	1	1	2	4	3	
	2	6	5	7	8	
11	1	2	1	4	3	
	2	5	6	7	8	
12	1	2	1	4	3	
	2	6	5	7	6	
13	1	1	2	4	3	
	2	5	6	8	7	
14	1	1	2	4	3	
	2	6	5	8	7	
15	1	2	1	4	3	
	2	5	6	8	7	
16	1	2	1	4	3	
	2	6	5	8	7	

Coord Trans [2.5] cont.

Patt #	Ret Hold	Flt	Max2
1	-		X
2	-		-
3	-		-
4	-		-
5	-		-
6	-		-
7	-		-
8	-		-
9	-		-
10	-		-
11	-		-
12	-		-
13	-		-
14	-		-

PHASE TIMING

LOCATION: Latrobe Road at Golden Foothill Pw (N) BY: _____

PROGRAM: C8 DATE: 5/24/2005

F PAGE

	INTERVAL	PHASE 1	2	3	4	5	6	7	8	9
0	WALK			4	4		4			CLK RST
1	DON'T WALK			20	12		20			CHK SUM
2	MIN GREEN	3	5	5	5	5	5			
3	TYPE 3 DET									
4	ADD/VEH									
5	PASSAGE	2.0	4.0	2.0	3.0	2.0	4.0			
6	MAX GAP									
7	MIN GAP									
8	MAX EXT	15	40	20	20	12	40			
9	MAX 2									YEAR
A	MAX 3									MONTH
B										DAY
C	REDUCE BY									DAY OF WK
D	REDUCE EVERY									HOUR
E	YELLOW	3.0	5.0	3.0	3.0	3.0	5.0			MINUTE
F	RED	1.0	1.0	1.0	1.0	1.0	1.0			SECOND
	PED XING - FT									

PRE-EMPTION		
		E
EV SELECT		
RR1 CLR		
EVA DLY		
EVA CLR		
EVB DLY		
EVB CLR		
EVC DLY		
EVC CLR		
EVD DLY		
EVD CLR		
MAX EV		
RR2 CLR		

F	FLAGS	1	2	3	4	5	6	7	8	
	PERMIT	X	X	X	X	X	X			0
	RED LOCK				X					1
	YEL LOCK									2
	V RECALL		X				X			3
	P RECALL									4
	PED PHASES		X	X			X			5
	ARROW A									6
	ARROW B									7
	DBL ENTRY									8
	MAX 2 PH									9
	LAG PHASES	FOR OBSERVATION ONLY								A
	RED REST									B
	REST IN WALK									C
	MAX 3 PH									D
	YEL STARTUP				X					E
	FIRST PHASE		X				X			F

F0E	MAX VAR INITIAL	
FC0	GAP SET	
FC1	MAX SET	
FC2		
FCA	OLA-GREEN	
FCB	OLB-GREEN	
FCC	OLC-GREEN	
FCD	OLD-GREEN	

F0F	RED REVERT	
FD0	TIME BASE SELECT	
FD3	PED SELECT	
FD4	7 - WIRE SELECT	
FD8	OFFSET SEEKING	
C05	FLASH TYPE	
F0C	LONG FAIL	
F0D	SHORT FAIL	

LOCATION: Latrobe Road at Golden Foothill (N)

PROGRAM: C7

D PAGE

INPUT	ADDRESS	DELAY	OBSV DELAY	ADDRESS	CARRY	OBSV CARRY		INPUT	ADDRESS	DELAY	OBSV DELAY	ADDRESS	CARRY	OBSV CARRY
1I1	D-1-0		D-7-0	D-3-0		D-9-0	0	5J1	D-2-0		D-8-0	D-4-0		D-A-0
2I2U	D-1-1		D-7-1	D-3-1	1.5	D-9-1	1	6J2U	D-2-1		D-8-1	D-4-1	1.5	D-A-1
2I2L	D-1-2		D-7-2	D-3-2	1.0	D-9-2	2	6J2L	D-2-2		D-8-2	D-4-2	1.0	D-A-2
2I3U	D-1-3		D-7-3	D-3-3		D-9-3	3	6J3U	D-2-3	8.0	D-8-3	D-4-3		D-A-3
2I3L	D-1-4		D-7-4	D-3-4		D-9-4	4	6J3L	D-2-4		D-8-4	D-4-4		D-A-4
2I4	D-1-5		D-7-5	D-3-5		D-9-5	5	6J4	D-2-5		D-8-5	D-4-5		D-A-5
3I5	D-1-6		D-7-6	D-3-6		D-9-6	6	7J5	D-2-6		D-8-6	D-4-6		D-A-6
4I6U	D-1-7		D-7-7	D-3-7		D-9-7	7	8J6U	D-2-7		D-8-7	D-4-7		D-A-7
4I6L	D-1-8		D-7-8	D-3-8		D-9-8	8	8J6L	D-2-8		D-8-8	D-4-8		D-A-8
4I7U	D-1-9	8.0	D-7-9	D-3-9		D-9-9	9	8J7U	D-2-9		D-8-9	D-4-9		D-A-9
4I7L	D-1-A		D-7-A	D-3-A		D-9-A	A	8J7L	D-2-A		D-8-A	D-4-A		D-A-A
4I8	D-1-B		D-7-B	D-3-B		D-9-B	B	8J8	D-2-B		D-8-B	D-4-B		D-A-B
1I9U	D-1-C		D-7-C	D-3-C		D-9-C	C	5J9U	D-2-C		D-8-C	D-4-C		D-A-C
3I9L	D-1-D		D-7-D	D-3-D		D-9-D	D	7J9L	D-2-D		D-8-D	D-4-D		D-A-D

Assignable Detectors - (FCF)=123
Key Action = "E" + X Coord. + Y Coord. (See Shaded Areas)
Select Phase/Function Using Call Lights
EX. E-C-0 = 1 (FZ 1) E-D-0 =5,6 (Ext../Cnt. i.e. TYPE)
*5 = Ext..
6 = Cnt.
7 = Call
8 = Type 3

NOTE: Reset location F-C-F to zero after viewing or assigning detectors.

LOCATION: Latrobe Road at Golden Foothill (N)

PROGRAM: C7 DATE: 4/26/2000

7-KEY

	TIME OF DAY ACTIVITY TABLE										
	7 + EVENT + HR + MIN + ACT + "E" + on/off + DOW LTS										
				on/off		M	T	W	T	F	S	S
	HR	MIN	ACT	0		1	2	3	4	5	6	7
0	16	30	2	on		X	X	X	X	X		
1	18	00	2		off	X	X	X	X	X		
2												
3												
4												
5												
6												
7												
8												
9												
A												
B												
C												
D												
E												
F												

ACTIVITY CODES

1	TYPE OF SIMULTANEOUS PHASE TERMINATION
2	MAX 2
3	MAX 3
4	CONDITIONAL SERVICE (1st SELECT)
5	CONDITIONAL SERVICE (2nd SELECT)
6	ENERGIZE AUXILLARY OUTPUT - RED
7	ENERGIZE AUXILLARY OUTPUT - GREEN
8	ENERGIZE AUXILLARY OUTPUT - YELLOW
9	
A	TRAFFIC ACTUATED MAX 2 OPERATION
B	
C	YELLOW YIELD COORDINATION "C"
D	YELLOW YIELD COORDINATION "D"
E	
F	FLASHING OPERATION

LOCATION: **Latrobe Road @ Golden Foothill Pkwy (N)**

PROGRAM: **C7**

DATE: **4/19/1999**

D PAGE

	D	FLAGS								E	FLAGS								F	FLAGS							
	MAX	1	2	3	4	5	6	7	8	MIN	1	2	3	4	5	6	7	8	PED	1	2	3	4	5	6	7	8
0	RCL									RCL									RCL								
1	CP 1									CP 1									CP 1								
2	CP 2									CP 2									CP 2								
3	CP 3									CP 3									CP 3								
4	CP 4									CP 4									CP 4								
5	CP 5									CP 5									CP 5								
6	CP 6									CP 6									CP 6								
7	CP 7									CP 7									CP 7								
8	CP 8									CP 8									CP 8								
9	CP 9									CP 9									CP 9								
A																											
B																											
C																											
D																											
E										VER.																	
F										BAT.																	

E PAGE

	E	FLAGS								F	FLAGS								
	FUNCTIO	1	2	3	4	5	6	7	8	UNCTIO	1	2	3	4	5	6	7	8	
0										CODE 4									0
1										CODE 5									1
2										"Y" RCL C									2
3										"Y" RCL D									3
4																			4
5										2 PED									5
6										6 PED						X			6
7										4 PED				X					7
8										8 PED			X						8
9																			9
A	OLA NOT									OLA ON									A
B	OLB NOT									OLB ON									B
C	OLC NOT									OLC ON									C
D	OLD NOT									OLD ON									D
E																			E
F																			F

PHASE TIMING

LOCATION: Latrobe Road at Suncast Lane

PROGRAM: C8 ver 4 DATE: 6/18/2004

F PAGE

	INTERVAL	PHASE 1	2	3	4	5	6	7	8	9
0	WALK			4			4			CLK RST
1	DON'T WALK			12			20			CHK SUM
2	MIN GREEN		5	5		5	5			
3	TYPE 3 DET		10	10		10	10			
4	ADD/VEH		1.0	1.0		1.0	1.0			
5	PASSAGE		4.0	3.0		2.0	4.0			
6	MAX GAP		5.0	5.0		5.0	5.0			
7	MIN GAP		5.0	5.0		5.0	5.0			
8	MAX EXT		40	20		12	40			
9	MAX 2		50	50		50	50			YEAR
A	MAX 3		50	50		50	50			MONTH
B										DAY
C	REDUCE BY									DAY OF WEEK
D	REDUCE EVERY		1.0	1.0		1.0	1.0			HOUR
E	YELLOW		5.0	3.0		3.0	5.0			MINUTE
F	RED		1.0	1.0		1.0	1.0			SECOND

	PRE-EMPTION	E
	EV SELECT	
	RR1 CLEAR	10
	EVA DELAY	0
	EVA CLEAR	5
	EVB DELAY	0
	EVB CLEAR	5
	EVC DELAY	0
	EVC CLEAR	5
	EVD DELAY	
	EVD CLEAR	
	MAX EV	30
	RR2 CLEAR	10

	FLAGS	F 1	2	3	4	5	6	7	8	
	PERMIT		X	X		X	X			0
	RED LOCK			X						1
	YEL LOCK									2
	V RECALL		X				X			3
	P RECALL									4
	PED PHASES			X			X			5
	ARROW A									6
	ARROW B									7
	DBL ENTRY									8
	MAX 2 PH									9
	LAG PHASES	FOR OBSERVATION ONLY								A
	RED REST									B
	REST IN WALK									C
	MAX 3 PH									D
	YEL STARTUP			X						E
	FIRST PHASE		X				X			F

F0E	MAX VAR INITIAL	
FC0	GAP SET	
FC1	MAX SET	
FC2		
FCA	OLA-GREEN	
FCB	OLB-GREEN	
FCC	OLC-GREEN	
FCD	OLD-GREEN	

F0F	RED REVERT	2.0
FD0	TIME BASE SELECT	
FD3	PED SELECT	
FD4	7 - WIRE SELECT	
FD8	OFFSET SEEKING	
C05	FLASH TYPE	
F0C	LONG FAIL	
F0D	SHORT FAIL	

LOCATION: **Latrobe Road @ Suncast Lane**

PROGRAM: **C8 ver 4** DATE: **6/18/2004**

D PAGE

	D	FLAGS								E	FLAGS								F	FLAGS							
	MAX	1	2	3	4	5	6	7	8	MIN	1	2	3	4	5	6	7	8	PED	1	2	3	4	5	6	7	8
0	RCL									RCL									RCL								
1	CP 1									CP 1									CP 1								
2	CP 2									CP 2									CP 2								
3	CP 3									CP 3									CP 3								
4	CP 4									CP 4									CP 4								
5	CP 5									CP 5									CP 5								
6	CP 6									CP 6									CP 6								
7	CP 7									CP 7									CP 7								
8	CP 8									CP 8									CP 8								
9	CP 9									CP 9									CP 9								
A																											
B																											
C																											
D																											
E										VER																	
F										BAT																	

E PAGE

	E	FLAGS								F	FLAGS								
	FUNCTIO	1	2	3	4	5	6	7	8	UNCTIO	1	2	3	4	5	6	7	8	
0										CODE 4									0
1										CODE 5									1
2										"Y" RCL C									2
3										"Y" RCL D									3
4																			4
5										2 PED									5
6										6 PED						X			6
7										4 PED									7
8										8 PED			X						8
9																			9
A	OLA NOT									OLA ON									A
B	OLB NOT									OLB ON									B
C	OLC NOT									OLC ON									C
D	OLD NOT									OLD ON									D
E																			E
F																			F

Movement	SBLT	NB		WB	NBLT	SB		EB
Times [1.1.1]	1	2	3	4	5	6	7	8
Min Green	5	5		5	5	5		5
Gap, Ext	1	1	1	1	1	1	1	1
Max 1	12	25		15	12	25		15
Max 2								
Yel Clearance	3	4.3	3.5	3.5	3	4.3	3.5	3
Red Clearance	1	1	1.5	1.5	1	1	1.5	1.5
Walk		7				7		7
Ped Clearance								
Red Revert	2	2		2	2	2		2
Add Initial								
Max Initial								
Time B4 Reduct								
Cars B4 Reduct								
Time To Reduce								
Reduce By								
Min Gap								
DyMaxLim								
Max Step								
Options [1.1.2]	1	2	3	4	5	6	7	8
Enable	X	X	-	X	X	X	-	X
Min Recall	-	-	-	-	-	-	-	-
Max Recall	-	-	-	-	-	-	-	-
Ped Recall	-	-	-	-	-	-	-	-
Soft Recall	-	X	-	-	-	X	-	-
Lock Calls	X	-	-	-	X	-	-	-
Auto Flash Entry	-	-	-	-	-	-	-	-
Auto Flash Exit	-	-	-	-	-	-	-	-
Dual Entry	-	-	-	-	-	-	-	-
Enable Simul Gap	-	X	-	-	-	X	-	-
Gaurantee Passage	-	-	-	-	-	-	-	-
Rest In Walk	-	-	-	-	-	-	-	-
Conditon Service	-	-	-	-	-	-	-	-
Non-Actuated 1	-	-	-	-	-	-	-	-
Non-Actuated 2	-	-	-	-	-	-	-	-
Add Init Calc								

Pattern Tables [2.4]

Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq
1	0	0	0	1	13					25					37				
2	0	0	0	1	14					26					38				
3	0	0	0	1	15					27					39				
4	0	0	0	1	16					28					40				
5	0	0	0	1	17					29					41				
6	0	0	0	1	18					30					42				
7					19					31					43				
8					20					32					44				
9					21					33					45				
10					22					34					46				
11					23					35					47				
12					24					36					48				

Split	[2.7]	1	2	3	4	5	6	7	8	Split	[2.7]	1	2	3	4	5	6	7	8
1	Coord	0	0	0	0	0	0	0	0	13	Coord								
2	Coord	0	0	0	0	0	0	0	0	14	Coord								
3	Coord	0	0	0	0	0	0	0	0	15	Coord								
4	Coord	0	0	0	0	0	0	0	0	16	Coord								
5	Coord	0	0	0	0	0	0	0	0	17	Coord								
6	Coord									18	Coord								
7	Coord									19	Coord								
8	Coord									20	Coord								
9	Coord									21	Coord								
10	Coord									22	Coord								
11	Coord									23	Coord								
12	Coord									24	Coord								

QSeq

Ring/Startup [1.1.4]			[1.1.2]
Phs	Ring	Start	Enable
1	1	RED	X
2	1	RED	X
3	1	RED	-
4	1	RED	X
5	2	RED	X
6	2	RED	X
7	1	RED	-
8	1	RED	X

Coord Modes [2.1]	
Test OpMode	0
Correction	LONG
Maximum	MAX 1
Force-Off	FIXED
Closed Loop	OFF
Stop-in-Walk	OFF
Auto Reset	OFF
Expand Splt	OFF
Ped Recycle	NO_RECYCLE
Before	TIMED
After	TIMED
Auto Flash [1.4.1]	
Auto Flash	CHANNEL
Flash Yel	3.5
Flash Red	1.5
Unit Params [1.2.1]	
Phase Mode	QSeq
IO Mode	AUTO
Loc Flsh Start	OFF
Start Flash(s)	0
Start AllRed(s)	0
Yellow < 3"	OFF
Display Time	10
Red Revert	2
MCE Timeout	
Feature Profile	0
Free Ring Seq	1
SDLC Retry	0
TS2 Det Faults	ON
Auto Ped Clear	OFF
Date Printed:	01/12/09
	Page 1

Latrobe Rd @ GFH Pw (S) (ID 7047) (Standard File)

IP Address:		Date Installed:	
Mask:		Date Superceded:	
Gateway:			
Port:			

Phase Options+ [1.1.3]

Options+ [1.1.3]	1	2	3	4	5	6	7	8
Reservice	-	-	-	-	-	-	-	-
PedClr Thru Yel	-	-	-	-	-	-	-	-
SkipRed-NoCall	-	-	-	-	-	-	-	-
Red Rest	-	-	-	-	-	-	-	-
Max II	-	-	-	-	-	-	-	-
Ped Delay	-	-	-	-	-	-	-	-
Grn/Ped Delay								
Conflicting Phase								
Omit Yel, Yel P								
Ped Out/Olp Ped								
StartYel, Next P								

Phase Concurrency [1.1.4]

Phase	Ring	StartUp	Concurrent Phases				
1	1	RED	5	6	0	0	0
2	1	RED	5	6	0	0	0
3	1	RED	0	0	0	0	0
4	1	RED	0	0	0	0	0
5	2	RED	1	2	0	0	0
6	2	RED	1	2	0	0	0
7	1	RED	0	0	0	0	0
8	1	RED	0	0	0	0	0
9	0	RED	0	0	0	0	0
10	0	RED	0	0	0	0	0
11	0	RED	0	0	0	0	0
12	0	RED	0	0	0	0	0

User Defined Sequences (MM>1>2>4)

Sequence No.	Ring	Phase						
1	1	1	2	0	3	4	7	8
	2	5	6	0	0	0	0	0
	3	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0
2	1	1	2	3	4	0	0	0
	2	6	5	7	8	0	0	0
	3	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0
3	1	2	1	3	4	0	0	0
	2	5	6	7	8	0	0	0
	3	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0

Overlap 1-8 Program Parms & Parm+ [1.5.2.1] [1.5.2.2]

1	Included Ø	NORMAL	
	Modifier Ø	Grn	
	Conflict Ø	Yel	3.5
A	Conflict Olap	Red	1.5
	Conflict Ped	LG	
2	Included Ø	NORMAL	
	Modifier Ø	Grn	
	Conflict Ø	Yel	3.5
B	Conflict Olap	Red	1.5
	Conflict Ped	LG	
3	Included Ø	NORMAL	
	Modifier Ø	Grn	
	Conflict Ø	Yel	3.5
C	Conflict Olap	Red	1.5
	Conflict Ped	LG	
4	Included Ø	NORMAL	
	Modifier Ø	Grn	
	Conflict Ø	Yel	3.5
D	Conflict Olap	Red	1.5
	Conflict Ped	LG	
5	Included Ø	NORMAL	
	Modifier Ø	Grn	
	Conflict Ø	Yel	3.5
E	Conflict Olap	Red	1.5
	Conflict Ped	LG	
6	Included Ø	NORMAL	
	Modifier Ø	Grn	
	Conflict Ø	Yel	3.5
F	Conflict Olap	Red	1.5
	Conflict Ped	LG	
7	Included Ø	NORMAL	
	Modifier Ø	Grn	
	Conflict Ø	Yel	3.5
G	Conflict Olap	Red	1.5
	Conflict Ped	LG	
8	Included Ø	NORMAL	
	Modifier Ø	Grn	
	Conflict Ø	Yel	3.5
H	Conflict Olap	Red	1.5
	Conflict Ped	LG	

Coord Transition, CoorPhs - [2.5]

Pat#	Short	Long	Dwell	No Shortway Ø				E-Yld	Offset	Min Perms Veh	Min Perms Ped
1		17							BegGRN		
2		17							BegGRN		
3		17							BegGRN		
4		17							BegGRN		
5		17							BegGRN		
6		17							BegGRN		
7		17							BegGRN		
8		17							BegGRN		
9		17							BegGRN		
10		17							BegGRN		
11		17							BegGRN		
12		17							BegGRN		
13		17							BegGRN		
14		17							BegGRN		

Default Phase Sequence Chart [1.2.4]

Seq #	Ring	Phases				
1	1	1	2	3	4	
	2	5	6	7	8	
2	1	1	2	3	4	
	2	6	5	7	8	
3	1	2	1	3	4	
	2	5	6	7	8	
4	1	2	1	3	4	
	2	6	5	7	8	
5	1	1	2	3	4	
	2	5	6	8	7	
6	1	1	2	3	4	
	2	6	5	8	7	
7	1	2	1	3	4	
	2	5	6	8	7	
8	1	2	1	3	4	
	2	6	5	8	7	
9	1	1	2	4	3	
	2	5	6	7	8	
10	1	1	2	4	3	
	2	6	5	7	8	
11	1	2	1	4	3	
	2	5	6	7	8	
12	1	2	1	4	3	
	2	6	5	7	6	
13	1	1	2	4	3	
	2	5	6	8	7	
14	1	1	2	4	3	
	2	6	5	8	7	
15	1	2	1	4	3	
	2	5	6	8	7	
16	1	2	1	4	3	
	2	6	5	8	7	

Coord Trans [2.5] cont.

Patt #	Ret Hold	Flt	Max2
1	-		-
2	-		-
3	-		-
4	-		-
5	-		-
6	-		-
7	-		-
8	-		-
9	-		-
10	-		-
11	-		-
12	-		-
13	-		-
14	-		-

Latrobe Rd @ GFH Pw (S) (ID 7047) (Standard File)

01/12/09

PHASE TIMING

LOCATION: Latrobe Road at Investment Boulevard

PROGRAM: ~~CB~~ CB DATE: 4/19/99

F PAGE

	INTERVAL	PHASE 1	2	3	4	5	6	7	8	9
0	WALK				4		4			CLK RST
1	DON'T WALK				12		20			CHK SUM
2	MIN GREEN		5		5	5	5			
3	TYPE 3 DET		10		16	10	10			
4	ADD/VEH		1.0		1.0	1.0	1.0			
5	PASSAGE		4.0		3.0	2.0	4.0			
6	MAX GAP		5.0		5.0	5.0	5.0			
7	MIN GAP		5.0		5.0	5.0	5.0			
8	MAX EXT		40		20	12	40			
9	MAX 2		50		50	50	50			YEAR
A	MAX 3		50		50	50	50			MONTH
B										DAY
C	REDUCE BY									DAY OF WEEK
D	REDUCE EVERY		1.0		1.0	1.0	1.0			HOUR
E	YELLOW		5.0		3.0	3.0	5.0			MINUTE
F	RED		1.0		1.0	1.0	1.0			SECOND

	PRE-EMPTION	E
	EV SELECT	
	RR1 CLEAR	10
	EVA DELAY	0
	EVA CLEAR	5
	EVB DELAY	0
	EVB CLEAR	5
	EVC DELAY	0
	EVC CLEAR	5
	EVD DELAY	
	EVD CLEAR	
	MAX EV	30
	RR2 CLEAR	10

	F FLAGS	1	2	3	4	5	6	7	8	
0	PERMIT		X		X	X	X			0
1	RED LOCK				X					1
2	YEL LOCK									2
3	V RECALL		X				X			3
4	P RECALL									4
5	PED PHASES				X		X			5
6	ARROW A									6
7	ARROW B									7
8	DBL ENTRY									8
9	MAX 2 PH									9
A	LAG PHASES	FOR OBSERVATION ONLY								A
B	RED REST									B
C	REST IN WALK									C
D	MAX 3 PH									D
E	YEL STARTUP				X					E
F	FIRST PHASE		X				X			F

F0E	MAX VAR INITIAL	
FC0	GAP SET	
FC1	MAX SET	
FC2		
FCA	OLA-GREEN	
FCB	OLB-GREEN	
FCC	OLC-GREEN	
FCD	OLD-GREEN	

F0F	RED REVERT	
FD0	TIME BASE SELECT	
FD3	PED SELECT	
FD4	7 - WIRE SELECT	
FD8	OFFSET SEEKING	
C05	FLASH TYPE	
F0C	LONG FAIL	
F0D	SHORT FAIL	

LOCATION: Latrobe Road at Investment Boulevard

PROGRAM: C7

D PAGE

INPUT	ADDRESS	DELAY	OBSV DELAY	ADDRESS	CARRY	OBSV CARRY		INPUT	ADDRESS	DELAY	OBSV DELAY	ADDRESS	CARRY	OBSV CARRY
1I1	D-1-0		D-7-0	D-3-0		D-9-0	0	5J1	D-2-0		D-8-0	D-4-0		D-A-0
2I2U	D-1-1		D-7-1	D-3-1	1.5	D-9-1	1	6J2U	D-2-1		D-8-1	D-4-1	1.5	D-A-1
2I2L	D-1-2		D-7-2	D-3-2	1.0	D-9-2	2	6J2L	D-2-2		D-8-2	D-4-2	1.0	D-A-2
2I3U	D-1-3		D-7-3	D-3-3		D-9-3	3	6J3U	D-2-3	8.0	D-8-3	D-4-3		D-A-3
2I3L	D-1-4		D-7-4	D-3-4		D-9-4	4	6J3L	D-2-4		D-8-4	D-4-4		D-A-4
2I4	D-1-5		D-7-5	D-3-5		D-9-5	5	6J4	D-2-5		D-8-5	D-4-5		D-A-5
3I5	D-1-6		D-7-6	D-3-6		D-9-6	6	7J5	D-2-6		D-8-6	D-4-6		D-A-6
4I6U	D-1-7		D-7-7	D-3-7		D-9-7	7	8J6U	D-2-7		D-8-7	D-4-7		D-A-7
4I6L	D-1-8		D-7-8	D-3-8		D-9-8	8	8J6L	D-2-8		D-8-8	D-4-8		D-A-8
4I7U	D-1-9	8.0	D-7-9	D-3-9		D-9-9	9	8J7U	D-2-9		D-8-9	D-4-9		D-A-9
4I7L	D-1-A	5.0	D-7-A	D-3-A		D-9-A	A	8J7L	D-2-A		D-8-A	D-4-A		D-A-A
4I8	D-1-B		D-7-B	D-3-B		D-9-B	B	8J8	D-2-B		D-8-B	D-4-B		D-A-B
1I9U	D-1-C		D-7-C	D-3-C		D-9-C	C	5J9U	D-2-C		D-8-C	D-4-C		D-A-C
3I9L	D-1-D		D-7-D	D-3-D		D-9-D	D	7J9L	D-2-D		D-8-D	D-4-D		D-A-D

Assignable Detectors - (FCF)=123
Key Action = "E" + X Coord. + Y Coord. (See Shaded Areas)
Select Phase/Function Using Call Lights
EX. E-C-0 = 1 (FZ 1) E-D-0 =5,6 (Ext../Cnt. i.e. TYPE)
*5 = Ext..
6 = Cnt.
7 = Call
8 = Type 3

NOTE: Reset location F-C-F to zero after viewing or assigning detectors.

Movement	SBLT	NB	WBLT	EB		SB	EBLT	WB
Times [1.1.1]	1	2	3	4	5	6	7	8
Min Green	3	7	3	3		7	3	3
Gap, Ext	1	3.6	1	1		3.6	1	1
Max 1	45	41	17	34		92	17	36
Max 2	45	41	17	34		92	17	36
Yel Clearance	3.6	5	3.6	3.6		5	3.6	3.6
Red Clearance	2	1	1	1		1	1	1
Walk		7				7		7
Ped Clearance		13				20		26
Red Revert	2	2	2	2		2	2	2
Add Initial								
Max Initial								
Time B4 Reduct								
Cars B4 Reduct								
Time To Reduce								
Reduce By								
Min Gap								
DyMaxLim								
Max Step								
Options [1.1.2]	1	2	3	4	5	6	7	8
Enable	X	X	X	X	-	X	X	X
Min Recall	-	X	-	-	-	X	-	-
Max Recall	-	X	-	-	-	X	-	-
Ped Recall	-	-	-	-	-	-	-	-
Soft Recall	-	-	-	-	-	-	-	-
Lock Calls	-	X	-	-	-	X	-	-
Auto Flash Entry	-	-	-	-	-	-	-	-
Auto Flash Exit	-	-	-	-	-	-	-	-
Dual Entry	-	-	-	-	-	-	-	-
Enable Simul Gap	-	-	-	-	-	-	-	-
Gaurantee Passage	-	-	-	-	-	-	-	-
Rest In Walk	-	-	-	-	-	-	-	-
Conditon Service	-	-	-	-	-	-	-	-
Non-Actuated 1	-	-	-	-	-	-	-	-
Non-Actuated 2	-	-	-	-	-	-	-	-
Add Init Calc								

Pattern Tables [2.4]

Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq
1	135	31	1	14	13					25					37				
2	135	73	2	14	14					26					38				
3					15					27					39				
4					16					28					40				
5					17					29					41				
6					18					30					42				
7					19					31					43				
8					20					32					44				
9					21					33					45				
10					22					34					46				
11					23					35					47				
12					24					36					48				

Split	[2.7]	1	2	3	4	5	6	7	8	Split	[2.7]	1	2	3	4	5	6	7	8
1	Coord	51	46	0	38	0	97	0	38	13	Coord								
	2		MAX				MAX												
2	Coord	26	49	0	60	0	75	0	60	14	Coord								
	2		MIN				MIN												
3	Coord									15	Coord								
	2																		
4	Coord									16	Coord								
5	Coord									17	Coord								
6	Coord									18	Coord								
7	Coord									19	Coord								
8	Coord									20	Coord								
9	Coord									21	Coord								
10	Coord									22	Coord								
11	Coord									23	Coord								
12	Coord									24	Coord								

STD8

Ring/Startup [1.1.4]			[1.1.2]
Phs	Ring	Start	Enable
1	1	RED	X
2	1	GREEN	X
3	1	RED	X
4	1	RED	X
5	2	RED	-
6	2	GREEN	X
7	2	RED	X
8	2	RED	X

Coord Modes [2.1]	
Test OpMode	0
Correction	SHRT/LNG
Maximum	MAX 1
Force-Off	FLOAT
Closed Loop	OFF
Stop-in-Walk	ON
Auto Reset	ON
Expand Splt	OFF
Ped Recycle	P3478_INH
Before	TIMED
After	TIMED
Auto Flash [1.4.1]	
Auto Flash	CHANNEL
Flash Yel	0
Flash Red	0
Unit Params [1.2.1]	
Phase Mode	STD8
IO Mode	AUTO
Loc Flsh Start	OFF
Start Flash(s)	8
Start AllRed(s)	2
Yellow < 3"	OFF
Display Time	30
Red Revert	2
MCE Timeout	
Feature Profile	1
Free Ring Seq	14
SDLC Retry	0
TS2 Det Faults	OFF
Auto Ped Clear	OFF
Date Printed:	02/23/12

White Rock & Windfield (ID 95) (Standard File)

IP Address:

Mask:

Gateway:

Port:

Date Installed:

Date Superceded:

Veh Par 1-32 [5.1]										Vehicle Options 1-32 [5.2]									Parameters+ 1-32 [5.3]								Info Only			
Det #	Call Ø	Swi Ø	Dlay	Ext	Que	No Act	Max Pres	Err Cnt	Fail Time	Det #	Call	Ext	Que	Add Init	Red Lock	Yell Lock	occ	vol	Det #	Occupancy G	Occupancy Y	Occupancy R	Delay 1	Delay 2	Type	Src	Type of Detection Prnc	Type of Detection Near	Type of Detection Adv	Det #
1	1					0	0	0	0	1	X	X	-	-	-	-	X	X	1	X	X				NORM					1
2						0	0	0	0	2			-	-	-	-	X	X	2	X	X				NORM					2
3	2					0	0	0	0	3	X	X	-	-	-	-	X	X	3	X	X				NORM					3
4	2					0	0	0	0	4	X	X	-	-	-	-	X	X	4	X	X				NORM					4
5	2					0	0	0	0	5	X	X	-	-	-	-	X	X	5	X	X				NORM					5
6	2					0	0	0	0	6	X	X	-	-	-	-	X	X	6	X	X				NORM					6
7	2					0	0	0	0	7	X	X	-	-	-	-	X	X	7	X	X				NORM					7
8	2					0	0	0	0	8	X	X	-	-	-	-	X	X	8	X	X				NORM					8
9	3					0	0	0	0	9	X	X	-	-	-	-	-	-	9	-	-				NORM					9
10						0	0	0	0	10	-	-	-	-	-	-	-	-	10	-	-				NORM					10
11						0	0	0	0	11	-	-	-	-	-	-	-	-	11	-	-				NORM					11
12						0	0	0	0	12	-	-	-	-	-	-	-	-	12	-	-				NORM					12
13	4					0	0	0	0	13	X	X	-	-	-	-	-	-	13	-	-				NORM					13
14						0	0	0	0	14	-	-	-	-	-	-	-	-	14	-	-				NORM					14
15	4					0	0	0	0	15	X	X	-	-	-	-	-	-	15	-	-				NORM					15
16						0	0	0	0	16	-	-	-	-	-	-	-	-	16	-	-				NORM					16
17	5					0	0	0	0	17	X	X	-	-	-	-	-	-	17	-	-				NORM					17
18						0	0	0	0	18	-	-	-	-	-	-	-	-	18	-	-				NORM					18
19	6					0	0	0	0	19	X	X	-	-	-	-	-	-	19	-	-				NORM					19
20	6					0	0	0	0	20	X	X	-	-	-	-	-	-	20	-	-				NORM					20
21	6					0	0	0	0	21	X	X	-	-	-	-	-	-	21	-	-				NORM					21
22						0	0	0	0	22	-	-	-	-	-	-	-	-	22	-	-				NORM					22
23	6					0	0	0	0	23	X	X	-	-	-	-	-	-	23	-	-				NORM					23
24	7					0	0	0	0	24	X	X	-	-	-	-	-	-	24	-	-				NORM					24
25						0	0	0	0	25	-	-	-	-	-	-	-	-	25	-	-				NORM					25
26						0	0	0	0	26	-	-	-	-	-	-	-	-	26	-	-				NORM					26
27						0	0	0	0	27	-	-	-	-	-	-	-	-	27	-	-				NORM					27
28						0	0	0	0	28	-	-	-	-	-	-	-	-	28	-	-				NORM					28
29	8					0	0	0	0	29	X	X	-	-	-	-	-	-	29	-	-				NORM					29
30						0	0	0	0	30	-	-	-	-	-	-	-	-	30	-	-				NORM					30
31	8					0	0	0	0	31	X	X	-	-	-	-	-	-	31	-	-				NORM					31
32						0	0	0	0	32	-	-	-	-	-	-	-	-	32	-	-				NORM					32
33						0	0	0	0	33	-	-	-	-	-	-	-	-	33	-	-				NORM					33
34						0	0	0	0	34	-	-	-	-	-	-	-	-	34	-	-				NORM					34
35						0	0	0	0	35	-	-	-	-	-	-	-	-	35	-	-				NORM					35
36						0	0	0	0	36	-	-	-	-	-	-	-	-	36	-	-				NORM					36
37						0	0	0	0	37	-	-	-	-	-	-	-	-	37	-	-				NORM					37
38						0	0	0	0	38	-	-	-	-	-	-	-	-	38	-	-				NORM					38
39						0	0	0	0	39	-	-	-	-	-	-	-	-	39	-	-				NORM					39
40						0	0	0	0	40	-	-	-	-	-	-	-	-	40	-	-				NORM					40
41						0	0	0	0	41	-	-	-	-	-	-	-	-	41	-	-				NORM					41
42						0	0	0	0	42	-	-	-	-	-	-	-	-	42	-	-				NORM					42
43						0	0	0	0	43	-	-	-	-	-	-	-	-	43	-	-				NORM					43
44						0	0	0	0	44	-	-	-	-	-	-	-	-	44	-	-				NORM					44

Annual Schedule [4.3] — White Rock & Windfield (ID 95) (Standard File)

Month of Year: J F M A M J J A S O N D
Day of Week: S M T W T F S
Date: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

	Month of Year	Day of Week	Date	Day Plan	Link To
1	X X X X X X X X X X X X	X X X X X X X	X X X X X X X X X X X X X X X X X X X X X X X X X X X	1	
2	- - - - - - - - - - - -	- - - - - - -	- -	1	
3	- - - - - - - - - - - -	- - - - - - -	- -	1	
4	- - - - - - - - - - - -	- - - - - - -	- -	1	
5	- - - - - - - - - - - -	- - - - - - -	- -	1	
6	- - - - - - - - - - - -	- - - - - - -	- -	1	
7	- - - - - - - - - - - -	- - - - - - -	- -	1	
8	- - - - - - - - - - - -	- - - - - - -	- -	1	
9	- - - - - - - - - - - -	- - - - - - -	- -	1	
10	- - - - - - - - - - - -	- - - - - - -	- -	1	
11	- - - - - - - - - - - -	- - - - - - -	- -	1	
12	- - - - - - - - - - - -	- - - - - - -	- -	1	

DAY PLANS [4.4]

Day Plan 1

Evt	Hour	Min	Act	Evt	Hour	Min	Act
1		1	54	9			
2	7		1	10			
3	9		54	11			
4	16		2	12			
5	18		54	13			
6				14			
7				15			
8				16			

Day Plan 3

Evt	Hour	Min	Act	Evt	Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 2

Evt	Hour	Min	Act	Evt	Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 4

Evt	Hour	Min	Act	Evt	Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

ACTION TABLE

Action Table [4.5]

Act#	Pat#	A1	A2	A3	S1	S2	S3	S4	S5	S6	S7	S8
1	1											
2	2											
3	0											
4	0											
5	0											
6	0											
7	0											
8	0											
9	0											
10	0											
11	0											
12	0											
13	0											
14	0											
15	0											
16	0											
54	254											
55	255											

ALTERNATE PROGRAMS

Alt Progs+ [2.6]

Pat#	ØOpt	ØTime	DetG	CIR	CIC	Max2
1						-
2						-
3						-
4						-
5						-
6						-
7						-
8						-
9						-
10						-
11						-
12						-
13						-
14						-
15						-
16						-
17						-
18						-

Movement	SBLT	NB	WBLT	EB	NBLT	SB	EBLT	WB
Times [1.1.1]	1	2	3	4	5	6	7	8
Min Green	3	7	3	3	3	7	3	3
Gap, Ext	1	3.6	1	1	1	3.6	1	1
Max 1	8	62	16	31	21	48	14	34
Max 2	8	62	16	31	21	48	14	34
Yel Clearance	3.5	5	3.5	3.5	3.5	5	3.5	3.5
Red Clearance	1	1	1.5	1	1.7	1	2	1
Walk		7				7		7
Ped Clearance		9				11		22
Red Revert	2	2	2	2	2	2	2	2
Add Initial								
Max Initial								
Time B4 Reduct								
Cars B4 Reduct								
Time To Reduce								
Reduce By								
Min Gap								
DyMaxLim								
Max Step								
Options [1.1.2]	1	2	3	4	5	6	7	8
Enable	X	X	X	X	X	X	X	X
Min Recall	-	X	-	-	-	X	-	-
Max Recall	-	-	-	-	-	-	-	-
Ped Recall	-	-	-	-	-	-	-	-
Soft Recall	-	-	-	-	-	-	-	-
Lock Calls	-	X	-	-	-	X	-	-
Auto Flash Entry	-	-	-	-	-	-	-	-
Auto Flash Exit	-	-	-	-	-	-	-	-
Dual Entry	-	-	-	-	-	-	-	-
Enable Simul Gap	-	-	-	-	-	-	-	-
Gaurantee Passage	-	-	-	-	-	-	-	-
Rest In Walk	-	-	-	-	-	-	-	-
Conditon Service	-	-	-	-	-	-	-	-
Non-Actuated 1	-	-	-	-	-	-	-	-
Non-Actuated 2	-	-	-	-	-	-	-	-
Add Init Calc								

Pattern Tables [2.4]

Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq
1	135	71	1	14	13					25					37				
2	135	55	2	14	14					26					38				
3					15					27					39				
4					16					28					40				
5					17					29					41				
6					18					30					42				
7					19					31					43				
8					20					32					44				
9					21					33					45				
10					22					34					46				
11					23					35					47				
12					24					36					48				

Split	[2.7]	1	2	3	4	5	6	7	8
1	Coord	12	67	21	35	26	53	19	37
	2		MIN				MIN		
2	Coord	10	71	27	27	40	41	19	35
	2		MIN				MIN		
3	Coord								
4	Coord								
5	Coord								
6	Coord								
7	Coord								
8	Coord								
9	Coord								
10	Coord								
11	Coord								
12	Coord								

Split	[2.7]	1	2	3	4	5	6	7	8
13	Coord								
14	Coord								
15	Coord								
16	Coord								
17	Coord								
18	Coord								
19	Coord								
20	Coord								
21	Coord								
22	Coord								
23	Coord								
24	Coord								

STD8

Ring/Startup [1.1.4]			[1.1.2]
Phs	Ring	Start	Enable
1	1	RED	X
2	1	GREEN	X
3	1	RED	X
4	1	RED	X
5	2	RED	X
6	2	GREEN	X
7	2	RED	X
8	2	RED	X

Coord Modes [2.1]	
Test OpMode	0
Correction	SHRT/LNG
Maximum	MAX 1
Force-Off	FLOAT
Closed Loop	OFF
Stop-in-Walk	ON
Auto Reset	ON
Expand Split	OFF
Ped Recycle	P3478_INH
Before	TIMED
After	TIMED
Auto Flash [1.4.1]	
Auto Flash	CHANNEL
Flash Yel	0
Flash Red	0
Unit Params [1.2.1]	
Phase Mode	STD8
IO Mode	AUTO
Loc Flsh Start	OFF
Start Flash(s)	8
Start AllRed(s)	2
Yellow < 3"	OFF
Display Time	30
Red Revert	2
MCE Timeout	
Feature Profile	1
Free Ring Seq	14
SDLC Retry	0
TS2 Det Faults	OFF
Auto Ped Clear	OFF
Date Printed:	02/23/12
	Page 1

White Rock & Post (ID 99) (Standard File)

IP Address:

Mask:

Gateway:

Port:

Date Installed:

Date Superceded:

Phase Options+ [1.1.3]

Options+ [1.1.3]	1	2	3	4	5	6	7	8
Reservice	-	-	-	-	-	-	-	-
PedClr Thru Yel	-	-	-	-	-	-	-	-
SkipRed-NoCall	-	-	-	-	-	-	-	-
Red Rest	-	-	-	-	-	-	-	-
Max II	-	-	-	-	-	-	-	-
Ped Delay	-	-	-	-	-	-	-	-
Grn/Ped Delay								
Conflicting Phase								
Omit Yel, Yel P								
Ped Out/Olp Ped								
StartYel, Next P								

Phase Concurrency [1.1.4]

Phase	Ring	StartUp	Concurrent Phases				
1	1	RED	5	6	0	0	0
2	1	GREEN	5	6	0	0	0
3	1	RED	7	8	0	0	0
4	1	RED	7	8	0	0	0
5	2	RED	1	2	0	0	0
6	2	GREEN	1	2	0	0	0
7	2	RED	3	4	0	0	0
8	2	RED	3	4	0	0	0
9	0	NONE	0	0	0	0	0
10	0	NONE	0	0	0	0	0
11	0	NONE	0	0	0	0	0
12	0	NONE	0	0	0	0	0

User Defined Sequences (MM>1>2>4)

Sequence No.	Ring	Phase							
1	1	1	2	3	4	0	0	0	0
	2	5	6	7	8	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
2	1	1	2	3	4	0	0	0	0
	2	6	5	7	8	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
3	1	2	1	3	4	0	0	0	0
	2	5	6	7	8	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0

Overlap 1-8 Program Parms & Parm+ [1.5.2.1] [1.5.2.2]

1	Included Ø		NOTVAL
	Modifier Ø		Grn
	Conflict Ø		Yel
A	Conflict Olap		Red
	Conflict Ped		LG
2	Included Ø		NOTVAL
	Modifier Ø		Grn
	Conflict Ø		Yel
B	Conflict Olap		Red
	Conflict Ped		LG
3	Included Ø		NOTVAL
	Modifier Ø		Grn
	Conflict Ø		Yel
C	Conflict Olap		Red
	Conflict Ped		LG
4	Included Ø		NOTVAL
	Modifier Ø		Grn
	Conflict Ø		Yel
D	Conflict Olap		Red
	Conflict Ped		LG
5	Included Ø		NOTVAL
	Modifier Ø		Grn
	Conflict Ø		Yel
E	Conflict Olap		Red
	Conflict Ped		LG
6	Included Ø		NOTVAL
	Modifier Ø		Grn
	Conflict Ø		Yel
F	Conflict Olap		Red
	Conflict Ped		LG
7	Included Ø		NOTVAL
	Modifier Ø		Grn
	Conflict Ø		Yel
G	Conflict Olap		Red
	Conflict Ped		LG
8	Included Ø		NOTVAL
	Modifier Ø		Grn
	Conflict Ø		Yel
H	Conflict Olap		Red
	Conflict Ped		LG

Coord Transition, CoorPhs - [2.5]

Pat#	Short	Long	Dwell	No Shortway Ø	E-Yld	Offset
1	10	17				BegGRN
2	10	17				BegGRN
3	10	17				BegGRN
4	10	17				BegGRN
5	10	17				BegGRN
6	10	17				BegGRN
7						BegGRN
8						BegGRN
9						BegGRN
10						BegGRN
11						BegGRN
12						BegGRN
13						BegGRN
14						BegGRN

Min Perms

Veh	Ped

Default Phase Sequence Chart [1.2.4]

Seq #	Ring	Phases			
1	1	1	2	3	4
	2	5	6	7	8
2	1	1	2	3	4
	2	6	5	7	8
3	1	2	1	3	4
	2	5	6	7	8
4	1	2	1	3	4
	2	6	5	7	8
5	1	1	2	3	4
	2	5	6	8	7
6	1	1	2	3	4
	2	6	5	8	7
7	1	2	1	3	4
	2	5	6	8	7
8	1	2	1	3	4
	2	6	5	8	7
9	1	1	2	4	3
	2	5	6	7	8
10	1	1	2	4	3
	2	6	5	7	8
11	1	2	1	4	3
	2	5	6	7	8
12	1	2	1	4	3
	2	6	5	7	6
13	1	1	2	4	3
	2	5	6	8	7
14	1	1	2	4	3
	2	6	5	8	7
15	1	2	1	4	3
	2	5	6	8	7
16	1	2	1	4	3
	2	6	5	8	7

Coord Trans [2.5] cont.

Patt #	Ret Hold	Flt	Max2
1	-		-
2	-		-
3	-		-
4	-		-
5	-		-
6	-		-
7	-		-
8	-		-
9	-		-
10	-		-
11	-		-
12	-		-
13	-		-
14	-		-

White Rock & Post (ID 99) (Standard File)

02/23/12

Intersection No. 038 Date: 6-2-07

Phase Times [1.1.1]

	1	2	3	4	5	6	7	8
Min Green	5	5		5	5	5		5
Gap, Ext	2	3		3.6	2	3.7		3.6
Max 1	25	45		35	25	45		40
Max 2	25	45		35	25	45		40
Yel Clearance	3	4.3		3.2	3	5		3.2
Red Clearance	0.5	1		1	0.5	1		1
Walk		7		7		7		
Ped Clearance		17		18		18		
Red Revert								
Add Initial								
Max Initial								
Time B4 Reduct								
Cars B4 Reduct								
Time To Reduce								
Reduce By								
Min Gap								
DyMaxLim								
Max Step								

Phase Options [1.1.2]

	1	2	3	4	5	6	7	8
Enable	X	X		X	X	X		X
Min Recall								
Max Recall								
Ped Recall								
Soft Recall								
Lock Calls								
Auto Flash Entry								
Auto Flash Exit								
Dual Entry								
Enable Simul Gap		X				X		
Gaurant Passage	X			X	X			X
Rest In Walk								
Conditon Service								
Non-Actuated 1								
Non-Actuated 2								
Add Init Calc								

Phase Options+ [1.1.3]

Reservice								
Walk Thru Yel								
Skip Red No Call								
Red Rest								
Max II								
Conflicting Phase								
Conflicting Phase	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Omit Yellow								
Ped Out/Olap								
Start Yel, Next Ph								

Auto Flash Parms [1.4.1]

Flash Parameter		Clearance Time	
Mode	CHANNEL	Yellow	3.5
		Red	1.5

Auto Flash, Phases/Overlaps [1.4.2]

Yel (phases)								
Yel (overlaps)								

White Rock Rd at Valley View Pw
06/02/07

Inhibit Phases [1.1.5]

Phase	Inhibit Phases							
	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								

Call Phases, Call Redirection [1.1.5]

Phase	Call Phases				Redirection			
					From	To	From	To
1								
2								
3								
4								
5								
6								
7								
8								

White Rock Rd at Valley View Pw

Intersection No. 038 Date: 6-2-07

Detector, Vehicle Parameters 1-16 [5.1]

Det#	Call Φ	Switch Φ	Delay	Extend	Queue	NoAct	Ma	ErrCnt	FailTime
1	1		1.5						15
2	2								35
3	2								35
4	2								35
5	2								35
6	2				10				35
7	3								
8	4								25
9	4								25
10	4								25
11	4								25
12	4		1.5		10				25
13	1								15
14	3								
15	5		1.5						15
16	6								35

Detector, Vehicle Parameters 17-32 [5.1]

Det#	Call Φ	Switch Φ	Delay	Extend	Queue	NoAct	Ma	ErrCnt	
17	6								35
18	6								35
19	6								35
20	6				10				35
21	7								
22	8								25
23	8								25
24	8								25
25	8								25
26	8		1.5		10				25
27	5								
28	7								
29									
30									
31									
32									

Location: ED 50 @ Silva Valley Old White Rock (Cat3)
Designed By: 0300000258
System:
District:
Installed By:
Master At: EB Ramp
I/C:
Service Info:

Timing Change:	Date Start:	Date End:	Designed:	Installed:
				5/31/2016

Intersection Layout

		FLASH
PHASE	1) SB LT to Clarsville	[ ]
	2) NB White Rock	[ ]
	3) WB Clarksville	[ ]
	4) EB Clarksville	[ ]
	5) NB LT to Clarksville	[ ]
	6) SB White Rock	[ ]
	7)	[ ]
	8)	[ ]
OVERLAP	A)	[ ]
	B)	[ ]
	C)	[ ]
	D)	[ ]
	E)	[ ]
	F)	[ ]

Comments and Notes:
2016-05-31 OTO 0400 TSCP 2.20 B125 DH, Hassane Haffouda, Shane Cohen EDC

RAM Checksum

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Page 7: A4DE	Page 13: 86F7

CONFIGURATION PHASE FLAGS

Phases (2-1-1-1)	
Permitted	1 2 3 4 5 6 . .
Restricted	. . . . .

Phase Recalls (2-1-1-2)	
Vehicle Min	. 2 . . . 6 . .
Vehicle Max	. . . . .
Pedestrian	. . . . .
Bicycle	. . . . .

Phase Locks (2-1-1-3)	
Red	. . . . .
Yellow	. . . . .
Force/Max	. . . . .

Phase Features (2-1-1-4)	
Double Entry	. . . . .
Rest In Walk	. . . . .
Rest In Red	. . . . .
Walk 2	. . . . .
Max Green 2	. . . . .
Max Green 3	. . . . .

Startup (2-1-1-5)	
First Green Phases	. 2 . . . 6 . .
Yellow Start Phases	. . . . .
Vehicle Calls	1 2 3 4 5 6 . .
Pedestrian Calls	. . . . .
Yellow Start Overlaps	. . . . .
Startup All-Red	5.0

Call To Phase (2-1-2-1)		Omit On Green	
1	. . . . .	1	. . . . .
2	. . . . .	2	. . . . .
3	. . . . .	3	. . . . .
4	. . . . .	4	. . . . .
5	. . . . .	5	. . . . .
6	. . . . .	6	. . . . .
7	. . . . .	7	. . . . .
8	. . . . .	8	. . . . .

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	. . . . .
Yellow Flash Overlap	. . . . .
Flash In Red Phases	. . . . .
Flash In Red Overlap	. . . . .

Special Operation (2-1-2-3)	
Single Exit Phase	. . . . .
Driveway Signal Phases	. . . . .
Driveway Signal Overlaps	. . . . .
Leading Ped Phases	. . . . .

Protected Permissive (2-1-2-4)	
Protected Permissive	. . . . .

Pedestrian (2-1-3)	
P1	. . . . .
P2	. . . . .
P3	. . . . .
P4	. . . . .
P5	. . . . .
P6	. . . . .
P7	. . . . .
P8	. . . . .

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
A	. . . . .	. . . . .	. . . . .	. . . . .
B	. . . . .	. . . . .	. . . . .	. . . . .
C	. . . . .	. . . . .	. . . . .	. . . . .
D	. . . . .	. . . . .	. . . . .	. . . . .
E	. . . . .	. . . . .	. . . . .	. . . . .
F	. . . . .	. . . . .	. . . . .	. . . . .

PHASE TIMING

Phase (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	0	0	0	0	0	0	0
Flash Don't Walk	0	0	0	0	0	0	0	0
Minimum Green	8	9	8	9	8	9	0	0
Det Limit	10	10	10	10	10	10	0	0
Max Initial	0	0	0	0	0	0	0	0
Max Green 1	20	50	20	20	20	50	0	0
Max Green 2	50	50	50	50	50	50	0	0
Max Green 3	50	50	50	50	50	50	0	0
Extension	2.0	1.0	2.0	2.0	2.0	1.0	0.0	0.0
Maximum Gap	2.0	3.0	2.0	2.0	2.0	3.0	0.0	0.0
Minimum Gap	2.0	1.5	2.0	2.0	2.0	1.5	0.0	0.0
Add Per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Gap By	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
Reduce Every	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0
Yellow	3.7	4.8	3.7	3.7	3.7	4.8	3.0	3.0
All-Red	0.5	2.0	1.0	1.0	0.5	2.0	0.0	0.0
Ped/Bike (2-3)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	9	0	9	0	9	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A	B	C	D	E	F
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert

Red Revert (2-5)	
Time	5.0
All-Red Sec/Min (2-6)	
All-Red Sec/Min:	SEC

Max 2 Extension

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor	90						16	21	16	16	16	21		
Plan 2	Green Factor	100						16	31	16	16	16	31		
Plan 3	Green Factor	90						16	21	16	16	16	21		
Plan 4	Green Factor	100						16	31	16	16	16	31		
Plan 5	Green Factor	110						16	41	16	16	16	41		
Plan 6	Green Factor														
Plan 7	Green Factor														
Plan 8	Green Factor														
Plan 9	Green Factor														

Master Timer Sync (7-A)

Enable in Plans	
1-9	1 2 3 4 5 . . . .
11-19	. . . . .
21-29	. . . . .

Master Sub Master

Input	
Output	

FREE PLAN PHASE FLAGS

(7-E) Free

Lag	Omit
. 2 . 4 . 6 . 8	. . . . .
Veh Min	**Veh Max**
. . . . .	. . . . .
Ped	**Bike**
. . . . .	. . . . .
Cond	**Cond Grn**
. . . . .	10

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	. 2 . 4 . 6 . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 2	. 2 . 4 . 6 . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 3	. 2 . 4 . 6 . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 4	. 2 . 4 . 6 . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 5	. 2 . 4 . 6 . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 6	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 7	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 8	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 9	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .

MANUAL COMMANDS

Manual Plan (4-1)

Plan	OffSet
	A

Plan: 1-9
15 or 254 = Flash
14 or 255 = Free
Offset A, B, or C

Special Function Override (4-2)

#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

Local Plan 11...19 (7-2) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 11	Green Factor														
Plan 12	Green Factor														
Plan 13	Green Factor														
Plan 14	Green Factor														
Plan 15	Green Factor														
Plan 16	Green Factor														
Plan 17	Green Factor														
Plan 18	Green Factor														
Plan 19	Green Factor														

Local Plan 11...19 (7-2) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 11	.....	.....	.....	.....	.....	.....	.....	.....
Plan 12	.....	.....	.....	.....	.....	.....	.....	.....
Plan 13	.....	.....	.....	.....	.....	.....	.....	.....
Plan 14	.....	.....	.....	.....	.....	.....	.....	.....
Plan 15	.....	.....	.....	.....	.....	.....	.....	.....
Plan 16	.....	.....	.....	.....	.....	.....	.....	.....
Plan 17	.....	.....	.....	.....	.....	.....	.....	.....
Plan 18	.....	.....	.....	.....	.....	.....	.....	.....
Plan 19	.....	.....	.....	.....	.....	.....	.....	.....

Local Plan 21...29 (7-3) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 21	Green Factor														
Plan 22	Green Factor														
Plan 23	Green Factor														
Plan 24	Green Factor														
Plan 25	Green Factor														
Plan 26	Green Factor														
Plan 27	Green Factor														
Plan 28	Green Factor														
Plan 29	Green Factor														

Local Plan 21...29 (7-3) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 21	.....	.....	.....	.....	.....	.....	.....	.....
Plan 22	.....	.....	.....	.....	.....	.....	.....	.....
Plan 23	.....	.....	.....	.....	.....	.....	.....	.....
Plan 24	.....	.....	.....	.....	.....	.....	.....	.....
Plan 25	.....	.....	.....	.....	.....	.....	.....	.....
Plan 26	.....	.....	.....	.....	.....	.....	.....	.....
Plan 27	.....	.....	.....	.....	.....	.....	.....	.....
Plan 28	.....	.....	.....	.....	.....	.....	.....	.....
Plan 29	.....	.....	.....	.....	.....	.....	.....	.....

DETECTORS

Detector Attributes (5-1) / Detector Configuration (5-2)

Det	Type	Phases	Lock	Slot	Det	Delay	Extend	Recall	Port
1	COUNT+CALL+EXTEND	1.....	NO	I1U	1			10	3.2
2	COUNT+CALL+EXTEND	1.....	NO	I1L	2			10	7.2
3	COUNT+CALL+EXTEND	.2.....	NO	I2U	3			10	1.1
4	COUNT+CALL+EXTEND	.2.....	NO	I2L	4			10	1.5
5	COUNT+CALL+EXTEND	.2.....	NO	I3U	5			10	4.5
6	BICYCLE	.2.....	NO	I3L	6			10	6.2
7	LIMITED	.2.....	NO	I4U	7			10	2.1
8	COUNT+CALL+EXTEND	.2.....	NO	I4L	8			10	7.4
9	COUNT+CALL+EXTEND	..3....	NO	I5U	9			10	3.4
10	COUNT+CALL+EXTEND	..3....	NO	I5L	10			10	7.6
11	COUNT+CALL+EXTEND	...4...	NO	I6U	11			10	1.3
12	COUNT+CALL+EXTEND	...4...	NO	I6L	12			10	1.7
13	COUNT+CALL+EXTEND	...4...	NO	I7U	13			10	4.7
14	CALL+EXTEND	...4...	NO	I7L	14	10		10	6.4
15	LIMITED	...4...	NO	I8U	15			10	2.3
16	BICYCLE	...4...	NO	I8L	16			10	7.8
17	COUNT+CALL+EXTEND	..3....	NO	I9U	17			10	3.6
18	COUNT+CALL+EXTEND	..3....	NO	I9L	18	10		10	3.8
19	COUNT+CALL+EXTEND	.2.....	NO	I10U	19			10	4.1
20	COUNT+CALL+EXTEND	...4...	NO	I10L	20			10	4.2
21	COUNT+CALL+EXTEND	....5...	NO	J1U	21			10	3.1
22	COUNT+CALL+EXTEND	....5...	NO	J1L	22			10	7.1
23	COUNT+CALL+EXTEND	.....6..	NO	J2U	23			10	1.2
24	COUNT+CALL+EXTEND	.....6..	NO	J2L	24			10	1.6
25	COUNT+CALL+EXTEND	.....6..	NO	J3U	25			10	4.6
26	CALL+EXTEND	.....6..	NO	J3L	26			10	6.3
27	LIMITED	.....6..	NO	J4U	27			10	2.2
28	COUNT+CALL+EXTEND	.....6..	NO	J4L	28			10	7.3
29	COUNT+CALL+EXTEND	......7.	NO	J5U	29			10	3.3
30	COUNT+CALL+EXTEND	......7.	NO	J5L	30			10	7.5
31	BICYCLE	.....6..	NO	J6U	31			10	1.4
32	COUNT+CALL+EXTEND	8	NO	J6L	32			10	1.8
33	COUNT+CALL+EXTEND	8	NO	J7U	33			10	4.8
34	CALL+EXTEND	8	NO	J7L	34			10	6.5
35	LIMITED	8	NO	J8U	35			10	2.4
36	COUNT+CALL+EXTEND	8	NO	J8L	36			10	7.7
37	COUNT+CALL+EXTEND	....5...	NO	J9U	37			10	3.5
38	COUNT+CALL+EXTEND	......7.	NO	J9L	38			10	3.7
39	COUNT+CALL+EXTEND	.....6..	NO	J10U	39			10	4.3
40	COUNT+CALL+EXTEND	8	NO	J10L	40			10	4.4
41	PEDESTRIAN	.2.....	NO	I12U	41			10	5.1
42	PEDESTRIAN	...4...	NO	I12L	42			10	5.3
43	PEDESTRIAN	.....6..	NO	I13U	43			10	5.2
44	PEDESTRIAN	8	NO	I13L	44			10	5.4

Failure Times(5-3)	Minutes
Maximum On Time	
Fail Reset Time	

Failure Override (5-4)	
Detectors 1-8	.....
Detectors 9-16	.....
Detectors17-24	.....
Detectors 25-32	.....
Detectors 33-40	.....
Detectors 41-44	.....

System Detector Assignment (5-5)

Sys Det	1	2	3	4	5	6	7	8
Det Nu								
Sys Det	9	10	11	12	13	14	15	16
Det Nu								

CIC Operation (5-6-1)	
Enable in Plans	.....

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.00	

Detector-to-Phase Assignment (5-6-3)

Sys Det	1	2	3	4	5	6	7	8
Phase								
Sys Det	9	10	11	12	13	14	15	16
Phase								

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 2 (8-2-2)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 3 (8-2-3)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 4 (8-2-4)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 5 (8-2-5)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 6 (8-2-6)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

HOLIDAY TABLES

Floating Holiday Table (8-2-8)

#	Mnth	Week	DOW	Table
1			.....	
2			.....	
3			.....	
4			.....	
5			.....	
6			.....	
7			.....	
8			.....	
9			.....	
10			.....	
11			.....	
12			.....	
13			.....	
14			.....	
15			.....	
16			.....	

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1			.....	
2			.....	
3			.....	
4			.....	
5			.....	
6			.....	
7			.....	
8			.....	
9			.....	
10			.....	
11			.....	
12			.....	
13			.....	
14			.....	
15			.....	
16			.....	

Solar Clock Data (8-4)

North Latitude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)

Hebrew	Ped Recall
Sabbath	.....
Holiday	.....

Daylight Saving (8-6)

Enabled	YES

TOD FUNCTIONS

TOD Functions (8-3)

#	Start	End	DOW	Action	Phases
1			.....		.....
2			.....		.....
3			.....		.....
4			.....		.....
5			.....		.....
6			.....		.....
7			.....		.....
8			.....		.....
9			.....		.....
10			.....		.....
11			.....		.....
12			.....		.....
13			.....		.....
14			.....		.....
15			.....		.....
16			.....		.....

Action Codes:

0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11. Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped
27. Traffic Actuated Max 2
41. Protected Permissive
42. Protected Permissive

Action Code = Phases added to normal setting

100+Action Code = Phases removed

200+Action Code = Phases replaced

COMMUNICATIONS

C2 (6-1-1)	
Address	3
Protocol	AB3418
Limit Access	0
Baud	9600
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C20 (6-1-2)	
Address	
Protocol	AB3418
Limit Access	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C21 (6-1-3)	
Address	
Protocol	AB3418
Limit Access	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

Limit Access:
0-None
1-Status Only
2-Status, Set Pattern, Time
3-Status, Set Pattern, Time, Manual Plan

SOFT LOGIC

Soft Logic (6-2)

#	Data	OP	Data	OP	Data	OP	Data
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

*Refer to User's Manual for Data and OP Codes

CALLBACK NUMBERS

Callback Numbers (6-3...3)	
Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

NETWORK

Network (6-4)	
Address	
Protocol	AB3418
Port	27000
IP Mode	STATIC

IP Address	0	.	0	.	0	.	0
Netmask	255	.	255	.	255	.	0
Broadcast	0	.	0	.	0	.	254
Gateway	0	.	0	.	0	.	1

RAILROAD PREEMPTION

RR 1

(3-1-1)	Timing	Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Clear 1	10	. 2 . . 5 . . .	. . . . .	. . . . .	. . . . .	. . . . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .	. . . . .
Clear 2		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Clear 3		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Hold		. . . . .	. . . . .	1 2 3 4 5 6 7 8	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	A B C D E F
Exit										
Min Grn										
Ped Clr										

Exit Parameters (3-1-5)

Phase Green	Overlap Green	Vehicle Call	Ped Call
. . . . .	. . . . .	1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8

Configuration (3-1-6)

Port	Gate Port	Latching	Power-Up
2.5	0.0	YES	FLASHING

RR 2

(3-2-1)	Timing	Phase Flags (3-2-2)			Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Clear 1	10	. . . 4 . . 7 .	. . . . .	. . . . .	. . . . .	. . . . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .	. . . . .
Clear 2		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Clear 3		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Hold		1 2 3 . . 6 . .	. . . . .	. . . . .	. 2 . . . 6 . .	. . . . .	. . . 4 . . . 8	. . . . .	. . . . .	. . . . .
Exit										
Min Grn										
Ped Clr										

Exit Parameters (3-2-5)

Phase Green	Overlap Green	Vehicle Call	Ped Call
. . . . .	. . . . .	. . . 4 . . 7 .	. . . . .

Configuration (3-2-6)

Port	Gate Port	Latching	Power-up
2.6	0.0	YES	DARK

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	. 2 . . 5 . . .	. . . . .

Port	Latching	Phase Termination
5.5	NO	ADVANCE

EVB (3-B)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	. . . 4	. . . . .

Port	Latching	Phase Termination
5.6	NO	ADVANCE

EVC (3-C)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	1 . . . . 6 . .	. . . . .

Port	Latching	Phase Termination
5.7	NO	ADVANCE

EVD (3-D)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	. . 3	. . . . .

Port	Latching	Phase Termination
5.8	NO	ADVANCE

INPUTS

		7 Wire I/C (2-1-5-1)			
		Input	Port	Input	Port
Enable	NO	R1	3.8	Free	3.6
Max ON		R2	3.5	D2	2.8
Max OFF		R3	3.7	D3	6.1

Manual Control (2-1-5-2)	
Input	Port
Manual Advance	
Advance Enable	

Cabinet Status (2-1-5-3)	
Input	Port
Flash Bus	
Door Ajar	
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	
2	
3	
4	

Battery Backup (2-1-5-5)	
Port	Operation
2.7	FLASHING

Y-Coordination (2-1-5-6)	
Port C	Port D
0.0	0.0

OUTPUTS

Loadswitch Assignments (2-1-6)							+
A	1	2	22	3	4	24	9
B	5	6	26	7	8	28	10
X	13	14	0	11	12	0	0

Loadswitch Codes:

0 Unused (no output)
1-8 Vehicle 1-8
9-14 Overlap A-F
21-28 Ped 1-8
41-47 Special Functions
41 Protected Permissive Flashing Phase 1
43 Protected Permissive Flashing Phase 3
45 Protected Permissive Flashing Phase 5
47 Protected Permissive Flashing Phase 7
51-57 Special Functions
71-72 Seven Wire I/C

+ middle output of loadswitches 3 and 6 Channel 9 and 10

TRANSIT PRIORITY

Local Plans (3-E) 1...9 11...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor											
Plan 2	Green Factor											
Plan 3	Green Factor											
Plan 4	Green Factor											
Plan 5	Green Factor											
Plan 6	Green Factor											
Plan 7	Green Factor											
Plan 8	Green Factor											
Plan 9	Green Factor											
Plan 11	Green Factor											
Plan 12	Green Factor											
Plan 13	Green Factor											
Plan 14	Green Factor											
Plan 15	Green Factor											
Plan 16	Green Factor											
Plan 17	Green Factor											
Plan 18	Green Factor											
Plan 19	Green Factor											

Transit Priority Configuration (3-E-A)				Indicator Output	
Enable in Plans		Input	Type	Stop	Go
Plan 1-9	.....	0.0	OPT	0	0
Plan 11-19	.....	0.0	OPT	0	0

Queue Jump (3-E-B)	
Grn Hold	Hold Phase
	.....
	.....

Free Plans (3-E-E)	
Max Grn Hold	Hold Phase
	.....

Access Utilities (9-5)	
Password	***
Timeout	30

YELLOW YIELD COORDINATION

					Force-Offs											
Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	Coord	Lag	Min Recall	Restricted
Plan C													.2...6..	.2.4.6.8	.....	.....
Plan D													.2...6..	.2.4.6.8	.....	.....

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
					.....	0.0	0.0	0.0	0	0.0	0

Location: ED 50 @ Silva Valley #2 EB
Designed By: 0300000258
System: **District:** **Installed By:**
Master At: **I/C:** **Service Info:** 0325050R001827A

Timing Change:	Date Start:	Date End:	Designed:	Installed: 5/31/2016

		FLASH
PHASE	1)	[ ]
	2) NB Silva Valley	[ ]
	3)	[ ]
	4) EB Off rramp	[ ]
	5) NB LT to EB On ramp	[ ]
	6) SB Silva Valley	[ ]
	7)	[ ]
	8)	[ ]
OVERLAP	A)	[ ]
	B)	[ ]
	C)	[ ]
	D)	[ ]
	E)	[ ]
	F)	[ ]

Intersection Layout

Comments and Notes:
2016-05-31 OTO 0400 TSCP 2.20 B125 DH, Hassane Haffouda, Shane Cohen EDC

RAM Checksum

Page 2: EA5F	Page 8: 85AF
Page 3: CEBB	Page 9: D2FD
Page 4: 33E4	Page 10: 8673
Page 5: 191A	Page 11: 1030
Page 6: 191A	Page 12: 78E4
Page 7: 985F	Page 13: 86F7

Post Mile: ED 50 @ (Silva Valley #2) EB

Printed: 1/11/2017

CONFIGURATION PHASE FLAGS

Phases (2-1-1-1)	
Permitted	. 2 . 4 5 6 . .
Restricted	. . . . .

Phase Recalls (2-1-1-2)	
Vehicle Min	. 2 . . . 6 . .
Vehicle Max	. . . . .
Pedestrian	. . . . .
Bicycle	. . . . .

Phase Locks (2-1-1-3)	
Red	. . . . .
Yellow	. . . . .
Force/Max	. . . . .

Phase Features (2-1-1-4)	
Double Entry	. . . . .
Rest In Walk	. . . . .
Rest In Red	. . . . .
Walk 2	. . . . .
Max Green 2	. . . . .
Max Green 3	. . . . .

Startup (2-1-1-5)	
First Green Phases	. 2 . . . 6 . .
Yellow Start Phases	. . . . .
Vehicle Calls	. 2 . 4 5 6 . .
Pedestrian Calls	. . . . .
Yellow Start Overlaps	. . . . .
Startup All-Red	6.0

Call To Phase (2-1-2-1)		Omit On Green	
1	. . . . .	1	. . . . .
2	. . . . .	2	. . . . .
3	. . . . .	3	. . . . .
4	. . . . .	4	. . . . .
5	. . . . .	5	. . . . .
6	. . . . .	6	. . . . .
7	. . . . .	7	. . . . .
8	. . . . .	8	. . . . .

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	. . . . .
Yellow Flash Overlap	. . . . .
Flash In Red Phases	. . . . .
Flash In Red Overlap	. . . . .

Special Operation (2-1-2-3)	
Single Exit Phase	. . . . .
Driveway Signal Phases	. . . . .
Driveway Signal Overlaps	. . . . .
Leading Ped Phases	. . . . .

Protected Permissive (2-1-2-4)	
Protected Permissive	. . . . .

Pedestrian (2-1-3)	
P1	. . . . .
P2	. . . . .
P3	. . . . .
P4	. . . . .
P5	. . . . .
P6	. . . . .
P7	. . . . .
P8	. . . . .

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
A	. . . . .	. . . . .	. . . . .	. . . . .
B	. . . . .	. . . . .	. . . . .	. . . . .
C	. . . . .	. . . . .	. . . . .	. . . . .
D	. . . . .	. . . . .	. . . . .	. . . . .
E	. . . . .	. . . . .	. . . . .	. . . . .
F	. . . . .	. . . . .	. . . . .	. . . . .

PHASE TIMING

Phase (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	0	0	0	0	0	0	0
Flash Don't Walk	0	0	0	0	0	0	0	0
Minimum Green	0	9	0	8	8	9	0	0
Det Limit	0	10	0	10	10	10	0	0
Max Initial	0	0	0	0	0	0	0	0
Max Green 1	0	50	0	25	30	50	0	0
Max Green 2	0	50	0	50	50	50	0	0
Max Green 3	0	50	0	50	50	50	0	0
Extension	0.0	1.0	0.0	2.0	2.0	1.0	0.0	0.0
Maximum Gap	0.0	3.0	0.0	2.0	2.0	3.0	0.0	0.0
Minimum Gap	0.0	1.5	0.0	2.0	2.0	1.5	0.0	0.0
Add Per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Gap By	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
Reduce Every	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0
Yellow	3.0	4.8	3.0	4.8	3.7	4.8	3.0	3.0
All-Red	0.0	2.0	0.0	1.0	0.5	2.0	0.0	0.0
Ped/Bike (2-3)	**-1-**	**-2-**	**-3-**	**-4-**	**-5-**	**-6-**	**-7-**	**-8-**
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	9	0	0	0	9	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A	B	C	D	E	F
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert

Red Revert (2-5)	
Time	5.0
All-Red Sec/Min (2-6)	
All-Red Sec/Min:	SEC

Max 2 Extension

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor	90			16				61		16	21	32		
Plan 2	Green Factor	100			16				70		17	25	37		
Plan 3	Green Factor	90			18				61		16	22	31		
Plan 4	Green Factor	100			16				70		17	25	37		
Plan 5	Green Factor	110			79				79		18	27	47		
Plan 6	Green Factor														
Plan 7	Green Factor														
Plan 8	Green Factor														
Plan 9	Green Factor														

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	.2.45..8	.2...6..	.....	.....	.....	.....	.....	.....
Plan 2	.2.45..8	.2...6..	.....	.....	.....	.....	.....	.....
Plan 3	.2.45..8	.2...6..	.....	.....	.....	.....	.....	.....
Plan 4	.2.45..8	.2...6..	.....	.....	.....	.....	.....	.....
Plan 5	.2.4.6.8	.2...6..	.....	.....	.....	.....	.....	.....
Plan 6	.....	.....	.....	.....	.....	.....	.....	.....
Plan 7	.....	.....	.....	.....	.....	.....	.....	.....
Plan 8	.....	.....	.....	.....	.....	.....	.....	.....
Plan 9	.....	.....	.....	.....	.....	.....	.....	.....

Master Timer Sync (7-A)

Enable in Plans	
1-9	1 2 3 4 5 . . . .
11-19	. . . . .
21-29	. . . . .

Master Sub Master

Input	
Output	

FREE PLAN PHASE FLAGS

(7-E) Free

Lag	Omit
.2.4.6.8	.....
Veh Min	**Veh Max**
.....	.....
Ped	**Bike**
.....	.....
Cond	**Cond Grn**
.....	10

MANUAL COMMANDS

Manual Plan (4-1)

Plan	OffSet
	A

Plan: 1-9
15 or 254 = Flash
14 or 255 = Free
Offset A, B, or C

Special Function Override (4-2)

#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

Local Plan 11...19 (7-2) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 11	Green Factor														
Plan 12	Green Factor														
Plan 13	Green Factor														
Plan 14	Green Factor														
Plan 15	Green Factor														
Plan 16	Green Factor														
Plan 17	Green Factor														
Plan 18	Green Factor														
Plan 19	Green Factor														

Local Plan 11...19 (7-2) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 11	.....	.....	.....	.....	.....	.....	.....	.....
Plan 12	.....	.....	.....	.....	.....	.....	.....	.....
Plan 13	.....	.....	.....	.....	.....	.....	.....	.....
Plan 14	.....	.....	.....	.....	.....	.....	.....	.....
Plan 15	.....	.....	.....	.....	.....	.....	.....	.....
Plan 16	.....	.....	.....	.....	.....	.....	.....	.....
Plan 17	.....	.....	.....	.....	.....	.....	.....	.....
Plan 18	.....	.....	.....	.....	.....	.....	.....	.....
Plan 19	.....	.....	.....	.....	.....	.....	.....	.....

Local Plan 21...29 (7-3) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 21	Green Factor														
Plan 22	Green Factor														
Plan 23	Green Factor														
Plan 24	Green Factor														
Plan 25	Green Factor														
Plan 26	Green Factor														
Plan 27	Green Factor														
Plan 28	Green Factor														
Plan 29	Green Factor														

Local Plan 21...29 (7-3) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 21	.....	.....	.....	.....	.....	.....	.....	.....
Plan 22	.....	.....	.....	.....	.....	.....	.....	.....
Plan 23	.....	.....	.....	.....	.....	.....	.....	.....
Plan 24	.....	.....	.....	.....	.....	.....	.....	.....
Plan 25	.....	.....	.....	.....	.....	.....	.....	.....
Plan 26	.....	.....	.....	.....	.....	.....	.....	.....
Plan 27	.....	.....	.....	.....	.....	.....	.....	.....
Plan 28	.....	.....	.....	.....	.....	.....	.....	.....
Plan 29	.....	.....	.....	.....	.....	.....	.....	.....

DETECTORS

Detector Attributes (5-1)

Det	Type	Phases	Lock	Slot
1	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	I1U
2	COUNT+CALL+EXTEND	1	NO	I1L
3	COUNT+CALL+EXTEND	. 2	NO	I2U
4	COUNT+CALL+EXTEND	. 2	NO	I2L
5	COUNT+CALL+EXTEND	. 2	NO	I3U
6	BICYCLE	. 2	NO	I3L
7	LIMITED	. 2	NO	I4U
8	COUNT+CALL+EXTEND	. 2	NO	I4L
9	COUNT+CALL+EXTEND	. . 3	NO	I5U
10	COUNT+CALL+EXTEND	. . 3	NO	I5L
11	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I6U
12	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I6L
13	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I7U
14	CALL+EXTEND	. . . 4 . . .	NO	I7L
15	LIMITED	. . . 4 . . .	NO	I8U
16	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I8L
17	COUNT+CALL+EXTEND	1	NO	I9U
18	COUNT+CALL+EXTEND	. . 3	NO	I9L
19	COUNT+CALL+EXTEND	. 2	NO	I10U
20	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I10L
21	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J1U
22	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J1L
23	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J2U
24	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J2L
25	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J3U
26	LIMITED	. . . . . 6 . .	NO	J3L
27	LIMITED	. . . . . 6 . .	NO	J4U
28	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J4L
29	COUNT+CALL+EXTEND	. . . . . 7 .	NO	J5U
30	COUNT+CALL+EXTEND	. . . . . 7 .	NO	J5L
31	COUNT+CALL+EXTEND	 8	NO	J6U
32	COUNT+CALL+EXTEND	 8	NO	J6L
33	LIMITED	. . . . . 6 . .	NO	J7U
34	CALL+EXTEND	 8	NO	J7L
35	LIMITED	 8	NO	J8U
36	COUNT+CALL+EXTEND	 8	NO	J8L
37	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J9U
38	COUNT+CALL+EXTEND	. . . . . 7 .	NO	J9L
39	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J10U
40	COUNT+CALL+EXTEND	 8	NO	J10L
41	PEDESTRIAN	. 2	NO	I12U
42	PEDESTRIAN	. . . 4 . . .	NO	I12L
43	PEDESTRIAN	. . . . . 6 . .	NO	I13U
44	PEDESTRIAN	 8	NO	I13L

Detector Configuration (5-2)

Det	Delay	Extend	Recall	Port
1			10	3.2
2			10	7.2
3			10	1.1
4			10	1.5
5			10	4.5
6			10	6.2
7			10	2.1
8			10	7.4
9			10	3.4
10			10	7.6
11			10	1.3
12			10	1.7
13			10	4.7
14	10		10	6.4
15			10	2.3
16			10	7.8
17			10	3.6
18			10	3.8
19			10	4.1
20			10	4.2
21			10	3.1
22			10	7.1
23			10	1.2
24			10	1.6
25			10	4.6
26			10	6.3
27			10	2.2
28			10	7.3
29			10	3.3
30			10	7.5
31			10	1.4
32			10	1.8
33			10	4.8
34			10	6.5
35			10	2.4
36			10	7.7
37			10	3.5
38			10	3.7
39			10	4.3
40			10	4.4
41			10	5.1
42			10	5.3
43			10	5.2
44			10	5.4

Failure Times(5-3)	Minutes
Maximum On Time	
Fail Reset Time	

Failure Override (5-4)	
Detectors 1-8	. . . . .
Detectors 9-16	. . . . .
Detectors17-24	. . . . .
Detectors 25-32	. . . . .
Detectors 33-40	. . . . .
Detectors 41-44	. . . . .

System Detector Assignment (5-5)

Sys Det	1	2	3	4	5	6	7	8
Det Nu								
Sys Det	9	10	11	12	13	14	15	16
Det Nu								

CIC Operation (5-6-1)

Enable in Plans	. . . . .

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.00	

Detector-to-Phase Assignment (5-6-3)

Sys Det	1	2	3	4	5	6	7	8
Phase								
Sys Det	9	10	11	12	13	14	15	16
Phase								

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 2 (8-2-2)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 3 (8-2-3)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 4 (8-2-4)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 5 (8-2-5)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 6 (8-2-6)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

HOLIDAY TABLES

Floating Holiday Table (8-2-8)

#	Mnth	Week	DOW	Table
1			.....	
2			.....	
3			.....	
4			.....	
5			.....	
6			.....	
7			.....	
8			.....	
9			.....	
10			.....	
11			.....	
12			.....	
13			.....	
14			.....	
15			.....	
16			.....	

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1			.....	
2			.....	
3			.....	
4			.....	
5			.....	
6			.....	
7			.....	
8			.....	
9			.....	
10			.....	
11			.....	
12			.....	
13			.....	
14			.....	
15			.....	
16			.....	

Solar Clock Data (8-4)

North Latitude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)

Hebrew	Ped Recall
Sabbath	.....
Holiday	.....

Daylight Saving (8-6)

Enabled	YES

TOD FUNCTIONS

TOD Functions (8-3)

#	Start	End	DOW	Action	Phases
1			.....		.....
2			.....		.....
3			.....		.....
4			.....		.....
5			.....		.....
6			.....		.....
7			.....		.....
8			.....		.....
9			.....		.....
10			.....		.....
11			.....		.....
12			.....		.....
13			.....		.....
14			.....		.....
15			.....		.....
16			.....		.....

Action Codes:

0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11. Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped
27. Traffic Actuated Max 2
41. Protected Permissive
42. Protected Permissive

Action Code = Phases added to normal setting

100+Action Code = Phases removed

200+Action Code = Phases replaced

COMMUNICATIONS

C2 (6-1-1)	
Address	2
Protocol	AB3418
Limit Access	0
Baud	9600
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C20 (6-1-2)	
Address	
Protocol	AB3418
Limit Access	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C21 (6-1-3)	
Address	
Protocol	AB3418
Limit Access	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

Limit Access:
0-None
1-Status Only
2-Status, Set Pattern, Time
3-Status, Set Pattern, Time, Manual Plan

SOFT LOGIC

Soft Logic (6-2)

#	Data	OP	Data	OP	Data	OP	Data
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

*Refer to User's Manual for Data and OP Codes

CALLBACK NUMBERS

Callback Numbers (6-3...3)	
Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

NETWORK

Network (6-4)	
Address	
Protocol	AB3418
Port	27000
IP Mode	STATIC

IP Address	0	.	0	.	0	.	0
Netmask	255	.	255	.	255	.	0
Broadcast	0	.	0	.	0	.	254
Gateway	0	.	0	.	0	.	1

RAILROAD PREEMPTION

RR 1

(3-1-1)	Timing	Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Clear 1	10	. 2 . . 5 . . .	. . . .	. . . .	. . . .	. . . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .	. . . . .
Clear 2		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . .	. . . . .	. . . . .
Clear 3		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . .	. . . . .	. . . . .
Hold		. . . .	. . . .	1 2 3 4 5 6 7 8	. . . .	. . . .	. . . .	. . . . .	. . . . .	A B C D E F
Exit										
Min Grn										
Ped Clr										

Exit Parameters (3-1-5)			
Phase Green	Overlap Green	Vehicle Call	Ped Call
. . . .	. . . . .	1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8

Configuration (3-1-6)			
Port	Gate Port	Latching	Power-Up
2.5	0.0	YES	FLASHING

RR 2

(3-2-1)	Timing	Phase Flags (3-2-2)			Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Clear 1	10	. . . 4 . . 7 .	. . . .	. . . .	. . . .	. . . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .	. . . . .
Clear 2		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . .	. . . . .	. . . . .
Clear 3		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . .	. . . . .	. . . . .
Hold		1 2 3 . . 6 . .	. . . .	. . . .	. 2 . . . 6 . .	. . . .	. . . 4 . . . 8	. . . . .	. . . . .	. . . . .
Exit										
Min Grn										
Ped Clr										

Exit Parameters (3-2-5)			
Phase Green	Overlap Green	Vehicle Call	Ped Call
. . . .	. . . . .	. . . 4 . . 7 .	. . . .

Configuration (3-2-6)			
Port	Gate Port	Latching	Power-up
2.6	0.0	YES	DARK

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	5	30	. 2 . . 5 . . .	. . . . .

Port	Latching	Phase Termination
5.5	NO	ADVANCE

EVB (3-B)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	5	30	. . . 4	. . . . .

Port	Latching	Phase Termination
5.6	NO	ADVANCE

EVC (3-C)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	5	30	. . . . . 6 . .	. . . . .

Port	Latching	Phase Termination
5.7	NO	ADVANCE

EVD (3-D)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	. . 3 8	. . . . .

Port	Latching	Phase Termination
5.8	NO	ADVANCE

INPUTS

		7 Wire I/C (2-1-5-1)			
		Input	Port	Input	Port
Enable	NO	R1	3.8	Free	3.6
Max ON		R2	3.5	D2	2.8
Max OFF		R3	3.7	D3	6.1

Manual Control (2-1-5-2)	
Input	Port
Manual Advance	
Advance Enable	

Cabinet Status (2-1-5-3)	
Input	Port
Flash Bus	
Door Ajar	
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	
2	
3	
4	

Battery Backup (2-1-5-5)	
Port	Operation
2.7	FLASHING

Y-Coordination (2-1-5-6)	
Port C	Port D
0.0	0.0

OUTPUTS

Loadswitch Assignments (2-1-6)							+
A	1	2	22	3	4	24	9
B	5	6	26	7	8	28	10
X	13	14	0	11	12	0	0

Loadswitch Codes:

0 Unused (no output)
1-8 Vehicle 1-8
9-14 Overlap A-F
21-28 Ped 1-8
41-47 Special Functions
41 Protected Permissive Flashing Phase 1
43 Protected Permissive Flashing Phase 3
45 Protected Permissive Flashing Phase 5
47 Protected Permissive Flashing Phase 7
51-57 Special Functions
71-72 Seven Wire I/C

+ middle output of loadswitches 3 and 6 Channel 9 and 10

TRANSIT PRIORITY

Local Plans (3-E) 1...9 11...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor											
Plan 2	Green Factor											
Plan 3	Green Factor											
Plan 4	Green Factor											
Plan 5	Green Factor											
Plan 6	Green Factor											
Plan 7	Green Factor											
Plan 8	Green Factor											
Plan 9	Green Factor											
Plan 11	Green Factor											
Plan 12	Green Factor											
Plan 13	Green Factor											
Plan 14	Green Factor											
Plan 15	Green Factor											
Plan 16	Green Factor											
Plan 17	Green Factor											
Plan 18	Green Factor											
Plan 19	Green Factor											

Transit Priority Configuration (3-E-A)				Indicator Output	
Enable in Plans		Input	Type	Stop	Go
Plan 1-9	.....	0.0	OPT	0	0
Plan 11-19	.....	0.0	OPT	0	0

Queue Jump (3-E-B)	
Grn Hold	Hold Phase
	.....
	.....

Free Plans (3-E-E)	
Max Grn Hold	Hold Phase
	.....

Access Utilities (9-5)	
Password	***
Timeout	30

YELLOW YIELD COORDINATION

					Force-Offs											
Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	Coord	Lag	Min Recall	Restricted
Plan C													.2...6..	.2.4.6.8	.....	.....
Plan D													.2...6..	.2.4.6.8	.....	.....

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
					.....	0.0	0.0	0.0	0	0.0	0

Location: ED 50 @ Silva Valley #1 WB
System: 2070
Master At:
District:
I/C:
Designed By: 0300000258
Installed By:
Service Info: 0325050R001826B

Timing Change:	Date Start:	Date End:	Designed:	Installed:
				5/31/2016

Intersection Layout

		FLASH
PHASE	1)	[ ]
	2) NB Silva Valley Pkwy	[ ]
	3)	[ ]
	4)	[ ]
	5) NBLT to WB On	[ ]
	6) SB Silva Valley Pkwy	[ ]
	7)	[ ]
	8) WB ff ramp	[ ]
OVERLAP	A)	[ ]
	B)	[ ]
	C)	[ ]
	D)	[ ]
	E)	[ ]
	F)	[ ]

Comments and Notes:
2016-05-31 OTO 0400 TSCP 2.20 B125 DH, Hassane Haffouda, Shane Cohen EDC

RAM Checksum

Page 2: F85C	Page 8: 85AF
Page 3: 754D	Page 9: D2FD
Page 4: FAF5	Page 10: 6C71
Page 5: 191A	Page 11: 886B
Page 6: 191A	Page 12: 78E4
Page 7: 0C2F	Page 13: 86F7

CONFIGURATION PHASE FLAGS

Phases (2-1-1-1)	
Permitted	. 2 . . 5 6 . 8
Restricted	. . . . .

Phase Recalls (2-1-1-2)	
Vehicle Min	. 2 . . . 6 . .
Vehicle Max	. . . . .
Pedestrian	. . . . .
Bicycle	. . . . .

Phase Locks (2-1-1-3)	
Red	. . . . .
Yellow	. . . . .
Force/Max	. . . . .

Phase Features (2-1-1-4)	
Double Entry	. . . . .
Rest In Walk	. . . . .
Rest In Red	. . . . .
Walk 2	. . . . .
Max Green 2	. . . . .
Max Green 3	. . . . .

Startup (2-1-1-5)	
First Green Phases	. 2 . . . 6 . .
Yellow Start Phases	. . . . .
Vehicle Calls	. 2 . . 5 6 . 8
Pedestrian Calls	. . . . .
Yellow Start Overlaps	. . . . .
Startup All-Red	6.0

Call To Phase (2-1-2-1)		Omit On Green	
1	. . . . .	1	. . . . .
2	. . . . .	2	. . . . .
3	. . . . .	3	. . . . .
4	. . . . .	4	. . . . .
5	. . . . .	5	. . . . .
6	. . . . .	6	. . . . .
7	. . . . .	7	. . . . .
8	. . . . .	8	. . . . .

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	. . . . .
Yellow Flash Overlap	. . . . .
Flash In Red Phases	. . . . .
Flash In Red Overlap	. . . . .

Special Operation (2-1-2-3)	
Single Exit Phase	. . . . .
Driveway Signal Phases	. . . . .
Driveway Signal Overlaps	. . . . .
Leading Ped Phases	. . . . .

Protected Permissive (2-1-2-4)	
Protected Permissive	. . . . .

Pedestrian (2-1-3)	
P1	. . . . .
P2	. . . . .
P3	. . . . .
P4	. . . . .
P5	. . . . .
P6	. . . . .
P7	. . . . .
P8	. . . . .

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
A	. . . . .	. . . . .	. . . . .	. . . . .
B	. . . . .	. . . . .	. . . . .	. . . . .
C	. . . . .	. . . . .	. . . . .	. . . . .
D	. . . . .	. . . . .	. . . . .	. . . . .
E	. . . . .	. . . . .	. . . . .	. . . . .
F	. . . . .	. . . . .	. . . . .	. . . . .

PHASE TIMING

Phase (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	0	0	0	0	0	0	0
Flash Don't Walk	0	0	0	0	0	0	0	0
Minimum Green	0	8	0	0	8	8	0	8
Det Limit	0	10	0	0	10	10	0	10
Max Initial	0	0	0	0	0	0	0	0
Max Green 1	0	50	0	0	25	50	0	30
Max Green 2	0	50	0	0	50	50	0	50
Max Green 3	0	50	0	0	50	50	0	50
Extension	0.0	1.0	0.0	0.0	2.0	1.0	0.0	1.0
Maximum Gap	0.0	3.0	0.0	0.0	2.0	3.0	0.0	2.0
Minimum Gap	0.0	1.5	0.0	0.0	2.0	1.5	0.0	2.0
Add Per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Gap By	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
Reduce Every	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0
Yellow	3.0	4.8	3.0	3.0	3.7	4.8	3.0	4.8
All-Red	0.0	2.0	0.0	0.0	0.5	2.0	0.0	1.0

Ped/Bike (2-3)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	8	0	0	0	8	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A	B	C	D	E	F
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert

Red Revert (2-5)	
Time	5.0
All-Red Sec/Min (2-6)	
All-Red Sec/Min:	SEC

Max 2 Extension

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor	90							54			20	26		23
Plan 2	Green Factor	100							62			23	31		25
Plan 3	Green Factor	90							49			18	23		28
Plan 4	Green Factor	100							54			20	26		33
Plan 5	Green Factor	110							60			23	29		37
Plan 6	Green Factor														
Plan 7	Green Factor														
Plan 8	Green Factor														
Plan 9	Green Factor														

Master Timer Sync (7-A)	
Enable in Plans	
1-9	1 2 3 4 5 . . . .
11-19	. . . . .
21-29	. . . . .

Master Sub Master	
Input	
Output	

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	. 2 . 4 5 . . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 2	. 2 . 4 5 . . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 3	. 2 . 4 5 . . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 4	. 2 . 4 5 . . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 5	. 2 . 4 5 . . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 6	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 7	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 8	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 9	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .

FREE PLAN PHASE FLAGS

(7-E) Free	
Lag	Omit
. 2 . 4 . 6 . 8	. . . . .
Veh Min	Veh Max
. . . . .	. . . . .
Ped	Bike
. . . . .	. . . . .
Cond	Cond Grn
. . . . .	10

MANUAL COMMANDS

Manual Plan (4-1)	
Plan	OffSet
	A

Plan: 1-9
15 or 254 = Flash
14 or 255 = Free
Offset A, B, or C

Special Function Override (4-2)			
#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

Local Plan 11...19 (7-2) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 11	Green Factor														
Plan 12	Green Factor														
Plan 13	Green Factor														
Plan 14	Green Factor														
Plan 15	Green Factor														
Plan 16	Green Factor														
Plan 17	Green Factor														
Plan 18	Green Factor														
Plan 19	Green Factor														

Local Plan 11...19 (7-2) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 11	.....	.....	.....	.....	.....	.....	.....	.....
Plan 12	.....	.....	.....	.....	.....	.....	.....	.....
Plan 13	.....	.....	.....	.....	.....	.....	.....	.....
Plan 14	.....	.....	.....	.....	.....	.....	.....	.....
Plan 15	.....	.....	.....	.....	.....	.....	.....	.....
Plan 16	.....	.....	.....	.....	.....	.....	.....	.....
Plan 17	.....	.....	.....	.....	.....	.....	.....	.....
Plan 18	.....	.....	.....	.....	.....	.....	.....	.....
Plan 19	.....	.....	.....	.....	.....	.....	.....	.....

Local Plan 21...29 (7-3) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 21	Green Factor														
Plan 22	Green Factor														
Plan 23	Green Factor														
Plan 24	Green Factor														
Plan 25	Green Factor														
Plan 26	Green Factor														
Plan 27	Green Factor														
Plan 28	Green Factor														
Plan 29	Green Factor														

Local Plan 21...29 (7-3) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 21	.....	.....	.....	.....	.....	.....	.....	.....
Plan 22	.....	.....	.....	.....	.....	.....	.....	.....
Plan 23	.....	.....	.....	.....	.....	.....	.....	.....
Plan 24	.....	.....	.....	.....	.....	.....	.....	.....
Plan 25	.....	.....	.....	.....	.....	.....	.....	.....
Plan 26	.....	.....	.....	.....	.....	.....	.....	.....
Plan 27	.....	.....	.....	.....	.....	.....	.....	.....
Plan 28	.....	.....	.....	.....	.....	.....	.....	.....
Plan 29	.....	.....	.....	.....	.....	.....	.....	.....

DETECTORS

Detector Attributes (5-1)				Slot	Detector Configuration (5-2)				
Det	Type	Phases	Lock		Det	Delay	Extend	Recall	Port
1	BICYCLE	. . . . . 6 . .	YEL	I1U	1			10	3.2
2	COUNT+CALL+EXTEND	1	NO	I1L	2			10	7.2
3	COUNT+CALL+EXTEND	. 2	NO	I2U	3		1.0	10	1.1
4	COUNT+CALL+EXTEND	. 2	NO	I2L	4		1.0	10	1.5
5	COUNT+CALL+EXTEND	. 2	NO	I3U	5		1.5	10	4.5
6	BICYCLE	. 2	YEL	I3L	6			10	6.2
7	LIMITED	. 2	NO	I4U	7			10	2.1
8	COUNT+CALL+EXTEND	. 2	NO	I4L	8			10	7.4
9	COUNT+CALL+EXTEND	. . 3	NO	I5U	9			10	3.4
10	COUNT+CALL+EXTEND	. . 3	NO	I5L	10			10	7.6
11	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I6U	11			10	1.3
12	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I6L	12			10	1.7
13	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I7U	13			10	4.7
14	CALL+EXTEND	. . . 4 . . .	NO	I7L	14			10	6.4
15	LIMITED	. . . 4 . . .	NO	I8U	15			10	2.3
16	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I8L	16			10	7.8
17	COUNT+CALL+EXTEND	1	NO	I9U	17			10	3.6
18	COUNT+CALL+EXTEND	. . 3	NO	I9L	18			10	3.8
19	COUNT+CALL+EXTEND	. 2	NO	I10U	19			10	4.1
20	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I10L	20			10	4.2
21	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J1U	21			10	3.1
22	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J1L	22			10	7.1
23	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J2U	23		1.0	10	1.2
24	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J2L	24		1.0	10	1.6
25	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J3U	25		1.5	10	4.6
26	LIMITED	. . . . . 6 . .	NO	J3L	26			10	6.3
27	LIMITED	. . . . . 6 . .	NO	J4U	27			10	2.2
28	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J4L	28			10	7.3
29	COUNT+CALL+EXTEND	. . . . . 7 .	NO	J5U	29			10	3.3
30	COUNT+CALL+EXTEND	. . . . . 7 .	NO	J5L	30			10	7.5
31	COUNT+CALL+EXTEND	 8	YEL	J6U	31		2.0	10	1.4
32	COUNT+CALL+EXTEND	 8	YEL	J6L	32		2.0	10	1.8
33	COUNT+CALL+EXTEND	 8	YEL	J7U	33	2	2.0	10	4.8
34	LIMITED	 8	NO	J7L	34	10		10	6.5
35	COUNT+CALL+EXTEND	 8	NO	J8U	35			10	2.4
36	COUNT+CALL+EXTEND	 8	NO	J8L	36			10	7.7
37	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J9U	37			10	3.5
38	LIMITED	 8	NO	J9L	38			10	3.7
39	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J10U	39			10	4.3
40	COUNT+CALL+EXTEND	 8	NO	J10L	40			10	4.4
41	PEDESTRIAN	. 2	NO	I12U	41			10	5.1
42	PEDESTRIAN	. . . 4 . . .	NO	I12L	42			10	5.3
43	PEDESTRIAN	. . . . . 6 . .	NO	I13U	43			10	5.2
44	PEDESTRIAN	 8	NO	I13L	44			10	5.4

Failure Times(5-3)	Minutes
Maximum On Time	
Fail Reset Time	

Failure Override (5-4)	
Detectors 1-8	. . . . .
Detectors 9-16	. . . . .
Detectors17-24	. . . . .
Detectors 25-32	. . . . .
Detectors 33-40	. . . . .
Detectors 41-44	. . . . .

System Detector Assignment (5-5)

Sys Det	1	2	3	4	5	6	7	8
Det Nu								
Sys Det	9	10	11	12	13	14	15	16
Det Nu								

CIC Operation (5-6-1)	
Enable in Plans	. . . . .

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.00	

Detector-to-Phase Assignment (5-6-3)

Sys Det	1	2	3	4	5	6	7	8
Phase								
Sys Det	9	10	11	12	13	14	15	16
Phase								

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 2 (8-2-2)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 3 (8-2-3)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 4 (8-2-4)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 5 (8-2-5)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 6 (8-2-6)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

HOLIDAY TABLES

Floating Holiday Table (8-2-8)

#	Mnth	Week	DOW	Table
1			.....	
2			.....	
3			.....	
4			.....	
5			.....	
6			.....	
7			.....	
8			.....	
9			.....	
10			.....	
11			.....	
12			.....	
13			.....	
14			.....	
15			.....	
16			.....	

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1			.....	
2			.....	
3			.....	
4			.....	
5			.....	
6			.....	
7			.....	
8			.....	
9			.....	
10			.....	
11			.....	
12			.....	
13			.....	
14			.....	
15			.....	
16			.....	

Solar Clock Data (8-4)

North Latitude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)

Hebrew	Ped Recall
Sabbath	.....
Holiday	.....

Daylight Saving (8-6)

Enabled	YES

TOD FUNCTIONS

TOD Functions (8-3)

#	Start	End	DOW	Action	Phases
1			.....		.....
2			.....		.....
3			.....		.....
4			.....		.....
5			.....		.....
6			.....		.....
7			.....		.....
8			.....		.....
9			.....		.....
10			.....		.....
11			.....		.....
12			.....		.....
13			.....		.....
14			.....		.....
15			.....		.....
16			.....		.....

Action Codes:

0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11. Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped
27. Traffic Actuated Max 2
41. Protected Permissive
42. Protected Permissive

Action Code = Phases added to normal setting

100+Action Code = Phases removed

200+Action Code = Phases replaced

COMMUNICATIONS

C2 (6-1-1)	
Address	1
Protocol	AB3418
Limit Access	0
Baud	9600
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C20 (6-1-2)	
Address	
Protocol	AB3418
Limit Access	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C21 (6-1-3)	
Address	
Protocol	AB3418
Limit Access	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

Limit Access:
0-None
1-Status Only
2-Status, Set Pattern, Time
3-Status, Set Pattern, Time, Manual Plan

SOFT LOGIC

Soft Logic (6-2)

#	Data	OP	Data	OP	Data	OP	Data
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

*Refer to User's Manual for Data and OP Codes

CALLBACK NUMBERS

Callback Numbers (6-3...3)	
Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

NETWORK

Network (6-4)	
Address	
Protocol	AB3418
Port	27000
IP Mode	STATIC

IP Address	0	.	0	.	0	.	0
Netmask	255	.	255	.	255	.	0
Broadcast	0	.	0	.	0	.	254
Gateway	0	.	0	.	0	.	1

RAILROAD PREEMPTION

RR 1

(3-1-1)	Timing	Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Clear 1	10	. 2 . . 5 . . .	. . . . .	. . . . .	. . . . .	. . . . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .	. . . . .
Clear 2		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Clear 3		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Hold		. . . . .	. . . . .	1 2 3 4 5 6 7 8	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	A B C D E F
Exit										
Min Grn										
Ped Clr										

Exit Parameters (3-1-5)			
Phase Green	Overlap Green	Vehicle Call	Ped Call
. . . . .	. . . . .	1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8

Configuration (3-1-6)			
Port	Gate Port	Latching	Power-Up
2.5	0.0	YES	FLASHING

RR 2

(3-2-1)	Timing	Phase Flags (3-2-2)			Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Clear 1	10	. . . 4 . . 7 .	. . . . .	. . . . .	. . . . .	. . . . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .	. . . . .
Clear 2		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Clear 3		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Hold		1 2 3 . . 6 . .	. . . . .	. . . . .	. 2 . . . 6 . .	. . . . .	. . . 4 . . . 8	. . . . .	. . . . .	. . . . .
Exit										
Min Grn										
Ped Clr										

Exit Parameters (3-2-5)			
Phase Green	Overlap Green	Vehicle Call	Ped Call
. . . . .	. . . . .	. . . 4 . . 7 .	. . . . .

Configuration (3-2-6)			
Port	Gate Port	Latching	Power-up
2.6	0.0	YES	DARK

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	5	30	. 2 . . 5 . . .	. . . . .

Port	Latching	Phase Termination
5.5	NO	ADVANCE

EVB (3-B)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	. . . 4 . . 7 .	. . . . .

Port	Latching	Phase Termination
5.6	NO	ADVANCE

EVC (3-C)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	5	30	. . . . . 6 . .	. . . . .

Port	Latching	Phase Termination
5.7	NO	ADVANCE

EVD (3-D)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	5	30	 8	. . . . .

Port	Latching	Phase Termination
5.8	NO	ADVANCE

INPUTS

		7 Wire I/C (2-1-5-1)			
		Input	Port	Input	Port
Enable	NO	R1	3.8	Free	3.6
Max ON		R2	3.5	D2	2.8
Max OFF		R3	3.7	D3	6.1

Manual Control (2-1-5-2)	
Input	Port
Manual Advance	
Advance Enable	

Cabinet Status (2-1-5-3)	
Input	Port
Flash Bus	
Door Ajar	
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	
2	
3	
4	

Battery Backup (2-1-5-5)	
Port	Operation
2.7	FLASHING

Y-Coordination (2-1-5-6)	
Port C	Port D
0.0	0.0

OUTPUTS

Loadswitch Assignments (2-1-6)							+
A	1	2	22	3	4	24	9
B	5	6	26	7	8	28	10
X	13	14	0	11	12	0	0

Loadswitch Codes:

0 Unused (no output)
1-8 Vehicle 1-8
9-14 Overlap A-F
21-28 Ped 1-8
41-47 Special Functions
41 Protected Permissive Flashing Phase 1
43 Protected Permissive Flashing Phase 3
45 Protected Permissive Flashing Phase 5
47 Protected Permissive Flashing Phase 7
51-57 Special Functions
71-72 Seven Wire I/C

+ middle output of loadswitches 3 and 6 Channel 9 and 10

TRANSIT PRIORITY

Local Plans (3-E) 1...9 11...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor											
Plan 2	Green Factor											
Plan 3	Green Factor											
Plan 4	Green Factor											
Plan 5	Green Factor											
Plan 6	Green Factor											
Plan 7	Green Factor											
Plan 8	Green Factor											
Plan 9	Green Factor											
Plan 11	Green Factor											
Plan 12	Green Factor											
Plan 13	Green Factor											
Plan 14	Green Factor											
Plan 15	Green Factor											
Plan 16	Green Factor											
Plan 17	Green Factor											
Plan 18	Green Factor											
Plan 19	Green Factor											

Transit Priority Configuration (3-E-A)				Indicator Output	
Enable in Plans		Input	Type	Stop	Go
Plan 1-9	.....	0.0	OPT	0	0
Plan 11-19	.....	0.0	OPT	0	0

Queue Jump (3-E-B)	
Grn Hold	Hold Phase
	.....
	.....

Free Plans (3-E-E)	
Max Grn Hold	Hold Phase
	.....

Access Utilities (9-5)	
Password	***
Timeout	30

YELLOW YIELD COORDINATION

					Force-Offs											
Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	Coord	Lag	Min Recall	Restricted
Plan C													.2...6..	.2.4.6.8	.....	.....
Plan D													.2...6..	.2.4.6.8	.....	.....

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
					.....	0.0	0.0	0.0	0	0.0	0

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Appendix B: Level-of-Service and Signal Warrant Calculations

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Existing AM no Project

Vistro File: C:\...\AM 918 DU 20240213.vistro Scenario 1 2023 AM, No Project
Report File: C:\...\1 2023 AM no Proj.pdf 2/14/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	El Dorado Hills Blvd/Serrano Pkwy	Signalized	HCM 7th Edition	SB Right	1.047	112.9	F
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	EB Right	1.337	147.8	F
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	NB Left	1.153	94.1	F
4	Latrobe Rd/US 50 EB	Signalized	HCM 7th Edition	NB Thru	1.055	23.0	C
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	WB Right	0.804	21.1	C
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	NB Left	0.629	33.0	C
7	Latrobe Rd/Golden Foothill Pkwy N	Signalized	HCM 7th Edition	SB Left	0.849	20.9	C
8	Latrobe Rd/Suncast Ln	Signalized	HCM 7th Edition	EB Left	0.732	9.3	A
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	SB Left	0.785	26.0	C
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	NB Left	0.615	10.8	B
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	WB Right	0.077	12.7	B
12	Latrobe Rd/Royal Oaks Dr	Two-way stop	HCM 7th Edition	WB Left	0.037	20.1	C
13	Golden Foothill/Robert J Mathews	Two-way stop	HCM 7th Edition	NB Left	0.212	66.2	F
14	Investment Blvd/Robert J Mathews Pkwy	All-way stop	HCM 7th Edition	SB Thru	0.869	25.0	C
15	Golden Foothill Pkwy/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.048	10.5	B
16	Carson Crossing Rd/Calypso Cir.	Two-way stop	HCM 7th Edition	NB Left	0.073	11.0	B
17	Carson Crossing Rd/Four Seasons Dr	All-way stop	HCM 7th Edition	WB Left	0.081	7.9	A
	White Rock Rd/Carson		HCM 7th				

18	White Rock Rd/Carson Crossing Rd	Two-way stop	HCM 7th Edition	SB Left	0.243	22.1	C
19	White Rock Rd/Windfield Way	Signalized	HCM 7th Edition	EB Left	0.398	25.8	C
20	White Rock Rd/Post St	Signalized	HCM 7th Edition	SB Left	0.453	39.2	D
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 7th Edition	WB Thru	0.983	75.0	E
22	White Rock Rd/Clarksville Crossing	Signalized	HCM 7th Edition	NB Right	0.733	23.4	C
23	White Rock Rd/US 50 EB	Signalized	HCM 7th Edition	EB Left	0.452	16.9	B
24	Silva Valley Pkwy/US 50 WB	Signalized	HCM 7th Edition	WB Left	0.847	34.2	C
25	New Intersection	Two-way stop	HCM 6th Edition	NB Thru	0.005	0.0	A
26	Latrobe/Wetsl-Oviatt	Two-way stop	HCM 7th Edition	EB Left	0.009	13.5	B
27	Latrobe/S. Shingle	Two-way stop	HCM 7th Edition	EB Left	0.131	19.6	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: El Dorado Hills Blvd/Serrano Pkwy

Control Type:	Signalized	Delay (sec / veh):	112.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.047

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	260.0	100.0	100.0	100.0	110.00	100.00	100.00	100.00	100.00	100.00	430.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No			No		
Crosswalk	No				Yes			Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Base Volume Input [veh/h]	5	194	705	301	68	1419	40	18	11	260	467	57	108
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	12	0	0	78	0	0	32
Total Hourly Volume [veh/h]	5	194	705	301	68	1419	28	18	11	182	467	57	76
Peak Hour Factor	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	56	203	86	20	408	8	5	3	52	134	16	22
Total Analysis Volume [veh/h]	5	223	810	346	78	1631	32	21	13	209	537	66	87
Presence of On-Street Parking	No			No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	1	6	0	7	7	0	0	8	0
Auxiliary Signal Groups													
Maximum Green [s]	0	25	40	0	25	40	0	35	35	0	0	35	0
Amber [s]	0.0	3.0	4.7	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	12	0	0	12	0	0	0	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	100.0	245.0	0.0	100.0	100.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	29	46	0	29	46	0	39	39	0	0	39	0
Lead / Lag	-	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	3	6	0	3	3	0	3	3	0	0	3	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	4.0	0.0
Minimum Recall		No	No		No	No			No			No	
Maximum Recall		No	No		No	No			No			No	
Pedestrian Recall		No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C
C, Cycle Length [s]	122	122	122	122	122	122	122	122	122	122
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	18	51	51	7	40	40	19	19	28	28
g / C, Green / Cycle	0.14	0.42	0.42	0.06	0.33	0.33	0.16	0.16	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.13	0.23	0.22	0.04	0.45	0.45	0.01	0.14	0.20	0.20
s, saturation flow rate [veh/h]	1781	3560	1589	1781	1870	1857	1781	1604	1781	1744
c, Capacity [veh/h]	257	1481	661	100	613	609	277	250	404	396
d1, Uniform Delay [s]	51.21	26.93	26.59	56.79	40.98	40.98	43.99	50.45	45.30	45.34
k, delay calibration	0.11	0.04	0.14	0.04	0.50	0.50	0.04	0.04	0.25	0.26
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.29	0.12	0.83	4.79	171.34	173.88	0.04	4.28	11.80	12.31
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.55	0.52	0.78	1.36	1.36	0.08	0.89	0.86	0.86
d, Delay for Lane Group [s/veh]	61.50	27.05	27.42	61.58	212.32	214.86	44.03	54.73	57.10	57.65
Lane Group LOS	E	C	C	E	F	F	D	D	E	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	7.37	8.51	7.31	2.45	46.67	46.78	0.55	6.91	11.39	11.25
50th-Percentile Queue Length [ft/ln]	184.31	212.64	182.67	61.18	1166.65	1169.53	13.73	172.86	284.81	281.33
95th-Percentile Queue Length [veh/ln]	11.83	13.29	11.74	4.40	69.02	69.30	0.99	11.23	16.93	16.75
95th-Percentile Queue Length [ft/ln]	295.64	332.21	293.50	110.12	1725.58	1732.54	24.71	280.67	423.20	418.86

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	61.50	61.50	27.05	27.42	61.58	213.56	214.86	44.03	54.73	54.73	57.29	57.65	57.65
Movement LOS	E	E	C	C	E	F	F	D	D	D	E	E	E
d_A, Approach Delay [s/veh]	32.82				206.78			53.81			57.37		
Approach LOS	C				F			D			E		
d_I, Intersection Delay [s/veh]	112.88												
Intersection LOS	F												
Intersection V/C	1.047												

Emissions

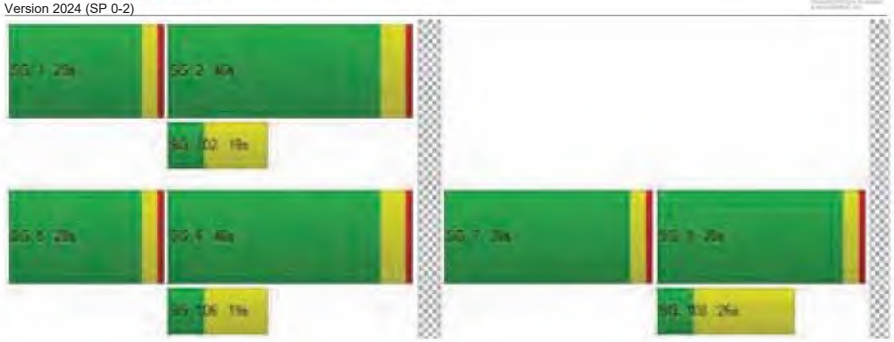
Vehicle Miles Traveled [mph]	54.45	193.45	82.64	11.47	122.41	122.09	0.90	9.48	18.21	17.89
Stops [stops/h]	217.96	502.91	216.02	72.34	1379.61	1383.01	16.23	204.42	336.80	332.68
Fuel consumption [US gal/h]	7.43	17.34	7.45	2.27	57.31	57.68	0.31	3.99	6.65	6.59
CO [g/h]	519.32	1212.25	520.70	158.67	4006.30	4032.11	22.00	279.04	465.12	460.34
NOx [g/h]	101.04	235.86	101.31	30.87	779.48	784.50	4.28	54.29	90.49	89.56
VOC [g/h]	120.36	280.95	120.68	36.77	928.50	934.48	5.10	64.67	107.80	106.69

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	50.38	50.38	50.38
I_p,int, Pedestrian LOS Score for Intersectio	0.000	3.122	2.278	2.377
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	662	662	575	575
d_b, Bicycle Delay [s]	27.25	27.25	30.92	30.92
I_b,int, Bicycle LOS Score for Intersection	2.697	3.006	2.089	2.751
Bicycle LOS	B	C	B	C

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	147.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.337

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	1	0	1	0	0	1
Entry Pocket Length [ft]	230.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	1	348	988	150	1	148	1611	391	132	61	682	11	13	84
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	45	0	0	0	117	0	0	205	0	0	25
Total Hourly Volume [veh/h]	1	348	988	105	1	148	1611	274	132	61	477	11	13	59
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	94	266	28	0	40	433	74	35	16	128	3	3	16
Total Analysis Volume [veh/h]	1	374	1062	113	1	159	1732	295	142	66	513	12	14	63
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	0	3	8	0
Auxiliary Signal Groups														
Maximum Green [s]	0	20	50	0	0	20	50	0	20	20	0	0	20	0
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	18	0	0	0	16	0	0	0	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	0	24	56	0	24	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	58	58	12	50	50	20	20	20	7	7
g / C, Green / Cycle	0.17	0.50	0.50	0.11	0.44	0.44	0.17	0.17	0.17	0.06	0.06
(v / s)_i Volume / Saturation Flow Rate	0.21	0.22	0.22	0.09	0.54	0.57	0.06	0.06	0.32	0.01	0.05
s, saturation flow rate [veh/h]	1781	3560	1779	1781	1870	1779	1781	1836	1589	1781	1634
c, Capacity [veh/h]	310	1792	896	190	815	775	310	320	277	110	101
d1, Uniform Delay [s]	47.39	18.15	18.15	50.33	32.39	32.39	41.53	41.51	47.39	50.87	53.03
k, delay calibration	0.50	0.13	0.13	0.04	0.50	0.50	0.04	0.04	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	120.05	0.20	0.41	3.87	120.16	147.87	0.23	0.22	397.12	0.16	4.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.21	0.44	0.44	0.84	1.24	1.31	0.33	0.33	1.85	0.11	0.76
d, Delay for Lane Group [s/veh]	167.43	18.36	18.56	54.19	152.54	180.25	41.76	41.73	444.51	51.03	57.49
Lane Group LOS	F	B	B	D	F	F	D	D	F	D	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	18.90	6.20	6.25	4.58	47.99	51.61	2.58	2.63	38.41	0.33	2.31
50th-Percentile Queue Length [ft/ln]	472.42	155.00	156.23	114.60	1199.84	1290.32	64.38	65.86	960.27	8.29	57.73
95th-Percentile Queue Length [veh/ln]	28.47	10.28	10.35	8.10	68.88	75.59	4.64	4.74	60.51	0.60	4.16
95th-Percentile Queue Length [ft/ln]	711.78	257.09	258.72	202.38	1721.98	1889.73	115.88	118.55	1512.63	14.92	103.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	167.4	167.4	18.41	18.56	54.19	54.19	164.0	180.2	41.76	41.73	444.51	51.03	57.49	57.49
Movement LOS	F	F	B	B	D	D	F	F	D	D	F	D	E	E
d_A, Approach Delay [s/veh]	54.48				158.19				328.31			56.62		
Approach LOS	D				F				F			E		
d_I, Intersection Delay [s/veh]	147.82													
Intersection LOS	F													
Intersection V/C	1.337													

Emissions

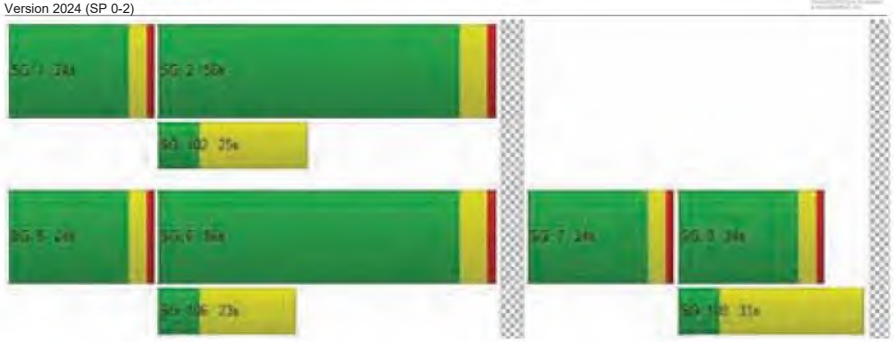
Vehicle Miles Traveled [mph]	70.57	147.43	73.70	38.21	242.06	242.06	6.41	6.56	31.99	0.59	3.75
Stops [stops/h]	592.99	389.11	196.10	143.84	1506.06	1619.63	80.81	82.67	1205.35	10.40	72.47
Fuel consumption [US gal/h]	22.57	12.82	6.44	4.86	58.48	65.60	1.58	1.62	54.37	0.21	1.46
CO [g/h]	1577.43	895.99	450.39	339.90	4087.67	4585.76	110.70	113.26	3800.47	14.41	101.75
NOx [g/h]	306.91	174.33	87.63	66.13	795.31	892.22	21.54	22.04	739.43	2.80	19.80
VOC [g/h]	365.58	207.66	104.38	78.78	947.36	1062.79	25.66	26.25	880.80	3.34	23.58

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	46.89	46.89	46.89
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.507	2.855	2.149
Crosswalk LOS	F	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	877	877	349	349
d_b, Bicycle Delay [s]	18.09	18.09	39.10	39.10
l_b,int, Bicycle LOS Score for Intersection	2.436	3.329	3.088	1.748
Bicycle LOS	B	C	C	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	94.1
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.153

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	500.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1181	1173	138	3	49	1285	968	256	92	816	146	92	55
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	41	0	0	0	290	0	0	245	0	0	17
Total Hourly Volume [veh/h]	1	1181	1173	97	3	49	1285	678	256	92	571	146	92	38
Peak Hour Factor	1.000	0.840	0.840	0.840	1.000	0.840	0.840	0.840	0.8400	0.8400	0.8400	0.8400	0.8400	0.8400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	351	349	29	1	15	382	202	76	27	170	43	27	11
Total Analysis Volume [veh/h]	1	1406	1396	115	3	58	1530	807	305	110	680	174	110	45
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	136
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	37	62	0	0	14	39	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	42	68	0	0	19	45	28	0	28	0	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	37	69	69	7	39	73	29	29	11	11	11
g / C, Green / Cycle	0.28	0.51	0.51	0.05	0.29	0.54	0.21	0.21	0.08	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.41	0.28	0.29	0.03	0.30	0.51	0.12	0.12	0.06	0.06	0.06
s, saturation flow rate [veh/h]	3459	3560	1800	1781	5094	1589	1781	1826	1781	1817	1742
c, Capacity [veh/h]	951	1819	920	95	1473	853	375	384	139	141	136
d1, Uniform Delay [s]	36.83	5.71	5.77	63.12	48.34	29.62	47.92	47.92	61.63	61.59	61.67
k, delay calibration	0.22	0.50	0.50	0.04	0.50	0.50	0.08	0.08	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	218.20	1.18	2.52	2.72	34.21	20.13	0.93	0.90	3.81	3.60	4.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.48	0.54	0.57	0.64	1.04	0.95	0.55	0.55	0.79	0.78	0.80
d, Delay for Lane Group [s/veh]	255.03	6.89	8.29	65.84	82.55	49.75	48.85	48.82	65.44	65.19	65.72
Lane Group LOS	F	A	A	E	F	D	D	D	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	42.57	2.87	3.35	2.11	20.76	27.60	6.33	6.49	3.88	3.92	3.84
50th-Percentile Queue Length [ft/ln]	1064.21	71.66	83.79	52.65	518.97	690.05	158.34	162.23	97.06	97.96	96.10
95th-Percentile Queue Length [veh/ln]	64.85	5.16	6.03	3.79	28.93	36.22	10.46	10.67	6.99	7.05	6.92
95th-Percentile Queue Length [ft/ln]	1621.26	128.99	150.82	94.76	723.19	905.45	261.52	266.67	174.71	176.32	172.97

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	255.0	255.0	7.30	8.29	65.84	65.84	82.55	49.75	48.84	48.82	0.00	65.34	65.50	65.72
Movement LOS	F	F	A	A	E	E	F	D	D	D		E	E	E
d_A, Approach Delay [s/veh]	126.79				71.09				20.55			65.45		
Approach LOS	F				E				C			E		
d_I, Intersection Delay [s/veh]	94.14													
Intersection LOS	F													
Intersection V/C	1.153													

Emissions

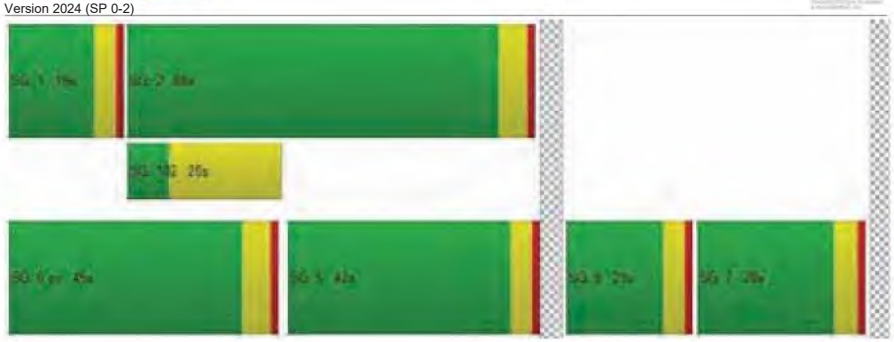
Vehicle Miles Traveled [mph]	240.80	169.55	89.05	11.48	287.94	151.87	9.48	9.72	3.49	3.53	3.44
Stops [stops/h]	2253.62	151.76	88.72	55.74	1648.48	730.64	167.65	171.77	102.77	103.72	101.75
Fuel consumption [US gal/h]	95.37	9.21	5.03	1.90	56.06	22.46	3.35	3.44	2.17	2.19	2.15
CO [g/h]	6666.28	643.57	351.84	133.08	3918.92	1569.91	234.41	240.16	151.82	153.10	150.46
NOx [g/h]	1297.02	125.22	68.46	25.89	762.48	305.45	45.61	46.73	29.54	29.79	29.27
VOC [g/h]	1544.98	149.15	81.54	30.84	908.25	363.84	54.33	55.66	35.19	35.48	34.87

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		57.44	
l_p,int, Pedestrian LOS Score for Intersectio	0.000		0.000		0.000		2.338	
Crosswalk LOS	F		F		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	915		576		337		241	
d_b, Bicycle Delay [s]	20.02		34.45		47.03		52.59	
l_b,int, Bicycle LOS Score for Intersection	3.187		3.006		2.244		1.845	
Bicycle LOS	C		C		B		A	

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Latrobe Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	23.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.055

Intersection Setup

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	200.00	570.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No			No		
Crosswalk	No			No				No			Yes		

Volumes

Name	Latrobe Rd			El Dorado Hills Blvd			US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Base Volume Input [veh/h]	0	1965	463	0	520	1728	0	0	1058	0	0	528
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	139	0	0	0	0	0	0	317	0	0	158
Total Hourly Volume [veh/h]	0	1965	324	0	520	1728	0	0	0	741	0	0	370
Peak Hour Factor	1.0000	0.8400	0.8400	1.000	0.840	0.840	1.000	1.0000	1.0000	0.8400	1.0000	1.0000	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	585	96	0	155	514	0	0	0	221	0	0	110
Total Analysis Volume [veh/h]	0	2339	386	0	619	2057	0	0	0	882	0	0	440
Presence of On-Street Parking	No		No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	74.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	50	0	0	39	50	0	0	0	45	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No				No			
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
l2, Clearance Lost Time [s]	0.0	4.2	0.0	0.0	2.6	4.2	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	2.5	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Minimum Recall		No			No	No				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	R	
C, Cycle Length [s]	68	68	68	68	68	
L, Total Lost Time per Cycle [s]	6.20	6.20	4.60	6.20	4.60	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	4.20	4.20	2.60	4.20	2.60	
g_i, Effective Green Time [s]	32	32	25	35	22	
g / C, Green / Cycle	0.47	0.47	0.37	0.51	0.33	
(v / s)_i Volume / Saturation Flow Rate	0.46	0.24	0.35	0.30	0.31	
s, saturation flow rate [veh/h]	5094	1589	1781	6792	2813	
c, Capacity [veh/h]	2395	747	661	3476	927	
d1, Uniform Delay [s]	17.65	12.61	20.61	11.63	22.27	
k, delay calibration	0.50	0.50	0.14	0.50	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	13.69	2.54	8.51	0.75	2.72	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.98	0.52	0.94	0.59	0.95	
d, Delay for Lane Group [s/veh]	31.35	15.15	29.13	12.37	24.99	
Lane Group LOS	C	B	C	B	C	
Critical Lane Group	Yes	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	12.30	3.80	9.47	4.35	6.63	
50th-Percentile Queue Length [ft/ln]	307.47	95.09	236.75	108.84	165.86	
95th-Percentile Queue Length [veh/ln]	18.05	6.85	14.52	7.78	10.86	
95th-Percentile Queue Length [ft/ln]	451.26	171.17	362.92	194.39	271.47	

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	31.35	15.15	29.13	29.13	12.37	0.00	0.00	0.00	24.99	0.00	0.00	0.00
Movement LOS		C	B	C	C	B				C			
d_A, Approach Delay [s/veh]		29.05			16.25				24.99			0.00	
Approach LOS		C			B				C			A	
d_I, Intersection Delay [s/veh]	23.03												
Intersection LOS	C												
Intersection V/C	1.055												

Emissions

Vehicle Miles Traveled [mph]	338.73	55.90	105.94	352.05	62.99	
Stops [stops/h]	1953.36	201.37	501.35	921.93	702.47	
Fuel consumption [US gal/h]	50.82	5.61	13.53	28.71	10.96	
CO [g/h]	3552.31	392.17	946.02	2006.85	766.11	
NOx [g/h]	691.15	76.30	184.06	390.46	149.06	
VOC [g/h]	823.28	90.89	219.25	465.11	177.55	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00	
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	23.89	
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.257	
Crosswalk LOS	F	F	F	B	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000	
c_b, Capacity of the bicycle lane [bicycles/h]	906	1024	659	0	
d_b, Bicycle Delay [s]	10.18	8.10	15.29	34.00	
l_b,int, Bicycle LOS Score for Intersection	3.135	2.408	1.560	1.560	
Bicycle LOS	C	B	A	A	

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	21.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.804

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	61	1808	235	4	440	1970	372	140	8	20	1	70	30	476
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	71	0	0	0	112	0	0	6	0	0	0	143
Total Hourly Volume [veh/h]	1	61	1808	164	4	440	1970	260	140	8	14	1	70	30	333
Peak Hour Factor	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.9800	0.9800	0.9800	0.980	0.980	0.980	0.980
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	16	461	42	1	112	503	66	36	2	4	0	18	8	85
Total Analysis Volume [veh/h]	1	62	1845	167	4	449	2010	265	143	8	14	1	71	31	340
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	123
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	5	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	50	0	15	15	50	0	15	20	0	0	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	3.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.5	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	1.5	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	245.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	19	19	56	0	19	24	0	0	19	19	0
Lead / Lag	-	Lead	-	-	Lead	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	4	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	No			No	No			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	83	83	83	83	83	83	83	83	83	83	83	83
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	3	37	37	13	47	47	6	6	6	12	12	12
g / C, Green / Cycle	0.04	0.44	0.44	0.15	0.56	0.56	0.07	0.07	0.07	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.02	0.36	0.11	0.13	0.39	0.17	0.04	0.00	0.01	0.04	0.12	0.12
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	1870	1589	1781	1630	1589
c, Capacity [veh/h]	128	2250	702	536	2851	890	243	132	112	252	230	225
d1, Uniform Delay [s]	39.44	20.40	14.54	34.30	13.36	9.71	37.64	36.24	36.40	32.08	34.79	34.79
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.08	0.08	0.08	0.08	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.10	0.29	0.06	1.44	0.12	0.07	1.68	0.14	0.37	0.46	9.30	9.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.82	0.24	0.85	0.70	0.30	0.59	0.06	0.13	0.29	0.82	0.82
d, Delay for Lane Group [s/veh]	40.54	20.69	14.60	35.74	13.48	9.78	39.31	36.38	36.77	32.54	44.09	44.31
Lane Group LOS	D	C	B	D	B	A	D	D	D	C	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.64	9.75	1.89	4.46	8.13	2.34	1.45	0.16	0.27	1.31	4.21	4.12
50th-Percentile Queue Length [ft/ln]	16.07	243.81	47.20	111.45	203.27	58.61	36.19	3.88	6.87	32.71	105.13	102.90
95th-Percentile Queue Length [veh/ln]	1.16	14.87	3.40	7.92	12.81	4.22	2.61	0.28	0.49	2.35	7.57	7.41
95th-Percentile Queue Length [ft/ln]	28.92	371.85	84.96	198.02	320.18	105.49	65.14	6.98	12.37	58.87	189.21	185.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.54	40.54	20.69	14.60	35.74	35.74	13.48	9.78	39.31	36.38	36.77	32.54	32.54	44.09	44.21
Movement LOS	D	D	C	B	D	D	B	A	D	D	D	C	C	D	D
d_A, Approach Delay [s/veh]	20.81				16.82				38.96			42.30			
Approach LOS	C				B				D			D			
d_I, Intersection Delay [s/veh]	21.11														
Intersection LOS	C														
Intersection V/C	0.804														

Emissions

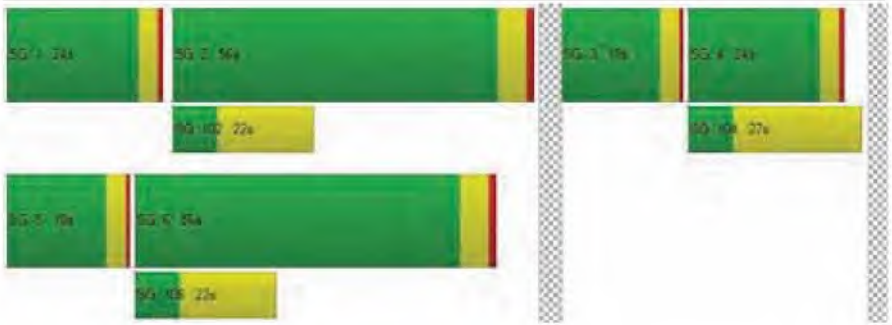
Vehicle Miles Traveled [mph]	14.06	411.76	37.27	65.60	291.09	38.38	18.24	1.02	1.79	25.27	65.92	64.29
Stops [stops/h]	55.49	1263.04	81.51	384.90	1053.01	101.20	124.98	6.69	11.87	56.48	181.54	177.68
Fuel consumption [US gal/h]	1.41	31.70	2.48	8.12	23.32	2.67	2.59	0.14	0.24	1.83	5.40	5.28
CO [g/h]	98.22	2215.78	173.42	567.74	1629.88	186.38	180.72	9.66	17.04	127.85	377.55	369.09
NOx [g/h]	19.11	431.11	33.74	110.46	317.11	36.26	35.16	1.88	3.32	24.87	73.46	71.81
VOC [g/h]	22.76	513.53	40.19	131.58	377.74	43.20	41.88	2.24	3.95	29.63	87.50	85.54

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.42	0.00	31.42	31.42
l_p,int, Pedestrian LOS Score for Intersectio	3.406	0.000	2.561	2.749
Crosswalk LOS	C	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1211	1211	492	372
d_b, Bicycle Delay [s]	6.49	6.49	23.72	27.64
l_b,int, Bicycle LOS Score for Intersection	2.739	2.875	1.701	2.409
Bicycle LOS	B	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	33.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.629

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	3	2	0	0	1	2	0	0	0	3	0	0
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	260.0	100.0	100.0	260.0	360.0	100.0	100.0	100.0	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	2	84	1607	388	1	92	1561	407	2	310	108	60	298	227	187
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	116	0	0	0	122	0	0	0	18	0	0	56
Total Hourly Volume [veh/h]	2	84	1607	272	1	92	1561	285	2	310	108	42	298	227	131
Peak Hour Factor	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	0.9400	0.9400	0.9400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	22	427	72	0	24	415	76	1	82	29	11	79	60	35
Total Analysis Volume [veh/h]	2	89	1710	289	1	98	1661	303	2	330	115	45	317	241	139
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	157
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups															
Maximum Green [s]	0	15	45	0	0	25	45	0	0	30	25	0	20	35	0
Amber [s]	0.0	4.0	4.7	0.0	0.0	4.0	4.7	0.0	0.0	4.5	4.7	0.0	4.5	4.7	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	39	0	0	0	37	0	0	0	48	0	0	50	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	3.0	3.7	0.0	0.0	3.0	3.7	0.0	0.0	4.0	3.7	0.0	4.0	3.7	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	19	51	0	0	29	51	0	0	36	31	0	26	41	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	7	0	0	10	7	0	0	10	10	0	10	10	0
Vehicle Extension [s]	0.0	1.5	3.0	0.0	0.0	1.5	3.0	0.0	0.0	1.5	2.0	0.0	1.5	2.0	0.0
Minimum Recall		No	Yes			No	Yes			No	No		No	No	
Maximum Recall		No	No			No	No			No	No		No	No	
Pedestrian Recall		No	No			No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	157	157	157	157	157	157	157	157	157	157	157	157
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	6.00	5.70	5.70	6.00	5.70	5.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	4.00	3.70	3.70	4.00	3.70	3.70
g_i, Effective Green Time [s]	10	91	91	10	91	91	17	17	17	16	16	16
g / C, Green / Cycle	0.06	0.58	0.58	0.06	0.58	0.58	0.11	0.11	0.11	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.05	0.25	0.18	0.03	0.33	0.19	0.10	0.04	0.05	0.09	0.07	0.09
s, saturation flow rate [veh/h]	1767	6737	1577	3431	5053	1577	3431	1855	1682	3431	3532	1577
c, Capacity [veh/h]	111	3915	916	217	2939	917	379	201	182	360	362	162
d1, Uniform Delay [s]	72.72	18.46	16.87	70.94	20.46	17.01	68.78	65.37	65.44	69.30	67.85	69.33
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.63	0.36	0.90	0.56	0.79	0.97	2.58	0.51	0.58	2.81	0.79	5.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.44	0.32	0.46	0.57	0.33	0.88	0.41	0.42	0.88	0.67	0.86
d, Delay for Lane Group [s/veh]	78.35	18.82	17.77	71.50	21.26	17.97	71.35	65.87	66.02	72.11	68.63	74.37
Lane Group LOS	E	B	B	E	C	B	E	E	E	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.82	8.90	5.67	1.92	12.31	5.75	6.74	3.16	2.94	6.45	4.73	5.75
50th-Percentile Queue Length [ft/ln]	95.46	222.54	141.70	47.95	307.86	143.69	168.40	78.95	73.40	161.36	118.21	143.84
95th-Percentile Queue Length [veh/ln]	6.87	13.79	9.57	3.45	18.07	9.68	10.99	5.68	5.28	10.62	8.29	9.69
95th-Percentile Queue Length [ft/ln]	171.83	344.86	239.31	86.30	451.73	241.99	274.81	142.10	132.11	265.52	207.37	242.19

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	78.35	78.35	18.82	17.77	71.50	71.50	21.26	17.97	71.35	71.35	65.91	66.02	72.11	68.63	74.37
Movement LOS	E	E	B	B	E	E	C	B	E	E	E	E	E	E	E
d_A, Approach Delay [s/veh]	21.26				23.19				69.59				71.36		
Approach LOS	C				C				E				E		
d_I, Intersection Delay [s/veh]	32.99														
Intersection LOS	C														
Intersection V/C	0.629														

Emissions

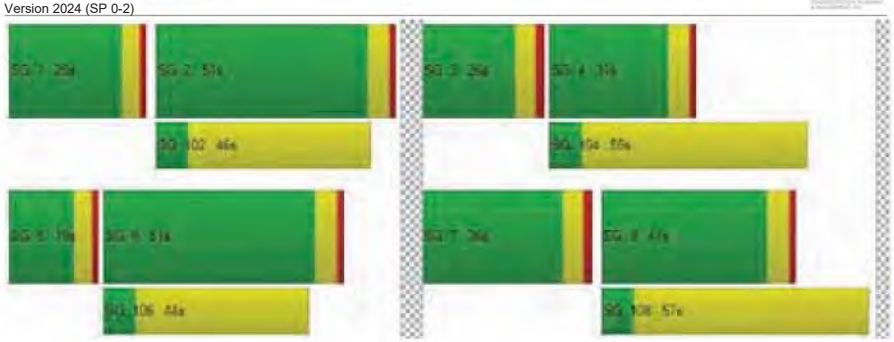
Vehicle Miles Traveled [mph]	36.23	680.80	115.06	22.09	370.70	67.62	82.74	20.68	19.19	33.36	25.36	14.63
Stops [stops/h]	87.56	816.45	129.97	87.95	847.10	131.80	308.91	72.41	67.32	295.99	216.85	131.93
Fuel consumption [US gal/h]	3.43	39.08	6.50	3.29	30.42	5.06	9.93	2.36	2.20	7.66	5.61	3.43
CO [g/h]	239.46	2732.01	454.32	230.05	2126.64	354.02	694.30	165.24	153.51	535.43	391.98	240.07
NOx [g/h]	46.59	531.55	88.39	44.76	413.77	68.88	135.09	32.15	29.87	104.17	76.26	46.71
VOC [g/h]	55.50	633.17	105.29	53.32	492.87	82.05	160.91	38.30	35.58	124.09	90.84	55.64

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	67.89	67.89	67.89	67.89
l_p,int, Pedestrian LOS Score for Intersectio	3.501	3.813	2.710	2.891
Crosswalk LOS	D	D	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	577	577	322	450
d_b, Bicycle Delay [s]	39.74	39.74	55.24	47.17
l_b,int, Bicycle LOS Score for Intersection	2.469	2.707	1.708	2.181
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	20.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.849

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	38	1287	2	2	8	1439	388	167	4	10	3	7	14
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	1	0	0	0	116	0	0	3	0	0	4
Total Hourly Volume [veh/h]	1	38	1287	1	2	8	1439	272	167	4	7	3	7	10
Peak Hour Factor	1.000	0.870	0.870	0.870	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	11	370	0	1	2	414	78	48	1	2	1	2	3
Total Analysis Volume [veh/h]	1	44	1479	1	2	9	1654	313	192	5	8	3	8	11
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	112
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	12	40	0	0	15	40	0	0	20	0	0	20	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	12	0	0	0	20	0	0	20	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	0	0	18	46	0	0	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	69	69	69	69	69	69	69	69	69
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	42	42	1	40	40	6	6	2
g / C, Green / Cycle	0.04	0.61	0.61	0.01	0.58	0.58	0.09	0.09	0.03
(v / s)_i Volume / Saturation Flow Rate	0.03	0.40	0.40	0.01	0.53	0.56	0.06	0.06	0.01
s, saturation flow rate [veh/h]	1781	1870	1870	1781	1870	1771	1781	1768	1708
c, Capacity [veh/h]	77	1145	1145	16	1082	1024	162	161	45
d1, Uniform Delay [s]	32.40	8.58	8.58	34.06	12.92	13.78	30.24	30.24	33.11
k, delay calibration	0.04	0.24	0.24	0.04	0.38	0.41	0.11	0.11	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.65	1.35	1.35	15.90	10.09	17.55	4.05	4.10	3.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.65	0.65	0.67	0.91	0.96	0.63	0.64	0.49
d, Delay for Lane Group [s/veh]	35.06	9.93	9.93	49.96	23.01	31.33	34.29	34.35	36.12
Lane Group LOS	D	A	A	D	C	C	C	C	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.77	5.94	5.94	0.24	11.35	13.87	1.76	1.76	0.39
50th-Percentile Queue Length [ft/ln]	19.19	148.60	148.59	5.95	283.86	346.68	44.05	43.90	9.70
95th-Percentile Queue Length [veh/ln]	1.38	9.94	9.94	0.43	16.88	19.97	3.17	3.16	0.70
95th-Percentile Queue Length [ft/ln]	34.54	248.56	248.54	10.70	422.01	499.36	79.30	79.02	17.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.06	35.06	9.93	9.93	49.96	49.96	26.38	31.33	34.32	34.35	34.35	36.12	36.12	36.12
Movement LOS	D	D	A	A	D	D	C	C	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	10.67				27.30				34.32			36.12		
Approach LOS	B				C				C			D		
d_I, Intersection Delay [s/veh]	20.94													
Intersection LOS	C													
Intersection V/C	0.849													

Emissions

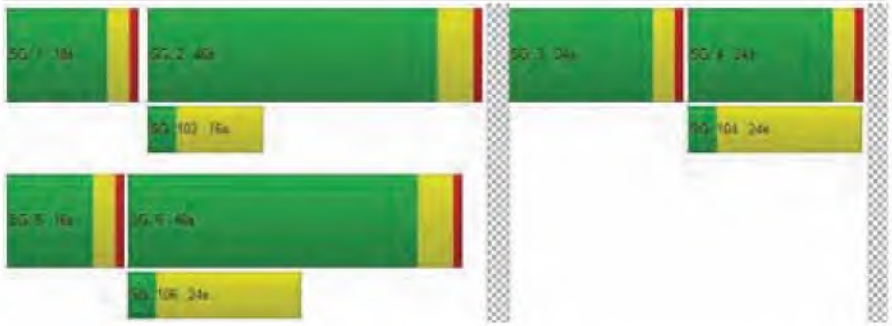
Vehicle Miles Traveled [mph]	15.92	261.88	261.84	4.38	391.56	391.56	24.74	24.63	0.42
Stops [stops/h]	40.18	311.22	311.20	12.45	594.50	726.07	92.27	91.94	20.32
Fuel consumption [US gal/h]	1.20	14.00	13.99	0.49	28.75	32.85	2.25	2.24	0.29
CO [g/h]	83.78	978.31	978.17	34.22	2009.41	2296.52	156.95	156.32	20.35
NOx [g/h]	16.30	190.34	190.32	6.66	390.96	446.82	30.54	30.42	3.96
VOC [g/h]	19.42	226.73	226.70	7.93	465.70	532.24	36.37	36.23	4.72

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.84	0.00	26.84	26.84
l_p,int, Pedestrian LOS Score for Intersectio	2.913	0.000	2.158	1.730
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1164	1164	582	582
d_b, Bicycle Delay [s]	6.01	6.01	17.29	17.29
l_b,int, Bicycle LOS Score for Intersection	2.818	3.280	1.903	1.603
Bicycle LOS	C	C	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Latrobe Rd/Suncast Ln

Control Type:	Signalized	Delay (sec / veh):	9.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.732

Intersection Setup

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Approach	Northbound			Southbound		Eastbound	
Lane Configuration							
Turning Movement	U-turn	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			No		Yes	

Volumes

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Base Volume Input [veh/h]	1	60	1194	1152	301	134	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	90	0	2
Total Hourly Volume [veh/h]	1	60	1194	1152	211	134	3
Peak Hour Factor	1.0000	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	17	343	331	61	39	1
Total Analysis Volume [veh/h]	1	69	1372	1324	243	154	3
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permissive	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	5	2	6	0	3	0
Auxiliary Signal Groups							
Maximum Green [s]	0	12	40	40	0	20	0
Amber [s]	0.0	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No	No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	46	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-
Minimum Green [s]	0	5	5	5	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall		No	No	No		No	
Maximum Recall		No	No	No		No	
Pedestrian Recall		No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	L	R
C, Cycle Length [s]	53	53	53	53	53	53
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	3	37	30	30	6	6
g / C, Green / Cycle	0.06	0.70	0.56	0.56	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.04	0.39	0.42	0.44	0.09	0.00
s, saturation flow rate [veh/h]	1781	3560	1870	1773	1781	1589
c, Capacity [veh/h]	108	2483	1051	996	206	184
d1, Uniform Delay [s]	24.55	3.98	8.83	9.20	22.90	20.96
k, delay calibration	0.04	0.15	0.16	0.18	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.40	0.28	1.59	2.33	5.38	0.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.55	0.75	0.79	0.75	0.02
d, Delay for Lane Group [s/veh]	26.95	4.26	10.42	11.53	28.28	20.99
Lane Group LOS	C	A	B	B	C	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.88	1.88	5.34	5.72	2.03	0.03
50th-Percentile Queue Length [ft/ln]	21.92	47.06	133.41	142.98	50.82	0.81
95th-Percentile Queue Length [veh/ln]	1.58	3.39	9.13	9.64	3.66	0.06
95th-Percentile Queue Length [ft/ln]	39.45	84.70	228.13	241.03	91.47	1.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.95	26.95	4.26	10.87	11.53	28.28	20.99
Movement LOS	C	C	A	B	B	C	C
d_A, Approach Delay [s/veh]	5.36			10.98		28.14	
Approach LOS	A			B		C	
d_I, Intersection Delay [s/veh]	9.27						
Intersection LOS	A						
Intersection V/C	0.732						

Emissions

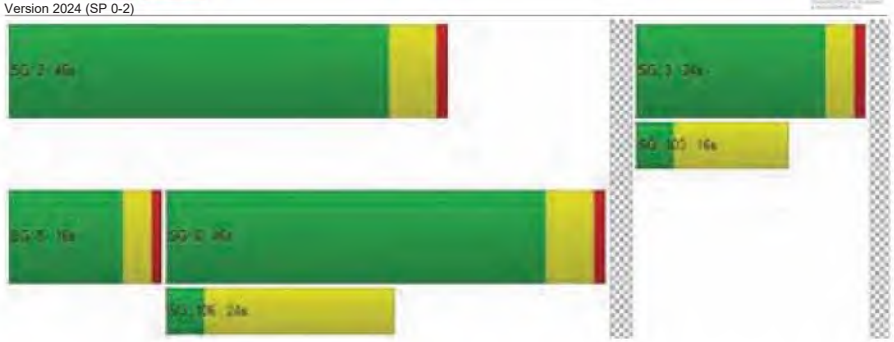
Vehicle Miles Traveled [mph]	48.84	957.26	277.25	277.25	51.96	1.01
Stops [stops/h]	59.13	253.91	359.93	385.74	137.10	2.20
Fuel consumption [US gal/h]	2.72	42.00	15.06	15.38	3.78	0.07
CO [g/h]	190.20	2935.65	1052.98	1075.30	264.41	4.66
NOx [g/h]	37.01	571.17	204.87	209.21	51.44	0.91
VOC [g/h]	44.08	680.37	244.04	249.21	61.28	1.08

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0		0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00	0.00
d_p, Pedestrian Delay [s]	19.29		0.00	19.29
l_p,int, Pedestrian LOS Score for Intersectio	2.816		0.000	2.101
Crosswalk LOS	C		F	B
s_b, Saturation Flow Rate of the bicycle lane	2000		2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1499		1499	749
d_b, Bicycle Delay [s]	1.68		1.68	10.43
l_b,int, Bicycle LOS Score for Intersection	2.748		2.927	1.560
Bicycle LOS	B		C	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	26.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.785

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	41	605	21	209	386	563	314	41	5	136	94	335
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	6	0	0	169	0	0	2	0	0	101
Total Hourly Volume [veh/h]	41	605	15	209	386	394	314	41	3	136	94	234
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	170	4	59	108	111	88	12	1	38	26	66
Total Analysis Volume [veh/h]	46	680	17	235	434	443	353	46	3	153	106	263
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Cycle Length [s]	63	63	63	63	63	63	63	63	63	63
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	3	14	14	10	21	21	9	9	12	12
g / C, Green / Cycle	0.04	0.22	0.22	0.16	0.33	0.33	0.14	0.14	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.03	0.19	0.19	0.13	0.23	0.28	0.11	0.11	0.15	0.15
s, saturation flow rate [veh/h]	1781	1870	1854	1781	1870	1589	1781	1797	1800	1589
c, Capacity [veh/h]	79	405	402	282	619	526	254	256	332	293
d1, Uniform Delay [s]	29.63	23.85	23.85	25.77	18.41	19.60	26.16	26.16	24.84	24.84
k, delay calibration	0.04	0.04	0.04	0.13	0.06	0.15	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.55	2.17	2.20	7.37	0.77	5.17	2.05	2.03	2.13	2.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.86	0.86	0.83	0.70	0.84	0.79	0.79	0.83	0.83
d, Delay for Lane Group [s/veh]	32.18	26.02	26.05	33.14	19.18	24.77	28.22	28.19	26.96	27.25
Lane Group LOS	C	C	C	C	B	C	C	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.71	4.91	4.87	3.48	4.48	5.48	2.88	2.90	3.93	3.49
50th-Percentile Queue Length [ft/ln]	17.74	122.67	121.76	86.96	112.04	137.07	71.97	72.57	98.21	87.37
95th-Percentile Queue Length [veh/ln]	1.28	8.54	8.49	6.26	7.95	9.32	5.18	5.22	7.07	6.29
95th-Percentile Queue Length [ft/ln]	31.93	213.50	212.24	156.53	198.84	233.07	129.54	130.62	176.77	157.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.18	26.03	26.05	33.14	19.18	24.77	28.21	28.19	28.19	26.96	26.96	27.24
Movement LOS	C	C	C	C	B	C	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	26.41			24.36			28.21			27.09		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	25.98											
Intersection LOS	C											
Intersection V/C	0.785											

Emissions

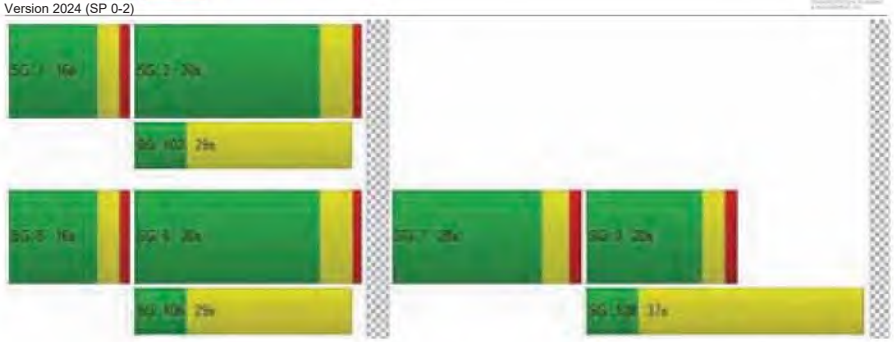
Vehicle Miles Traveled [mph]	26.57	202.08	200.45	163.96	302.81	309.09	15.05	15.19	30.65	27.09
Stops [stops/h]	40.54	280.31	278.23	198.71	256.02	313.20	164.45	165.82	224.40	199.65
Fuel consumption [US gal/h]	1.62	11.72	11.63	10.76	16.58	18.39	2.68	2.70	4.02	3.58
CO [g/h]	113.16	819.26	812.84	752.18	1158.84	1285.47	187.15	188.71	281.13	249.95
NOx [g/h]	22.02	159.40	158.15	146.35	225.47	250.11	36.41	36.72	54.70	48.63
VOC [g/h]	26.23	189.87	188.38	174.33	268.57	297.92	43.37	43.74	65.15	57.93

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.47	0.00	21.47	21.47
l_p,int, Pedestrian LOS Score for Intersectio	2.550	0.000	2.303	2.365
Crosswalk LOS	B	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	784	784	492	635
d_b, Bicycle Delay [s]	11.65	11.65	17.92	14.68
l_b,int, Bicycle LOS Score for Intersection	2.178	2.616	2.226	2.588
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	10.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.615

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⌐|		|⌐		⌐⌐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	122	465	254	273	202	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	122	465	254	273	202	55
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	129	71	76	56	15
Total Analysis Volume [veh/h]	136	517	282	303	224	61
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	12	40	40	0	20	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	46	46	0	24	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	35	35	35	35	35	35
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	4	18	11	11	6	6
g / C, Green / Cycle	0.11	0.53	0.31	0.31	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.08	0.28	0.15	0.19	0.13	0.04
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1589
c, Capacity [veh/h]	190	988	574	488	329	294
d1, Uniform Delay [s]	15.07	5.36	9.86	10.34	13.26	12.05
k, delay calibration	0.04	0.15	0.15	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.89	0.61	0.93	1.84	2.48	0.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.72	0.52	0.49	0.62	0.68	0.21
d, Delay for Lane Group [s/veh]	16.96	5.97	10.78	12.18	15.73	12.40
Lane Group LOS	B	A	B	B	B	B
Critical Lane Group	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.78	0.55	1.03	1.25	1.50	0.34
50th-Percentile Queue Length [ft/ln]	19.42	13.69	25.84	31.19	37.59	8.61
95th-Percentile Queue Length [veh/ln]	1.40	0.99	1.86	2.25	2.71	0.62
95th-Percentile Queue Length [ft/ln]	34.95	24.64	46.50	56.13	67.67	15.50

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	16.96	5.97	10.78	12.18	15.73	12.40
Movement LOS	B	A	B	B	B	B
d_A, Approach Delay [s/veh]	8.26		11.51		15.02	
Approach LOS	A		B		B	
d_I, Intersection Delay [s/veh]	10.77					
Intersection LOS	B					
Intersection V/C	0.615					

Emissions

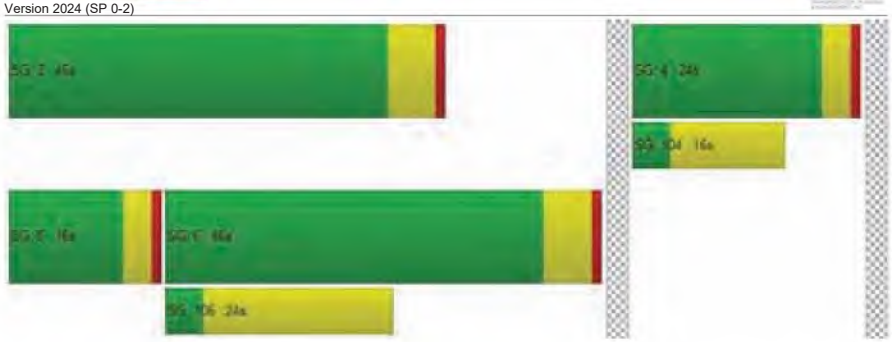
Vehicle Miles Traveled [mph]	16.78	63.79	162.86	174.99	52.61	14.33
Stops [stops/h]	80.55	56.78	107.16	129.36	155.94	35.73
Fuel consumption [US gal/h]	2.53	3.82	8.06	9.01	3.74	0.94
CO [g/h]	176.63	266.79	563.21	629.62	261.75	65.78
NOx [g/h]	34.37	51.91	109.58	122.50	50.93	12.80
VOC [g/h]	40.94	61.83	130.53	145.92	60.66	15.25

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0		0.0		8.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	10.28		0.00		10.28	
I_p,int, Pedestrian LOS Score for Intersectio	2.484		0.000		2.126	
Crosswalk LOS	B		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	2304		2304		1152	
d_b, Bicycle Delay [s]	0.40		0.40		3.12	
I_b,int, Bicycle LOS Score for Intersection	2.637		2.525		1.560	
Bicycle LOS	B		B		A	

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.077

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	548	0	14	295	0	0	0	0	0	0	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	548	0	14	295	0	0	0	0	0	0	39
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	149	0	4	80	0	0	0	0	0	0	10
Total Analysis Volume [veh/h]	0	596	0	14	321	0	0	0	0	0	0	39
Pedestrian Volume [ped/h]		0			0			0			0	

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			Yes	Yes
Storage Area [veh]	0	0	1	1
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
d_M, Delay for Movement [s/veh]	7.91	0.00	0.00	8.69	0.00	0.00	21.93	18.99	10.00	20.75	19.59	12.75
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.02	0.02	0.02	0.00	0.00	0.00	0.25	0.25	0.25
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.59	0.59	0.59	0.00	0.00	0.00	6.27	6.27	6.27
d_A, Approach Delay [s/veh]	0.00			0.36			16.97			12.75		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	0.64											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Two-way stop	Delay (sec / veh):	20.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.037

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	387	32	41	254	0	0	0	0	10	0	161
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	387	32	41	254	0	0	0	0	10	0	161
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	104	9	11	68	0	0	0	0	3	0	43
Total Analysis Volume [veh/h]	0	416	34	44	273	0	0	0	0	11	0	173
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.28
d_M, Delay for Movement [s/veh]	7.79	0.00	0.00	8.38	0.00	0.00	24.41	16.96	9.70	20.07	19.50	13.59
Movement LOS	A	A	A	A	A	A	C	C	A	C	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	1.34	1.34	1.34
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	3.09	0.00	0.00	0.00	0.00	0.00	33.62	33.62	33.62
d_A, Approach Delay [s/veh]	0.00			1.16			17.02			13.98		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	3.09											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Two-way stop	Delay (sec / veh):	66.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.212

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	13	232	128	45	0	546	152
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	13	232	128	45	0	546	152
Peak Hour Factor	1.0000	0.9060	0.9060	0.9060	0.9060	1.0000	0.9060	0.9060
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	64	35	12	0	151	42
Total Analysis Volume [veh/h]	0	14	256	141	50	0	603	168
Pedestrian Volume [ped/h]	0			0		0		

Intersection Settings

Priority Scheme	Stop			Free			Free	
Flared Lane	No							
Storage Area [veh]	0			0			0	
Two-Stage Gap Acceptance	No							
Number of Storage Spaces in Median	0			0			0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.21	0.29	0.00	0.00	0.00	0.44	0.00
d_M, Delay for Movement [s/veh]	66.24	66.24	15.72	0.00	0.00	11.86	8.61	0.00
Movement LOS	F	F	C	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	2.81	2.81	2.81	0.00	0.00	1.50	1.50	1.50
95th-Percentile Queue Length [ft/ln]	70.23	70.23	70.23	0.00	0.00	37.41	37.41	37.41
d_A, Approach Delay [s/veh]	18.34			0.00		6.73		
Approach LOS	C			A		A		
d_I, Intersection Delay [s/veh]	8.23							
Intersection LOS	F							

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Intersection Level Of Service Report
Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Control Type:	All-way stop	Delay (sec / veh):	25.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.869

Intersection Setup

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Base Volume Input [veh/h]	2	39	63	2	30	443	13	2	9	0	225	26	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	39	63	2	30	443	13	2	9	0	225	26	46
Peak Hour Factor	0.8300	0.8300	0.8300	1.000	0.830	0.830	0.830	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	12	19	1	9	133	4	1	3	0	68	8	14
Total Analysis Volume [veh/h]	2	47	76	2	36	534	16	2	11	0	271	31	55
Pedestrian Volume [ped/h]	0			0				0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	631	676	532	604
Degree of Utilization, x	0.20	0.87	0.02	0.59

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.73	10.32	0.08	3.86
95th-Percentile Queue Length [ft]	18.30	257.99	1.88	96.60
Approach Delay [s/veh]	10.10	33.20	9.94	17.25
Approach LOS	B	D	A	C
Intersection Delay [s/veh]	25.00			
Intersection LOS	C			

Intersection Level Of Service Report
Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.048

Intersection Setup

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00			30.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	No		No			No		

Volumes

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Base Volume Input [veh/h]	31	108	1	65	13	0	49	91
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	108	1	65	13	0	49	91
Peak Hour Factor	0.9500	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	28	0	17	3	0	13	24
Total Analysis Volume [veh/h]	33	114	1	68	14	0	52	96
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.12	0.00	0.00	0.00	0.00	0.03	0.00
d_M, Delay for Movement [s/veh]	10.48	9.13	8.60	0.00	0.00	9.07	7.46	0.00
Movement LOS	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.15	0.39	0.00	0.00	0.00	0.11	0.11	0.00
95th-Percentile Queue Length [ft/ln]	3.76	9.77	0.04	0.04	0.04	2.66	2.66	0.00
d_A, Approach Delay [s/veh]	9.43		0.10			2.62		
Approach LOS	A		A			A		
d_I, Intersection Delay [s/veh]	4.72							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 16: Carson Crossing Rd/Calypso Cir.

Control Type:	Two-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.073

Intersection Setup

Name			Carson Crossing Rd		Carson Crossing Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	190.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			Carson Crossing Rd		Carson Crossing Rd	
Base Volume Input [veh/h]	45	43	78	31	65	51
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	43	78	31	65	51
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	12	21	8	18	14
Total Analysis Volume [veh/h]	49	47	85	34	71	55
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.05	0.00	0.00	0.05	0.00
d_M, Delay for Movement [s/veh]	10.97	9.32	0.00	0.00	7.58	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.41	0.41	0.00	0.00	0.15	0.00
95th-Percentile Queue Length [ft/ln]	10.27	10.27	0.00	0.00	3.81	0.00
d_A, Approach Delay [s/veh]	10.16		0.00		4.27	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	4.44					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 17: Carson Crossing Rd/Four Seasons Dr

Control Type:	All-way stop	Delay (sec / veh):	7.9
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.081

Intersection Setup

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	500.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	1	0	0
Exit Pocket Length [ft]	0.00	500.00	0.00	49.21	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Base Volume Input [veh/h]	67	10	10	114	18	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	67	10	10	114	18	18
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	3	3	31	5	5
Total Analysis Volume [veh/h]	73	11	11	124	20	20
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	734	763	692	765	765	749
Degree of Utilization, x	0.06	0.06	0.02	0.08	0.08	0.05

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.18	0.17	0.05	0.26	0.26	0.17
95th-Percentile Queue Length [ft]	4.54	4.36	1.21	6.59	6.59	4.22
Approach Delay [s/veh]	7.80		7.83			8.08
Approach LOS	A		A			A
Intersection Delay [s/veh]	7.86					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	22.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.243

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	65	0	18	66	1	8	4	227	71	37	439	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	0	18	66	1	8	4	227	71	37	439	15
Peak Hour Factor	0.9700	1.0000	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	0	5	17	0	2	1	59	18	10	113	4
Total Analysis Volume [veh/h]	67	0	19	68	1	8	4	234	73	38	453	15
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.24	0.00	0.02	0.24	0.00	0.01	0.00	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	22.00	17.32	9.81	22.11	21.78	15.15	8.30	0.00	0.00	7.91	0.00	0.00
Movement LOS	C	C	A	C	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.92	0.08	0.08	1.02	1.02	1.02	0.01	0.00	0.00	0.06	0.06	0.03
95th-Percentile Queue Length [ft/ln]	22.99	1.90	1.90	25.42	25.42	25.42	0.28	0.00	0.00	1.62	1.62	0.81
d_A, Approach Delay [s/veh]	19.30			21.38			0.11			0.59		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	3.71											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 19: White Rock Rd/Windfield Way

Control Type:	Signalized	Delay (sec / veh):	25.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.398

Intersection Setup

Name	Windfield Way				White Rock Rd				White Rock Rd			
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00			
Grade [%]	0.00			0.00			0.00			0.00			
Curb Present	No			No			No			No			
Crosswalk	Yes			Yes			Yes			No			

Volumes

Name	Windfield Way						White Rock Rd			White Rock Rd			
Base Volume Input [veh/h]	53	5	117	5	5	5	5	359	115	0	300	415	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	35	0	0	2	0	0	35	0	0	0	2
Total Hourly Volume [veh/h]	53	5	82	5	5	3	5	359	80	0	300	415	3
Peak Hour Factor	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000	1.0000	0.9700	0.9700	1.000	0.970	0.970	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	14	1	21	1	1	1	1	93	21	0	77	107	1
Total Analysis Volume [veh/h]	55	5	85	5	5	3	5	370	82	0	309	428	3
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	31.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi
Signal Group	3	8	0	7	4	0	5	2	0	0	1	6	0
Auxiliary Signal Groups													
Maximum Green [s]	25	25	0	10	10	0	9	19	0	0	44	54	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	2.0	1.0	0.0	0.0	2.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	26	0	0	13	0	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	245.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	15	15	0	15	25	0	0	50	60	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	3	3	0	5	3	0	5	7	0	0	3	7	0
Vehicle Extension [s]	1.0	1.0	0.0	3.0	1.0	0.0	3.0	3.6	0.0	0.0	1.0	3.6	0.0
Minimum Recall	No	No		No	No		No	Yes			No	Yes	
Maximum Recall	No	No		No	No		No	No			No	No	
Pedestrian Recall	No	No		No	No		No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	5	8	1	4	1	66	66	23	88	88
g / C, Green / Cycle	0.04	0.07	0.01	0.04	0.01	0.55	0.55	0.19	0.73	0.73
(v / s)_i Volume / Saturation Flow Rate	0.03	0.06	0.00	0.00	0.00	0.12	0.13	0.17	0.12	0.12
s, saturation flow rate [veh/h]	1781	1603	1781	1754	1781	1870	1755	1781	1870	1865
c, Capacity [veh/h]	72	111	12	62	12	1034	970	335	1373	1370
d1, Uniform Delay [s]	57.02	55.09	59.37	56.07	59.37	13.69	13.73	47.86	4.79	4.79
k, delay calibration	0.04	0.04	0.11	0.04	0.11	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.19	5.30	21.73	0.34	21.99	0.50	0.55	4.53	0.24	0.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.81	0.42	0.13	0.42	0.22	0.23	0.92	0.16	0.16
d, Delay for Lane Group [s/veh]	63.21	60.38	81.09	56.41	81.36	14.19	14.27	52.39	5.04	5.04
Lane Group LOS	E	E	F	E	F	B	B	D	A	A
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.78	2.85	0.22	0.24	0.22	3.31	3.18	9.46	1.55	1.54
50th-Percentile Queue Length [ft/ln]	44.40	71.18	5.59	6.03	5.60	82.81	79.51	236.57	38.67	38.59
95th-Percentile Queue Length [veh/ln]	3.20	5.13	0.40	0.43	0.40	5.96	5.72	14.51	2.78	2.78
95th-Percentile Queue Length [ft/ln]	79.91	128.13	10.06	10.85	10.08	149.05	143.12	362.69	69.61	69.46

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	63.21	60.38	60.38	81.09	56.41	56.41	81.36	14.22	14.27	52.39	52.39	5.04	5.04
Movement LOS	E	E	E	F	E	E	F	B	B	D	D	A	A
d_A, Approach Delay [s/veh]	61.45			65.91			14.97			24.81			
Approach LOS	E			E			B			C			
d_I, Intersection Delay [s/veh]	25.81												
Intersection LOS	C												
Intersection V/C	0.398												

Emissions

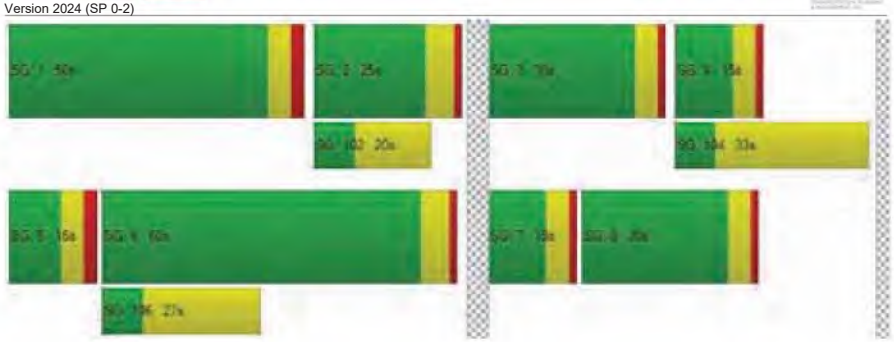
Vehicle Miles Traveled [mph]	21.19	34.68	0.17	0.28	4.21	194.56	185.81	77.01	53.77	53.64
Stops [stops/h]	53.28	85.42	6.71	7.23	6.72	99.37	95.42	283.88	46.41	46.31
Fuel consumption [US gal/h]	1.87	3.01	0.13	0.14	0.29	9.23	8.82	8.03	2.69	2.68
CO [g/h]	131.00	210.07	8.86	10.02	20.49	644.92	616.35	561.47	188.10	187.67
NOx [g/h]	25.49	40.87	1.72	1.95	3.99	125.48	119.92	109.24	36.60	36.51
VOC [g/h]	30.36	48.68	2.05	2.32	4.75	149.47	142.85	130.13	43.59	43.49

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.202	1.967	2.555	0.000
Crosswalk LOS	B	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	417	167	317	900
d_b, Bicycle Delay [s]	37.60	50.42	42.50	18.15
I_b,int, Bicycle LOS Score for Intersection	1.857	1.584	1.966	1.917
Bicycle LOS	A	A	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 20: White Rock Rd/Post St

Control Type:	Signalized	Delay (sec / veh):	39.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.453

Intersection Setup

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Approach	Northbound			Southbound			Eastbound				Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0	120.00	100.00	400.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00				30.00		
Grade [%]	0.00			0.00			0.00				0.00		
Curb Present	No			No			No				No		
Crosswalk	Yes			Yes			Yes				No		

Volumes

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	57	7	20	114	11	147	0	145	431	12	53	508	204
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	6	0	0	44	0	0	0	4	0	0	61
Total Hourly Volume [veh/h]	57	7	14	114	11	103	0	145	431	8	53	508	143
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	1.000	0.910	0.910	0.910	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	2	4	31	3	28	0	40	118	2	15	140	39
Total Analysis Volume [veh/h]	63	8	15	125	12	113	0	159	474	9	58	558	157
Presence of On-Street Parking	No		No	No		No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0				0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0				0		
v_co, Outbound Pedestrian Volume crossing	0			0			0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0				0		
Bicycle Volume [bicycles/h]	0			0			0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	71.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups													
Maximum Green [s]	21	62	0	8	48	0	0	14	31	0	16	34	0
Amber [s]	3.5	5.0	0.0	3.5	5.0	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.7	1.0	0.0	1.0	1.0	0.0	0.0	2.0	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	32	0	0	0	21	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.2	4.0	0.0	2.5	4.0	0.0	0.0	3.5	2.5	0.0	3.0	2.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	100.0	0.0	100.0	100.0	0.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	0	13	54	0	0	20	36	0	21	39	0
Lead / Lag	Lead	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	3	7	0	3	7	0	0	3	3	0	3	3	0
Vehicle Extension [s]	1.0	3.6	0.0	1.0	3.6	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No			No	Yes		No	Yes	
Maximum Recall	No	No		No	No			No	No		No	No	
Pedestrian Recall	No	No		No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	5.20	6.00	4.50	6.00	5.50	4.50	4.50	5.00	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.20	4.00	2.50	4.00	3.50	2.50	2.50	3.00	2.50	2.50
g_i, Effective Green Time [s]	6	12	9	13	14	94	94	6	85	85
g / C, Green / Cycle	0.05	0.08	0.06	0.09	0.10	0.67	0.67	0.04	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.04	0.01	0.07	0.08	0.09	0.13	0.01	0.03	0.20	0.20
s, saturation flow rate [veh/h]	1781	1677	1781	1613	1781	3560	1589	1781	1870	1731
c, Capacity [veh/h]	81	140	108	152	182	2388	1066	75	1135	1050
d1, Uniform Delay [s]	66.12	59.59	65.75	62.29	61.92	8.76	7.63	66.41	13.51	13.52
k, delay calibration	0.04	0.13	0.40	0.13	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.91	0.68	125.62	12.93	4.94	0.19	0.01	6.26	0.77	0.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.16	1.16	0.82	0.87	0.20	0.01	0.78	0.33	0.33
d, Delay for Lane Group [s/veh]	72.03	60.26	191.37	75.22	66.86	8.94	7.65	72.66	14.27	14.35
Lane Group LOS	E	E	F	E	E	A	A	E	B	B
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.37	0.79	7.65	4.93	5.84	2.77	0.09	2.19	5.97	5.57
50th-Percentile Queue Length [ft/ln]	59.23	19.76	191.15	123.24	146.02	69.22	2.35	54.77	149.34	139.22
95th-Percentile Queue Length [veh/ln]	4.26	1.42	12.73	8.57	9.80	4.98	0.17	3.94	9.98	9.44
95th-Percentile Queue Length [ft/ln]	106.62	35.57	318.26	214.27	245.10	124.59	4.22	98.59	249.55	235.97

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	72.03	60.26	60.26	191.37	75.22	75.22	66.86	66.86	8.94	7.65	72.66	14.30	14.35
Movement LOS	E	E	E	F	E	E	E	E	A	A	E	B	B
d_A, Approach Delay [s/veh]	68.88			133.30			23.27				18.69		
Approach LOS	E			F			C				B		
d_I, Intersection Delay [s/veh]	39.20												
Intersection LOS	D												
Intersection V/C	0.453												

Emissions

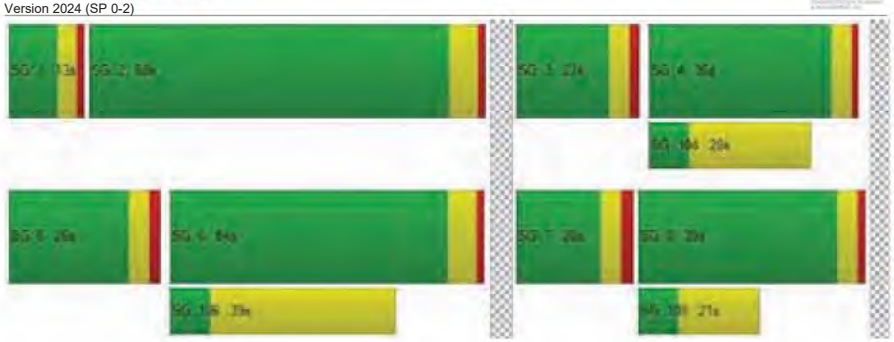
Vehicle Miles Traveled [mph]	3.15	1.15	5.81	5.81	16.73	49.88	0.95	20.29	129.67	120.39
Stops [stops/h]	60.92	20.33	196.61	126.76	150.19	142.39	2.41	56.34	153.61	143.20
Fuel consumption [US gal/h]	1.39	0.44	6.19	2.85	3.68	3.70	0.07	2.00	7.26	6.75
CO [g/h]	97.14	30.88	432.86	199.41	257.34	258.82	4.64	140.07	507.75	472.00
NOx [g/h]	18.90	6.01	84.22	38.80	50.07	50.36	0.90	27.25	98.79	91.83
VOC [g/h]	22.51	7.16	100.32	46.21	59.64	59.98	1.07	32.46	117.68	109.39

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	59.43	59.43	59.43	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.027	2.245	2.711	0.000
Crosswalk LOS	B	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	886	686	450	493
d_b, Bicycle Delay [s]	21.73	30.23	42.04	39.75
I_b,int, Bicycle LOS Score for Intersection	1.711	2.045	1.961	2.248
Bicycle LOS	A	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	75.0
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.983

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	95	50	256	155	36	46	68	194	30	162	653	238
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	77	0	0	14	0	0	9	0	0	71
Total Hourly Volume [veh/h]	95	50	179	155	36	32	68	194	21	162	653	167
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	14	51	45	10	9	20	56	6	47	188	48
Total Analysis Volume [veh/h]	109	57	206	178	41	37	78	223	24	186	751	192
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	0	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	35	0	0	40	0	25	45	0	25	45	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	18	0	0	17	0	0	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	0	0	44	0	29	50	0	29	51	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	0.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	3.50	5.30	3.50	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	1.50	3.30	1.50	4.00
g_i, Effective Green Time [s]	19	19	13	13	6	39	12	45
g / C, Green / Cycle	0.19	0.19	0.13	0.13	0.06	0.39	0.12	0.45
(v / s)_i Volume / Saturation Flow Rate	0.06	0.16	0.10	0.05	0.04	0.13	0.10	0.52
s, saturation flow rate [veh/h]	1781	1643	1781	1726	1781	1838	1781	1805
c, Capacity [veh/h]	338	312	227	220	102	712	221	808
d1, Uniform Delay [s]	35.16	39.30	42.53	40.09	46.73	21.80	43.05	27.79
k, delay calibration	0.13	0.13	0.13	0.13	0.04	0.11	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.68	7.58	7.22	1.21	4.39	0.29	3.27	88.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.84	0.78	0.35	0.76	0.35	0.84	1.17
d, Delay for Lane Group [s/veh]	35.85	46.88	49.76	41.30	51.12	22.09	46.32	116.39
Lane Group LOS	D	D	D	D	D	C	D	F
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.35	6.83	4.70	1.83	2.03	4.10	4.68	38.15
50th-Percentile Queue Length [ft/ln]	58.85	170.80	117.47	45.67	50.86	102.53	116.89	953.78
95th-Percentile Queue Length [veh/ln]	4.24	11.12	8.25	3.29	3.66	7.38	8.22	53.91
95th-Percentile Queue Length [ft/ln]	105.93	277.97	206.35	82.20	91.54	184.55	205.55	1347.81

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.85	46.88	46.88	49.76	41.30	41.30	51.12	22.09	22.09	46.32	116.39	116.39
Movement LOS	D	D	D	D	D	D	D	C	C	D	F	F
d_A, Approach Delay [s/veh]	43.65			47.18			29.06			104.85		
Approach LOS	D			D			C			F		
d_I, Intersection Delay [s/veh]	74.99											
Intersection LOS	E											
Intersection V/C	0.983											

Emissions

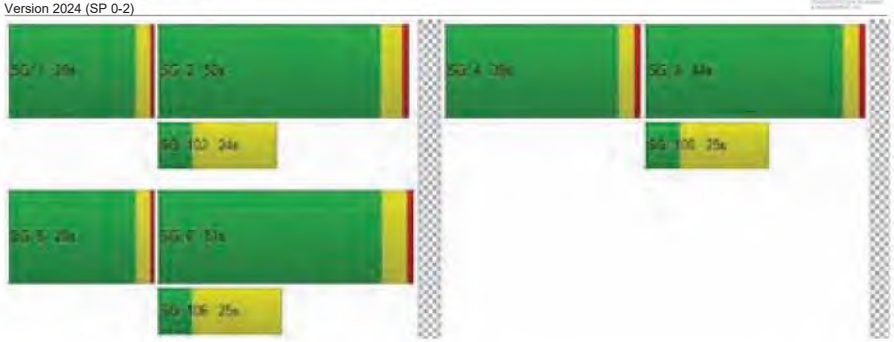
Vehicle Miles Traveled [mph]	187.55	452.53	36.09	15.81	27.28	86.39	83.93	425.50
Stops [stops/h]	84.42	245.01	168.51	65.51	72.95	147.07	167.68	1368.18
Fuel consumption [US gal/h]	8.98	22.49	4.22	1.67	2.34	5.48	6.13	47.41
CO [g/h]	627.86	1572.18	294.89	116.62	163.39	383.00	428.82	3313.76
NOx [g/h]	122.16	305.89	57.38	22.69	31.79	74.52	83.43	644.74
VOC [g/h]	145.51	364.37	68.34	27.03	37.87	88.76	99.38	768.00

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	39.80	39.80	39.80	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.285	2.182	2.363	0.000
Crosswalk LOS	B	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	693	793	891	897
d_b, Bicycle Delay [s]	21.42	18.28	15.44	15.28
l_b,int, Bicycle LOS Score for Intersection	2.300	2.005	2.111	3.540
Bicycle LOS	B	B	B	D

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 22: White Rock Rd/Clarksville Crossing

Control Type:	Signalized	Delay (sec / veh):	23.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.733

Intersection Setup

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	180.00	460.00	100.00	100.00	290.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	0	0	4	4	0	354	3	602	0	0	699	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	4	4	0	354	3	602	0	0	699	31
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	1	0	113	1	193	0	0	224	10
Total Analysis Volume [veh/h]	0	0	5	5	0	454	4	772	0	0	896	40
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	20	0	0	20	0	20	50	0	20	50	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	5.0	0.0	4.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	5.0	0.0	3.0	5.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	R
C, Cycle Length [s]	62	62	62	62	62	62	62	62	62	62
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	7.00	7.00	5.00	7.00	7.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	5.00	5.00	3.00	5.00	5.00
g_i, Effective Green Time [s]	0	0	19	19	0	20	20	0	20	20
g / C, Green / Cycle	0.01	0.01	0.31	0.31	0.01	0.32	0.32	0.00	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.00	0.29	0.00	0.21	0.21	0.00	0.25	0.03
s, saturation flow rate [veh/h]	1870	1589	1781	1589	1781	1870	1870	1781	3560	1589
c, Capacity [veh/h]	13	11	557	497	10	606	606	0	1135	507
d1, Uniform Delay [s]	0.00	30.58	14.64	20.43	30.64	17.79	17.79	0.00	19.17	14.72
k, delay calibration	0.11	0.11	0.11	0.32	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	26.65	0.01	16.85	23.88	1.12	1.12	0.00	1.27	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.46	0.01	0.91	0.40	0.64	0.64	0.00	0.79	0.08
d, Delay for Lane Group [s/veh]	0.00	57.24	14.64	37.28	54.52	18.91	18.91	0.00	20.44	14.78
Lane Group LOS	A	E	B	D	D	B	B	A	C	B
Critical Lane Group	No	Yes	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.00	0.15	0.05	7.98	0.12	4.42	4.42	0.00	5.46	0.37
50th-Percentile Queue Length [ft/ln]	0.00	3.80	1.14	199.41	3.07	110.44	110.44	0.00	136.53	9.25
95th-Percentile Queue Length [veh/ln]	0.00	0.27	0.08	12.61	0.22	7.86	7.86	0.00	9.29	0.67
95th-Percentile Queue Length [ft/ln]	0.00	6.85	2.05	315.20	5.53	196.62	196.62	0.00	232.35	16.64

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	57.24	14.64	14.64	37.28	54.52	18.91	18.91	0.00	20.44	14.78
Movement LOS	A	A	E	B	B	D	D	B	B	A	C	B
d_A, Approach Delay [s/veh]	57.24			37.03			19.09			20.20		
Approach LOS	E			D			B			C		
d_I, Intersection Delay [s/veh]	23.44											
Intersection LOS	C											
Intersection V/C	0.733											

Emissions

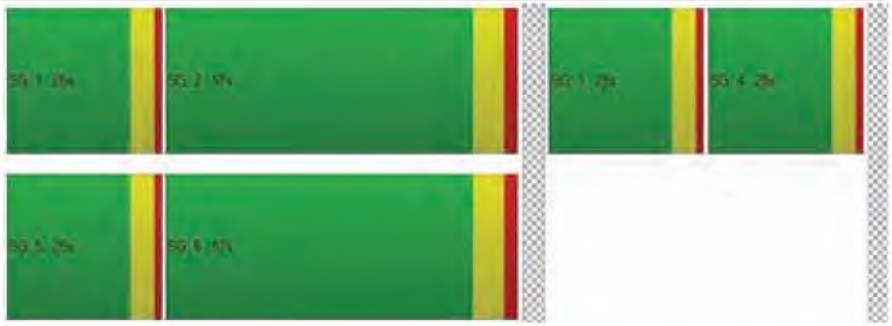
Vehicle Miles Traveled [mph]	0.00	0.25	2.37	215.36	1.80	174.17	174.17	0.00	156.30	6.98
Stops [stops/h]	0.00	8.89	2.66	465.84	7.18	258.01	258.01	0.00	637.91	21.60
Fuel consumption [US gal/h]	0.00	0.12	0.13	14.88	0.16	10.08	10.08	0.00	13.69	0.53
CO [g/h]	0.00	8.22	8.89	1040.37	11.07	704.66	704.66	0.00	956.67	36.83
NOx [g/h]	0.00	1.60	1.73	202.42	2.15	137.10	137.10	0.00	186.13	7.17
VOC [g/h]	0.00	1.91	2.06	241.12	2.57	163.31	163.31	0.00	221.72	8.54

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	649	649	1622	1622
d_b, Bicycle Delay [s]	14.07	14.07	1.10	1.10
l_b,int, Bicycle LOS Score for Intersection	1.568	2.317	2.200	2.332
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 23: White Rock Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	16.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.452

Intersection Setup

Name	White Rock Rd		White Rock Rd		US 50 EB	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	1	0	1
Entry Pocket Length [ft]	500.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	White Rock Rd		White Rock Rd		US 50 EB	
Base Volume Input [veh/h]	295	315	697	220	156	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	12
Total Hourly Volume [veh/h]	295	315	697	220	156	21
Peak Hour Factor	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	89	95	210	66	47	6
Total Analysis Volume [veh/h]	355	380	840	265	188	25
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	21	61	32	0	16	0
Amber [s]	3.7	4.8	4.8	0.0	4.8	0.0
All red [s]	0.5	2.0	2.0	0.0	1.0	0.0
Walk [s]	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.2	4.8	4.8	0.0	3.8	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	39	0	22	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	8	9	9	0	8	0
Vehicle Extension [s]	2.0	1.0	1.0	0.0	2.0	0.0
Minimum Recall	No	Yes	Yes		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80
g_i, Effective Green Time [s]	11	69	54	54	8	8	8
g / C, Green / Cycle	0.13	0.77	0.60	0.60	0.09	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.10	0.11	0.24	0.17	0.05	0.05	0.02
s, saturation flow rate [veh/h]	3459	3560	3560	1589	1781	1781	1589
c, Capacity [veh/h]	442	2744	2123	948	159	159	142
d1, Uniform Delay [s]	38.14	2.65	9.60	8.80	39.41	39.41	37.93
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.31	0.11	0.55	0.74	1.31	1.31	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.14	0.40	0.28	0.59	0.59	0.18
d, Delay for Lane Group [s/veh]	39.46	2.75	10.15	9.54	40.72	40.72	38.15
Lane Group LOS	D	A	B	A	D	D	D
Critical Lane Group	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.82	0.64	4.12	2.48	2.03	2.03	0.51
50th-Percentile Queue Length [ft/ln]	95.60	16.09	102.94	62.03	50.80	50.80	12.85
95th-Percentile Queue Length [veh/ln]	6.88	1.16	7.41	4.47	3.66	3.66	0.93
95th-Percentile Queue Length [ft/ln]	172.08	28.95	185.29	111.66	91.45	91.45	23.13

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.46	2.75	10.15	9.54	40.72	38.15
Movement LOS	D	A	B	A	D	D
d_A, Approach Delay [s/veh]	20.48		10.00		40.42	
Approach LOS	C		B		D	
d_I, Intersection Delay [s/veh]	16.91					
Intersection LOS	B					
Intersection V/C	0.452					

Emissions

Vehicle Miles Traveled [mph]	61.93	66.29	148.85	46.96	5.69	5.69	1.51
Stops [stops/h]	305.92	51.47	329.40	99.25	81.29	81.29	20.56
Fuel consumption [US gal/h]	7.09	3.23	9.68	3.00	1.46	1.46	0.37
CO [g/h]	495.57	225.50	676.86	209.41	102.22	102.22	25.86
NOx [g/h]	96.42	43.87	131.69	40.74	19.89	19.89	5.03
VOC [g/h]	114.85	52.26	156.87	48.53	23.69	23.69	5.99

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1360	716	360
d_b, Bicycle Delay [s]	4.61	18.56	30.26
l_b,int, Bicycle LOS Score for Intersection	2.166	2.471	1.931
Bicycle LOS	B	B	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 24: Silva Valley Pkwy/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	34.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.847

Intersection Setup

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Approach	Northbound				Southbound			Westbound			Northeastbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	550.0	100.0	100.0	100.0	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No					
Crosswalk	No				No			No			No		

Volumes

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Base Volume Input [veh/h]	0	78	393	0	0	223	590	694	0	169	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	47	0	0	30	0	0	0
Total Hourly Volume [veh/h]	0	78	393	0	0	223	543	694	0	139	0	0	0
Peak Hour Factor	1.000	0.790	0.790	1.000	1.0000	0.7900	0.7900	0.7900	0.7900	0.7900	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	25	124	0	0	71	172	220	0	44	0	0	0
Total Analysis Volume [veh/h]	0	99	497	0	0	282	687	878	0	176	0	0	0
Presence of On-Street Parking	No			No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	6	0	0	8	0	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	20	54	0	0	26	0	0	23	0	0	0	0
Amber [s]	0.0	3.7	4.8	0.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0
All red [s]	0.0	0.5	2.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	4.8	0.0	0.0	4.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	61	0	0	33	0	0	29	0	0	0	0
Lead / Lag	-	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	8	8	0	0	8	0	0	8	0	0	0	0
Vehicle Extension [s]	0.0	2.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No	Yes			Yes			No				
Maximum Recall		No	No			No			No				
Pedestrian Recall		No	No			No			No				

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	R	
C, Cycle Length [s]	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80	
g_i, Effective Green Time [s]	7	54	42	42	24	24	24	
g / C, Green / Cycle	0.08	0.59	0.47	0.47	0.27	0.27	0.27	
(v / s)_i Volume / Saturation Flow Rate	0.06	0.14	0.08	0.43	0.25	0.25	0.11	
s, saturation flow rate [veh/h]	1781	3560	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	147	2118	1658	740	472	472	422	
d1, Uniform Delay [s]	40.10	8.59	13.96	22.64	32.25	32.25	27.32	
k, delay calibration	0.04	0.50	0.50	0.50	0.26	0.26	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	2.00	0.26	0.22	19.60	17.03	17.03	0.24	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.67	0.23	0.17	0.93	0.93	0.93	0.42	
d, Delay for Lane Group [s/veh]	42.10	8.85	14.18	42.24	49.28	49.28	27.57	
Lane Group LOS	D	A	B	D	D	D	C	
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	2.18	2.17	1.65	16.69	11.26	11.26	3.09	
50th-Percentile Queue Length [ft/ln]	54.62	54.23	41.33	417.19	281.43	281.43	77.34	
95th-Percentile Queue Length [veh/ln]	3.93	3.90	2.98	23.39	16.76	16.76	5.57	
95th-Percentile Queue Length [ft/ln]	98.32	97.61	74.40	584.68	418.99	418.99	139.21	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.10	42.10	8.85	0.00	0.00	14.18	42.24	49.28	49.28	27.57	0.00	0.00	0.00
Movement LOS	D	D	A			B	D	D	D	C			
d_A, Approach Delay [s/veh]	14.37				34.07			45.65			0.00		
Approach LOS	B				C			D			A		
d_I, Intersection Delay [s/veh]	34.25												
Intersection LOS	C												
Intersection V/C	0.847												

Emissions

Vehicle Miles Traveled [mph]	17.54	88.07	38.56	93.94	15.21	15.21	6.10	
Stops [stops/h]	87.40	173.54	132.26	667.50	450.28	450.28	123.74	
Fuel consumption [US gal/h]	2.05	5.48	3.13	13.46	7.52	7.52	1.92	
CO [g/h]	143.52	383.00	218.92	940.83	525.37	525.37	134.35	
NOx [g/h]	27.92	74.52	42.59	183.05	102.22	102.22	26.14	
VOC [g/h]	33.26	88.76	50.74	218.05	121.76	121.76	31.14	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1204	582	516	0
d_b, Bicycle Delay [s]	7.12	22.61	24.79	45.00
l_b,int, Bicycle LOS Score for Intersection	2.051	2.398	3.348	4.132
Bicycle LOS	B	B	C	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 25: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Base Volume Input [veh/h]	0	548	295	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	548	295	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	137	74	0	0	0
Total Analysis Volume [veh/h]	0	548	295	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	9.84
Movement LOS		A	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		9.84	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 26: Latrobe/Wetsl-Oviatt

Control Type:	Two-way stop	Delay (sec / veh):	13.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Base Volume Input [veh/h]	0	415	226	38	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	415	226	38	4	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	104	57	10	1	0
Total Analysis Volume [veh/h]	0	415	226	38	4	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.77	0.00	0.00	0.00	13.49	9.61
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.71	0.71
d_A, Approach Delay [s/veh]	0.00		0.00		13.49	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.08					
Intersection LOS	B					

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Intersection Level Of Service Report
Intersection 27: Latrobe/S. Shingle

Control Type:	Two-way stop	Delay (sec / veh):	19.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.131

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Base Volume Input [veh/h]	6	238	41	52	127	9	44	72	0	37	72	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	238	41	52	127	9	44	72	0	37	72	38
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	60	10	13	32	2	11	18	0	9	18	10
Total Analysis Volume [veh/h]	6	238	41	52	127	9	44	72	0	37	72	38
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.00	0.00	0.13	0.17	0.00	0.10	0.16	0.05
d_M, Delay for Movement [s/veh]	7.49	0.00	0.00	7.87	0.00	0.00	19.60	17.14	12.77	18.44	16.58	13.08
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.09	0.09	0.09	1.22	1.22	1.22	1.33	1.33	1.33
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.26	2.26	2.26	2.26	30.61	30.61	30.61	33.16	33.16	33.16
d_A, Approach Delay [s/veh]	0.16			2.18			18.07			16.14		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	6.69											
Intersection LOS	C											

Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	548	309	39	0
2	532	300	38	0
3	521	294	37	0
4	488	275	35	0
5	433	244	31	0
6	427	241	30	0
7	422	238	30	0
8	384	216	27	0
9	378	213	27	0
10	373	210	27	0
11	323	182	23	0
12	301	170	21	0
13	296	167	21	0
14	219	124	16	0
15	219	124	16	0
16	153	87	11	0
17	88	49	6	0
18	88	49	6	0
19	49	28	4	0
20	27	15	2	0
21	16	9	1	0
22	5	3	0	0
23	5	3	0	0
24	5	3	0	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	857	1	39	No	No	No	No	No	No	No	No	No	No
2	1	832	1	38	No	No	No	No	No	No	No	No	No	No
3	1	815	1	37	No	No	No	No	No	No	No	No	No	No
4	1	763	1	35	No	No	No	No	No	No	No	No	No	No
5	1	677	1	31	No	No	No	No	No	No	No	No	No	No
6	1	668	1	30	No	No	No	No	No	No	No	No	No	No
7	1	660	1	30	No	No	No	No	No	No	No	No	No	No
8	1	600	1	27	No	No	No	No	No	No	No	No	No	No
9	1	591	1	27	No	No	No	No	No	No	No	No	No	No
10	1	583	1	27	No	No	No	No	No	No	No	No	No	No
11	1	505	1	23	No	No	No	No	No	No	No	No	No	No
12	1	471	1	21	No	No	No	No	No	No	No	No	No	No
13	1	463	1	21	No	No	No	No	No	No	No	No	No	No
14	1	343	1	16	No	No	No	No	No	No	No	No	No	No
15	1	343	1	16	No	No	No	No	No	No	No	No	No	No
16	1	240	1	11	No	No	No	No	No	No	No	No	No	No
17	1	137	1	6	No	No	No	No	No	No	No	No	No	No
18	1	137	1	6	No	No	No	No	No	No	No	No	No	No
19	1	77	1	4	No	No	No	No	No	No	No	No	No	No
20	1	42	1	2	No	No	No	No	No	No	No	No	No	No
21	1	25	1	1	No	No	No	No	No	No	No	No	No	No
22	1	8	1	0	No	No	No	No	No	No	No	No	No	No
23	1	8	1	0	No	No	No	No	No	No	No	No	No	No
24	1	8	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	12.7	17
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:08	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	39	0
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	896	896
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 12: Latrobe Rd/Royal Oaks Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	419	295	171	0
2	406	286	166	0
3	398	280	162	0
4	373	263	152	0
5	331	233	135	0
6	327	230	133	0
7	323	227	132	0
8	293	207	120	0
9	289	204	118	0
10	285	201	116	0
11	247	174	101	0
12	230	162	94	0
13	226	159	92	0
14	168	118	68	0
15	168	118	68	0
16	117	83	48	0
17	67	47	27	0
18	67	47	27	0
19	38	27	15	0
20	21	15	9	0
21	13	9	5	0
22	4	3	2	0
23	4	3	2	0
24	4	3	2	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	714	1	171	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
2	2	692	1	166	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
3	2	678	1	162	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
4	2	636	1	152	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
5	2	564	1	135	No	Yes	Yes	Yes	No	No	No	Yes	No	No
6	2	557	1	133	No	Yes	Yes	Yes	No	No	No	Yes	No	No
7	2	550	1	132	No	Yes	Yes	Yes	No	No	No	Yes	No	No
8	2	500	1	120	No	Yes	Yes	Yes	No	No	No	No	No	No
9	2	493	1	118	No	No	Yes	Yes	No	No	No	No	No	No
10	2	486	1	116	No	No	Yes	Yes	No	No	No	No	No	No
11	2	421	1	101	No	No	No	Yes	No	No	No	No	No	No
12	2	392	1	94	No	No	No	Yes	No	No	No	No	No	No
13	2	385	1	92	No	No	No	Yes	No	No	No	No	No	No
14	2	286	1	68	No	No	No	No	No	No	No	No	No	No
15	2	286	1	68	No	No	No	No	No	No	No	No	No	No
16	2	200	1	48	No	No	No	No	No	No	No	No	No	No
17	2	114	1	27	No	No	No	No	No	No	No	No	No	No
18	2	114	1	27	No	No	No	No	No	No	No	No	No	No
19	2	65	1	15	No	No	No	No	No	No	No	No	No	No
20	2	36	1	9	No	No	No	No	No	No	No	No	No	No
21	2	22	1	5	No	No	No	No	No	No	No	No	No	No
22	2	7	1	2	No	No	No	No	No	No	No	No	No	No
23	2	7	1	2	No	No	No	No	No	No	No	No	No	No
24	2	7	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					4	8	10	13	0	0	4	7	4	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	14	17
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:39	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	171	0
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	885	885
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 13: Golden Foothill/Robert J Mathews

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	698	173	245
2	677	168	238
3	663	164	233
4	621	154	218
5	551	137	194
6	544	135	191
7	537	133	189
8	489	121	172
9	482	119	169
10	475	118	167
11	412	102	145
12	384	95	135
13	377	93	132
14	279	69	98
15	279	69	98
16	195	48	69
17	112	28	39
18	112	28	39
19	63	16	22
20	35	9	12
21	21	5	7
22	7	2	2
23	7	2	2
24	7	2	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	871	1	245	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
2	1	845	1	238	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
3	1	827	1	233	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
4	1	775	1	218	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
5	1	688	1	194	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
6	1	679	1	191	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
7	1	670	1	189	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
8	1	610	1	172	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
9	1	601	1	169	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
10	1	593	1	167	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
11	1	514	1	145	No	Yes	Yes	Yes	No	No	No	Yes	No	No
12	1	479	1	135	No	Yes	Yes	Yes	No	No	No	Yes	No	No
13	1	470	1	132	No	Yes	Yes	Yes	No	No	No	Yes	No	No
14	1	348	1	98	No	No	No	Yes	No	No	No	No	No	No
15	1	348	1	98	No	No	No	Yes	No	No	No	No	No	No
16	1	243	1	69	No	No	No	No	No	No	No	No	No	No
17	1	140	1	39	No	No	No	No	No	No	No	No	No	No
18	1	140	1	39	No	No	No	No	No	No	No	No	No	No
19	1	79	1	22	No	No	No	No	No	No	No	No	No	No
20	1	44	1	12	No	No	No	No	No	No	No	No	No	No
21	1	26	1	7	No	No	No	No	No	No	No	No	No	No
22	1	9	1	2	No	No	No	No	No	No	No	No	No	No
23	1	9	1	2	No	No	No	No	No	No	No	No	No	No
24	1	9	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					10	13	13	15	4	9	10	13	6	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	18.3
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:14
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	245
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1116
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	104	488	297	11
2	101	473	288	11
3	99	464	282	10
4	93	434	264	10
5	82	386	235	9
6	81	381	232	9
7	80	376	229	8
8	73	342	208	8
9	72	337	205	8
10	71	332	202	7
11	61	288	175	6
12	57	268	163	6
13	56	264	160	6
14	42	195	119	4
15	42	195	119	4
16	29	137	83	3
17	17	78	48	2
18	17	78	48	2
19	9	44	27	1
20	5	24	15	1
21	3	15	9	0
22	1	5	3	0
23	1	5	3	0
24	1	5	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	592	1	297	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
2	1	574	1	288	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
3	1	563	1	282	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
4	1	527	1	264	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
5	1	468	1	235	No	Yes	Yes	Yes	No	No	No	Yes	No	No
6	1	462	1	232	No	Yes	Yes	Yes	No	No	No	Yes	No	No
7	1	456	1	229	No	Yes	Yes	Yes	No	No	No	Yes	No	No
8	1	415	1	208	No	Yes	Yes	Yes	No	No	No	No	No	No
9	1	409	1	205	No	Yes	Yes	Yes	No	No	No	No	No	No
10	1	403	1	202	No	Yes	Yes	Yes	No	No	No	No	No	No
11	1	349	1	175	No	No	No	Yes	No	No	No	No	No	No
12	1	325	1	163	No	No	No	Yes	No	No	No	No	No	No
13	1	320	1	160	No	No	No	Yes	No	No	No	No	No	No
14	1	237	1	119	No	No	No	No	No	No	No	No	No	No
15	1	237	1	119	No	No	No	No	No	No	No	No	No	No
16	1	166	1	83	No	No	No	No	No	No	No	No	No	No
17	1	95	1	48	No	No	No	No	No	No	No	No	No	No
18	1	95	1	48	No	No	No	No	No	No	No	No	No	No
19	1	53	1	27	No	No	No	No	No	No	No	No	No	No
20	1	29	1	15	No	No	No	No	No	No	No	No	No	No
21	1	18	1	9	No	No	No	No	No	No	No	No	No	No
22	1	6	1	3	No	No	No	No	No	No	No	No	No	No
23	1	6	1	3	No	No	No	No	No	No	No	No	No	No
24	1	6	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					4	10	10	13	0	0	4	7	4	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	17.2	9.9
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:25	0:01
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	297	11
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	900	900
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	140	79	139
2	136	77	135
3	133	75	132
4	125	70	124
5	111	62	110
6	109	62	108
7	108	61	107
8	98	55	97
9	97	55	96
10	95	54	95
11	83	47	82
12	77	43	76
13	76	43	75
14	56	32	56
15	56	32	56
16	39	22	39
17	22	13	22
18	22	13	22
19	13	7	13
20	7	4	7
21	4	2	4
22	1	1	1
23	1	1	1
24	1	1	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	219	2	139	No	No	No	No	No	No	No	No	No	No
2	2	213	2	135	No	No	No	No	No	No	No	No	No	No
3	2	208	2	132	No	No	No	No	No	No	No	No	No	No
4	2	195	2	124	No	No	No	No	No	No	No	No	No	No
5	2	173	2	110	No	No	No	No	No	No	No	No	No	No
6	2	171	2	108	No	No	No	No	No	No	No	No	No	No
7	2	169	2	107	No	No	No	No	No	No	No	No	No	No
8	2	153	2	97	No	No	No	No	No	No	No	No	No	No
9	2	152	2	96	No	No	No	No	No	No	No	No	No	No
10	2	149	2	95	No	No	No	No	No	No	No	No	No	No
11	2	130	2	82	No	No	No	No	No	No	No	No	No	No
12	2	120	2	76	No	No	No	No	No	No	No	No	No	No
13	2	119	2	75	No	No	No	No	No	No	No	No	No	No
14	2	88	2	56	No	No	No	No	No	No	No	No	No	No
15	2	88	2	56	No	No	No	No	No	No	No	No	No	No
16	2	61	2	39	No	No	No	No	No	No	No	No	No	No
17	2	35	2	22	No	No	No	No	No	No	No	No	No	No
18	2	35	2	22	No	No	No	No	No	No	No	No	No	No
19	2	20	2	13	No	No	No	No	No	No	No	No	No	No
20	2	11	2	7	No	No	No	No	No	No	No	No	No	No
21	2	6	2	4	No	No	No	No	No	No	No	No	No	No
22	2	2	2	1	No	No	No	No	No	No	No	No	No	No
23	2	2	2	1	No	No	No	No	No	No	No	No	No	No
24	2	2	2	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	9.4
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:21
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	139
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	358
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 16: Carson Crossing Rd/Calypso Cir.

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	116	109	88
2	113	106	85
3	110	104	84
4	103	97	78
5	92	86	70
6	90	85	69
7	89	84	68
8	81	76	62
9	80	75	61
10	79	74	60
11	68	64	52
12	64	60	48
13	63	59	48
14	46	44	35
15	46	44	35
16	32	31	25
17	19	17	14
18	19	17	14
19	10	10	8
20	6	5	4
21	3	3	3
22	1	1	1
23	1	1	1
24	1	1	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	225	1	88	No	No	No	No	No	No	No	No	No	No
2	2	219	1	85	No	No	No	No	No	No	No	No	No	No
3	2	214	1	84	No	No	No	No	No	No	No	No	No	No
4	2	200	1	78	No	No	No	No	No	No	No	No	No	No
5	2	178	1	70	No	No	No	No	No	No	No	No	No	No
6	2	175	1	69	No	No	No	No	No	No	No	No	No	No
7	2	173	1	68	No	No	No	No	No	No	No	No	No	No
8	2	157	1	62	No	No	No	No	No	No	No	No	No	No
9	2	155	1	61	No	No	No	No	No	No	No	No	No	No
10	2	153	1	60	No	No	No	No	No	No	No	No	No	No
11	2	132	1	52	No	No	No	No	No	No	No	No	No	No
12	2	124	1	48	No	No	No	No	No	No	No	No	No	No
13	2	122	1	48	No	No	No	No	No	No	No	No	No	No
14	2	90	1	35	No	No	No	No	No	No	No	No	No	No
15	2	90	1	35	No	No	No	No	No	No	No	No	No	No
16	2	63	1	25	No	No	No	No	No	No	No	No	No	No
17	2	36	1	14	No	No	No	No	No	No	No	No	No	No
18	2	36	1	14	No	No	No	No	No	No	No	No	No	No
19	2	20	1	8	No	No	No	No	No	No	No	No	No	No
20	2	11	1	4	No	No	No	No	No	No	No	No	No	No
21	2	6	1	3	No	No	No	No	No	No	No	No	No	No
22	2	2	1	1	No	No	No	No	No	No	No	No	No	No
23	2	2	1	1	No	No	No	No	No	No	No	No	No	No
24	2	2	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	10.2
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:14
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	88
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	313
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 17: Carson Crossing Rd/Four Seasons Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	77	124	36
2	75	120	35
3	73	118	34
4	69	110	32
5	61	98	28
6	60	97	28
7	59	95	28
8	54	87	25
9	53	86	25
10	52	84	24
11	45	73	21
12	42	68	20
13	42	67	19
14	31	50	14
15	31	50	14
16	22	35	10
17	12	20	6
18	12	20	6
19	7	11	3
20	4	6	2
21	2	4	1
22	1	1	0
23	1	1	0
24	1	1	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	201	1	36	No	No	No	No	No	No	No	No	No	No
2	3	195	1	35	No	No	No	No	No	No	No	No	No	No
3	3	191	1	34	No	No	No	No	No	No	No	No	No	No
4	3	179	1	32	No	No	No	No	No	No	No	No	No	No
5	3	159	1	28	No	No	No	No	No	No	No	No	No	No
6	3	157	1	28	No	No	No	No	No	No	No	No	No	No
7	3	154	1	28	No	No	No	No	No	No	No	No	No	No
8	3	141	1	25	No	No	No	No	No	No	No	No	No	No
9	3	139	1	25	No	No	No	No	No	No	No	No	No	No
10	3	136	1	24	No	No	No	No	No	No	No	No	No	No
11	3	118	1	21	No	No	No	No	No	No	No	No	No	No
12	3	110	1	20	No	No	No	No	No	No	No	No	No	No
13	3	109	1	19	No	No	No	No	No	No	No	No	No	No
14	3	81	1	14	No	No	No	No	No	No	No	No	No	No
15	3	81	1	14	No	No	No	No	No	No	No	No	No	No
16	3	57	1	10	No	No	No	No	No	No	No	No	No	No
17	3	32	1	6	No	No	No	No	No	No	No	No	No	No
18	3	32	1	6	No	No	No	No	No	No	No	No	No	No
19	3	18	1	3	No	No	No	No	No	No	No	No	No	No
20	3	10	1	2	No	No	No	No	No	No	No	No	No	No
21	3	6	1	1	No	No	No	No	No	No	No	No	No	No
22	3	2	1	0	No	No	No	No	No	No	No	No	No	No
23	3	2	1	0	No	No	No	No	No	No	No	No	No	No
24	3	2	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	8.1
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:04
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	36
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	237
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 18: White Rock Rd/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	491	302	83	75
2	476	293	81	73
3	466	287	79	71
4	437	269	74	67
5	388	239	66	59
6	383	236	65	59
7	378	233	64	58
8	344	211	58	53
9	339	208	57	52
10	334	205	56	51
11	290	178	49	44
12	270	166	46	41
13	265	163	45	41
14	196	121	33	30
15	196	121	33	30
16	137	85	23	21
17	79	48	13	12
18	79	48	13	12
19	44	27	7	7
20	25	15	4	4
21	15	9	2	2
22	5	3	1	1
23	5	3	1	1
24	5	3	1	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	793	1	83	No	No	No	No	No	Yes	Yes	Yes	No	No
2	2	769	1	81	No	No	No	No	No	Yes	Yes	Yes	No	No
3	2	753	1	79	No	No	No	No	No	Yes	Yes	Yes	No	No
4	2	706	1	74	No	No	No	No	No	No	Yes	Yes	No	No
5	2	627	1	66	No	No	No	No	No	No	No	Yes	No	No
6	2	619	1	65	No	No	No	No	No	No	No	Yes	No	No
7	2	611	1	64	No	No	No	No	No	No	No	Yes	No	No
8	2	555	1	58	No	No	No	No	No	No	No	Yes	No	No
9	2	547	1	57	No	No	No	No	No	No	No	Yes	No	No
10	2	539	1	56	No	No	No	No	No	No	No	Yes	No	No
11	2	468	1	49	No	No	No	No	No	No	No	No	No	No
12	2	436	1	46	No	No	No	No	No	No	No	No	No	No
13	2	428	1	45	No	No	No	No	No	No	No	No	No	No
14	2	317	1	33	No	No	No	No	No	No	No	No	No	No
15	2	317	1	33	No	No	No	No	No	No	No	No	No	No
16	2	222	1	23	No	No	No	No	No	No	No	No	No	No
17	2	127	1	13	No	No	No	No	No	No	No	No	No	No
18	2	127	1	13	No	No	No	No	No	No	No	No	No	No
19	2	71	1	7	No	No	No	No	No	No	No	No	No	No
20	2	40	1	4	No	No	No	No	No	No	No	No	No	No
21	2	24	1	2	No	No	No	No	No	No	No	No	No	No
22	2	8	1	1	No	No	No	No	No	No	No	No	No	No
23	2	8	1	1	No	No	No	No	No	No	No	No	No	No
24	2	8	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	3	4	10	0	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	19.3	21.4
Number of Lanes on Minor Street Approach	2	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:26	0:26
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	83	75
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	951	951
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 25: New Intersection

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	548	295	0
2	532	286	0
3	521	280	0
4	488	263	0
5	433	233	0
6	427	230	0
7	422	227	0
8	384	207	0
9	378	204	0
10	373	201	0
11	323	174	0
12	301	162	0
13	296	159	0
14	219	118	0
15	219	118	0
16	153	83	0
17	88	47	0
18	88	47	0
19	49	27	0
20	27	15	0
21	16	9	0
22	5	3	0
23	5	3	0
24	5	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	843	1	0	No	No	No	No	No	No	No	No	No	No
2	1	818	1	0	No	No	No	No	No	No	No	No	No	No
3	1	801	1	0	No	No	No	No	No	No	No	No	No	No
4	1	751	1	0	No	No	No	No	No	No	No	No	No	No
5	1	666	1	0	No	No	No	No	No	No	No	No	No	No
6	1	657	1	0	No	No	No	No	No	No	No	No	No	No
7	1	649	1	0	No	No	No	No	No	No	No	No	No	No
8	1	591	1	0	No	No	No	No	No	No	No	No	No	No
9	1	582	1	0	No	No	No	No	No	No	No	No	No	No
10	1	574	1	0	No	No	No	No	No	No	No	No	No	No
11	1	497	1	0	No	No	No	No	No	No	No	No	No	No
12	1	463	1	0	No	No	No	No	No	No	No	No	No	No
13	1	455	1	0	No	No	No	No	No	No	No	No	No	No
14	1	337	1	0	No	No	No	No	No	No	No	No	No	No
15	1	337	1	0	No	No	No	No	No	No	No	No	No	No
16	1	236	1	0	No	No	No	No	No	No	No	No	No	No
17	1	135	1	0	No	No	No	No	No	No	No	No	No	No
18	1	135	1	0	No	No	No	No	No	No	No	No	No	No
19	1	76	1	0	No	No	No	No	No	No	No	No	No	No
20	1	42	1	0	No	No	No	No	No	No	No	No	No	No
21	1	25	1	0	No	No	No	No	No	No	No	No	No	No
22	1	8	1	0	No	No	No	No	No	No	No	No	No	No
23	1	8	1	0	No	No	No	No	No	No	No	No	No	No
24	1	8	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	9.8
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	843
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 26: Latrobe/Wetsl-Oviatt

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	415	264	4
2	403	256	4
3	394	251	4
4	369	235	4
5	328	209	3
6	324	206	3
7	320	203	3
8	291	185	3
9	286	182	3
10	282	180	3
11	245	156	2
12	228	145	2
13	224	143	2
14	166	106	2
15	166	106	2
16	116	74	1
17	66	42	1
18	66	42	1
19	37	24	0
20	21	13	0
21	12	8	0
22	4	3	0
23	4	3	0
24	4	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	679	1	4	No	No	No	No	No	No	No	No	No	No
2	1	659	1	4	No	No	No	No	No	No	No	No	No	No
3	1	645	1	4	No	No	No	No	No	No	No	No	No	No
4	1	604	1	4	No	No	No	No	No	No	No	No	No	No
5	1	537	1	3	No	No	No	No	No	No	No	No	No	No
6	1	530	1	3	No	No	No	No	No	No	No	No	No	No
7	1	523	1	3	No	No	No	No	No	No	No	No	No	No
8	1	476	1	3	No	No	No	No	No	No	No	No	No	No
9	1	468	1	3	No	No	No	No	No	No	No	No	No	No
10	1	462	1	3	No	No	No	No	No	No	No	No	No	No
11	1	401	1	2	No	No	No	No	No	No	No	No	No	No
12	1	373	1	2	No	No	No	No	No	No	No	No	No	No
13	1	367	1	2	No	No	No	No	No	No	No	No	No	No
14	1	272	1	2	No	No	No	No	No	No	No	No	No	No
15	1	272	1	2	No	No	No	No	No	No	No	No	No	No
16	1	190	1	1	No	No	No	No	No	No	No	No	No	No
17	1	108	1	1	No	No	No	No	No	No	No	No	No	No
18	1	108	1	1	No	No	No	No	No	No	No	No	No	No
19	1	61	1	0	No	No	No	No	No	No	No	No	No	No
20	1	34	1	0	No	No	No	No	No	No	No	No	No	No
21	1	20	1	0	No	No	No	No	No	No	No	No	No	No
22	1	7	1	0	No	No	No	No	No	No	No	No	No	No
23	1	7	1	0	No	No	No	No	No	No	No	No	No	No
24	1	7	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	13.5
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	4
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	683
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 27: Latrobe/S. Shingle

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

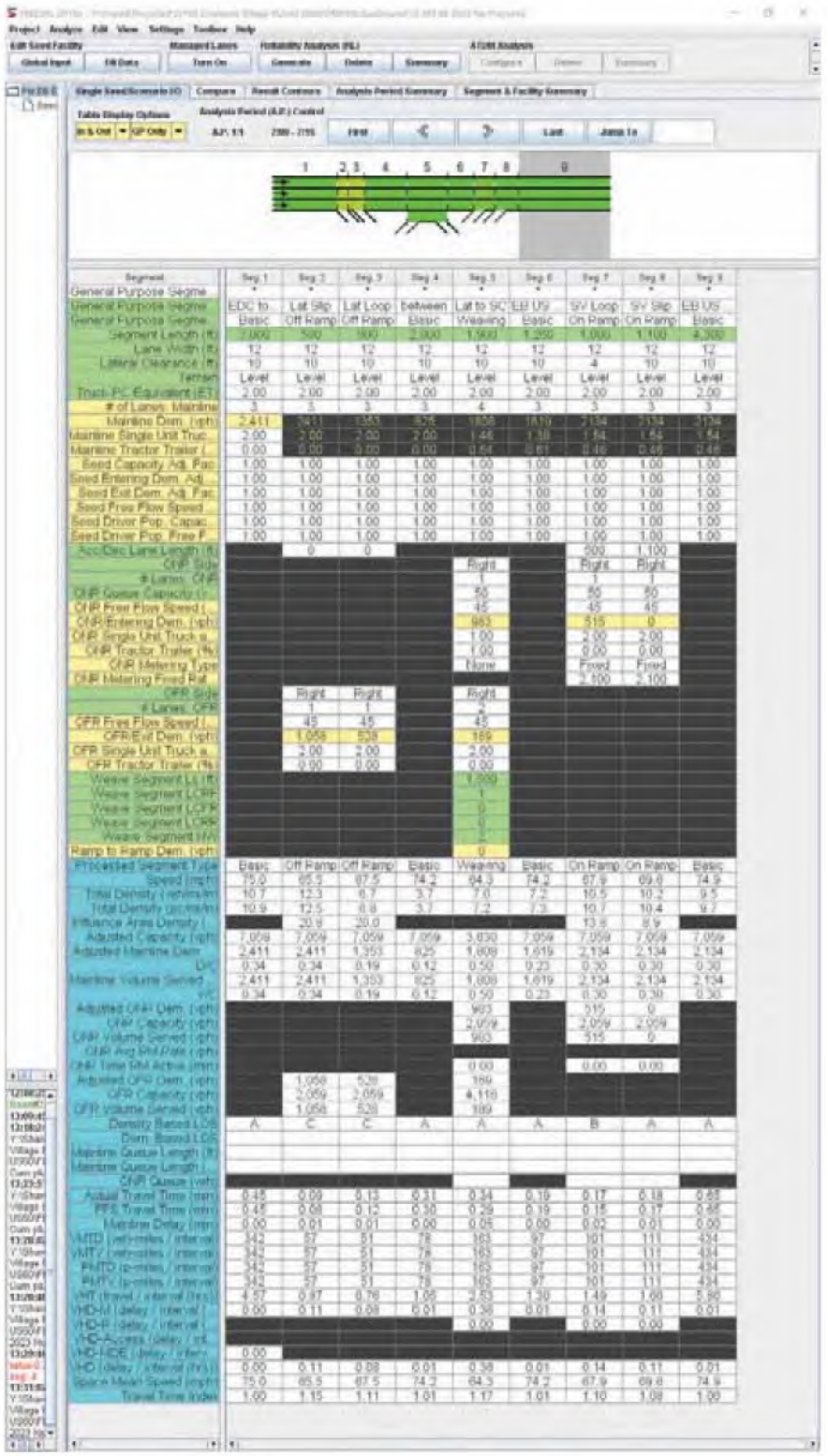
Hour	Major Streets		Minor Streets	
	S	N	E	W
1	285	188	147	116
2	276	182	143	113
3	271	179	140	110
4	254	167	131	103
5	225	149	116	92
6	222	147	115	90
7	219	145	113	89
8	200	132	103	81
9	197	130	101	80
10	194	128	100	79
11	168	111	87	68
12	157	103	81	64
13	154	102	79	63
14	114	75	59	46
15	114	75	59	46
16	80	53	41	32
17	46	30	24	19
18	46	30	24	19
19	26	17	13	10
20	14	9	7	6
21	9	6	4	3
22	3	2	1	1
23	3	2	1	1
24	3	2	1	1

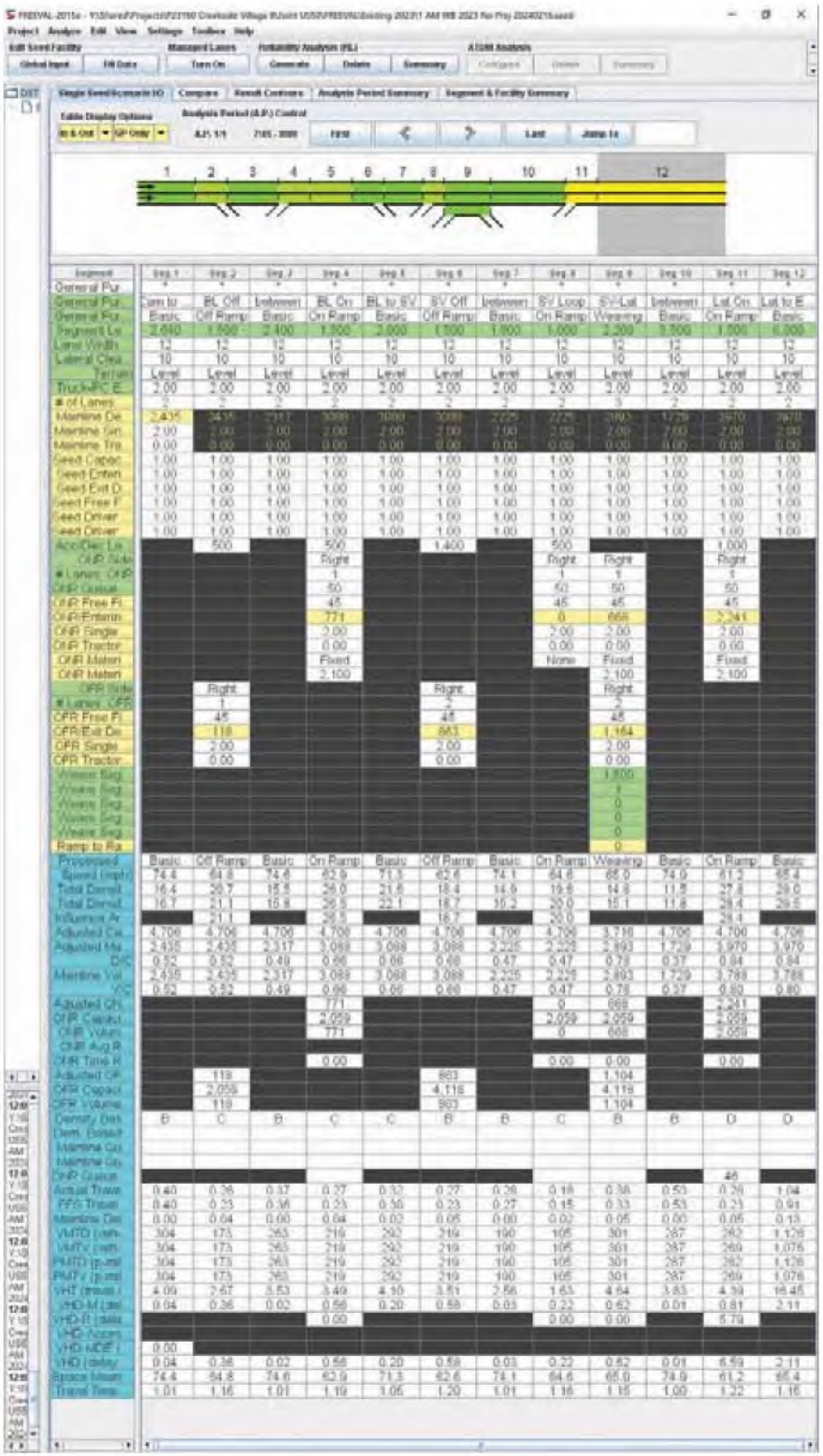
Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	473	1	147	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
2	1	458	1	143	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
3	1	450	1	140	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
4	1	421	1	131	No	Yes	Yes	Yes	No	No	No	Yes	No	No
5	1	374	1	116	No	No	Yes	Yes	No	No	No	No	No	No
6	1	369	1	115	No	No	Yes	Yes	No	No	No	No	No	No
7	1	364	1	113	No	No	Yes	Yes	No	No	No	No	No	No
8	1	332	1	103	No	No	No	Yes	No	No	No	No	No	No
9	1	327	1	101	No	No	No	Yes	No	No	No	No	No	No
10	1	322	1	100	No	No	No	Yes	No	No	No	No	No	No
11	1	279	1	87	No	No	No	No	No	No	No	No	No	No
12	1	260	1	81	No	No	No	No	No	No	No	No	No	No
13	1	256	1	79	No	No	No	No	No	No	No	No	No	No
14	1	189	1	59	No	No	No	No	No	No	No	No	No	No
15	1	189	1	59	No	No	No	No	No	No	No	No	No	No
16	1	133	1	41	No	No	No	No	No	No	No	No	No	No
17	1	76	1	24	No	No	No	No	No	No	No	No	No	No
18	1	76	1	24	No	No	No	No	No	No	No	No	No	No
19	1	43	1	13	No	No	No	No	No	No	No	No	No	No
20	1	23	1	7	No	No	No	No	No	No	No	No	No	No
21	1	15	1	4	No	No	No	No	No	No	No	No	No	No
22	1	5	1	1	No	No	No	No	No	No	No	No	No	No
23	1	5	1	1	No	No	No	No	No	No	No	No	No	No
24	1	5	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	10	0	0	0	4	3	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.1	18.1
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:39	0:34
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	147	116
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	736	736
Number of Approaches on Intersection	4	4
Total Volume Condition Met	No	No
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	





Existing PM no Project

Vistro File: C:\...\PM 918 DU 20240212.vistro
Report File: C:\...\2 2023 PM no Proj.pdf

Scenario 1 2023 PM, No Project
2/14/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	El Dorado Hills Blvd/Serrano Pkwy	Signalized	HCM 7th Edition	NB Thru	0.957	46.8	D
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	NB Left	1.222	107.8	F
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	WB Right	0.989	47.9	D
4	Latrobe Rd/US 50 EB	Signalized	HCM 7th Edition	EB Right	0.912	22.8	C
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	SB Left	0.925	38.1	D
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	WB Left	0.630	51.0	D
7	Latrobe Rd/Golden Foothill Pkwy N	Signalized	HCM 7th Edition	SB Left	0.825	20.9	C
8	Latrobe Rd/Suncast Ln	Signalized	HCM 7th Edition	NB Left	0.728	10.8	B
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	SB Left	0.845	37.5	D
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	NB Left	0.779	18.0	B
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	WB Right	0.077	11.1	B
12	Latrobe Rd/Royal Oaks Dr	Two-way stop	HCM 7th Edition	WB Left	0.278	28.6	D
13	Golden Foothill/Robert J Mathews	Two-way stop	HCM 7th Edition	NB Left	5.387	2,479.7	F
14	Investment Blvd/Robert J Mathews Pkwy	All-way stop	HCM 7th Edition	SB Thru	0.735	19.6	C
15	Golden Foothill Pkwy/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.019	14.8	B
16	Carson Crossing Rd/Calypso Cir.	Two-way stop	HCM 7th Edition	NB Left	0.021	11.1	B
17	Carson Crossing Rd/Four Seasons Dr	All-way stop	HCM 7th Edition	NB Thru	0.127	8.1	A
18	White Rock Rd/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.767	69.3	F
19	White Rock Rd/Windfield Way	Signalized	HCM 7th Edition	SB Thru	0.452	29.1	C
20	White Rock Rd/Post St	Signalized	HCM 7th Edition	SB Left	0.522	70.4	E
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 6th Edition	EB Thru	0.917	54.2	D
22	White Rock Rd/Clarksville Crossing	Signalized	HCM 7th Edition	NB Right	0.755	23.4	C
23	White Rock Rd/US 50 EB	Signalized	HCM 7th Edition	EB Left	0.659	31.7	C
24	Silva Valley Pkwy/US 50 WB	Signalized	HCM 7th Edition	NB Left	0.528	19.3	B
25	New Intersection	Two-way stop	HCM 6th Edition	SB Thru	0.005	0.0	A
26	Latrobe/Wetsl-Oviatt	Two-way stop	HCM 7th Edition	EB Left	0.071	15.2	C
27	Latrobe/S. Shingle	Two-way stop	HCM 7th Edition	WB Left	0.133	18.2	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: El Dorado Hills Blvd/Serrano Pkwy

Control Type:	Signalized	Delay (sec / veh):	46.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.957

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	260.0	100.0	100.0	100.0	110.00	100.00	100.00	100.00	100.00	100.00	430.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No			No		
Crosswalk	No				Yes			Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Base Volume Input [veh/h]	3	91	1766	401	35	1038	55	36	17	54	339	52	22
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	17	0	0	16	0	0	7
Total Hourly Volume [veh/h]	3	91	1766	401	35	1038	38	36	17	38	339	52	15
Peak Hour Factor	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	26	507	115	10	298	11	10	5	11	97	15	4
Total Analysis Volume [veh/h]	3	105	2030	461	40	1193	44	41	20	44	390	60	17
Presence of On-Street Parking	No			No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	1	6	0	7	7	0	0	8	0
Auxiliary Signal Groups													
Maximum Green [s]	0	25	40	0	25	40	0	35	35	0	0	35	0
Amber [s]	0.0	3.0	4.7	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	12	0	0	12	0	0	0	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	100.0	245.0	0.0	100.0	100.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	29	46	0	29	46	0	39	39	0	0	39	0
Lead / Lag	-	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	3	6	0	3	3	0	3	3	0	0	3	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	4.0	0.0
Minimum Recall		No	No		No	No			No			No	
Maximum Recall		No	No		No	No			No			No	
Pedestrian Recall		No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C
C, Cycle Length [s]	79	79	79	79	79	79	79	79	79	79
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	40	40	2	36	36	5	5	14	14
g / C, Green / Cycle	0.08	0.51	0.51	0.03	0.46	0.46	0.06	0.06	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.06	0.57	0.29	0.02	0.33	0.33	0.02	0.04	0.13	0.13
s, saturation flow rate [veh/h]	1781	3560	1589	1781	1870	1847	1781	1668	1781	1787
c, Capacity [veh/h]	141	1810	808	51	856	846	105	99	318	320
d1, Uniform Delay [s]	35.52	19.35	13.40	37.98	17.33	17.34	35.66	36.23	30.54	30.54
k, delay calibration	0.04	0.05	0.06	0.04	0.13	0.13	0.04	0.04	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.22	55.62	0.36	9.10	1.45	1.48	0.87	2.66	4.58	4.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	1.12	0.57	0.78	0.73	0.73	0.39	0.65	0.73	0.73
d, Delay for Lane Group [s/veh]	38.75	74.97	13.76	47.08	18.78	18.82	36.53	38.89	35.13	35.11
Lane Group LOS	D	F	B	D	B	B	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.03	27.13	4.72	0.85	8.03	7.95	0.77	1.25	4.44	4.46
50th-Percentile Queue Length [ft/ln]	50.70	678.35	117.97	21.28	200.64	198.68	19.16	31.20	111.04	111.39
95th-Percentile Queue Length [veh/ln]	3.65	38.84	8.28	1.53	12.67	12.57	1.38	2.25	7.90	7.92
95th-Percentile Queue Length [ft/ln]	91.26	971.05	207.04	38.31	316.79	314.26	34.49	56.16	197.45	197.94

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.75	38.75	74.97	13.76	47.08	18.80	18.82	36.53	38.89	38.89	35.12	35.11	35.11
Movement LOS	D	D	F	B	D	B	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	62.61				19.69			37.97			35.12		
Approach LOS	E				B			D			D		
d_I, Intersection Delay [s/veh]	46.82												
Intersection LOS	D												
Intersection V/C	0.957												

Emissions

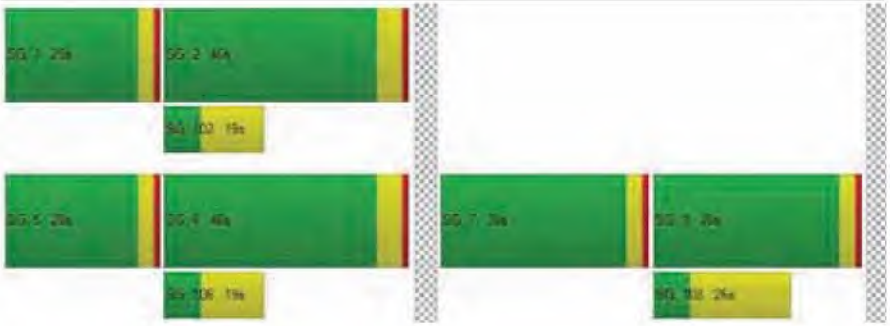
Vehicle Miles Traveled [mph]	25.79	484.83	110.10	5.88	91.45	90.42	1.75	2.73	12.20	12.24
Stops [stops/h]	92.93	2486.77	216.24	39.01	367.77	364.16	35.12	57.19	203.53	204.18
Fuel consumption [US gal/h]	2.89	78.51	7.75	1.07	10.08	9.98	0.57	0.93	3.29	3.30
CO [g/h]	202.09	5487.61	541.97	74.78	704.93	697.83	39.91	65.35	230.16	230.88
NOx [g/h]	39.32	1067.69	105.45	14.55	137.15	135.77	7.76	12.72	44.78	44.92
VOC [g/h]	46.84	1271.81	125.61	17.33	163.37	161.73	9.25	15.15	53.34	53.51

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00	
d_p, Pedestrian Delay [s]	0.00	29.05	29.05	29.05	
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.308	2.068	2.266	
Crosswalk LOS	F	C	B	B	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000	
c_b, Capacity of the bicycle lane [bicycles/h]	1026	1026	891	891	
d_b, Bicycle Delay [s]	9.32	9.32	12.08	12.08	
l_b,int, Bicycle LOS Score for Intersection	3.701	2.627	1.759	2.342	
Bicycle LOS	D	B	A	B	

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	107.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.222

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	1	0	1	0	0	1
Entry Pocket Length [ft]	230.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	5	442	1616	75	4	164	1068	198	365	41	525	59	107	276
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	23	0	0	0	59	0	0	158	0	0	83
Total Hourly Volume [veh/h]	5	442	1616	52	4	164	1068	139	365	41	367	59	107	193
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	119	434	14	1	44	287	37	98	11	99	16	29	52
Total Analysis Volume [veh/h]	5	475	1738	56	4	176	1148	149	392	44	395	63	115	208
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	0	3	8	0
Auxiliary Signal Groups														
Maximum Green [s]	0	20	50	0	0	20	50	0	20	20	0	0	20	0
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	18	0	0	0	16	0	0	0	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	0	24	56	0	24	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C
C, Cycle Length [s]	125	125	125	125	125	125	125	125	125	125	125
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	53	53	15	48	48	20	20	20	20	20
g / C, Green / Cycle	0.16	0.42	0.42	0.12	0.38	0.38	0.16	0.16	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.27	0.33	0.33	0.10	0.35	0.36	0.12	0.12	0.25	0.04	0.19
s, saturation flow rate [veh/h]	1781	3560	1840	1781	1870	1796	1781	1798	1589	1781	1679
c, Capacity [veh/h]	284	1504	777	208	710	682	284	287	254	284	268
d1, Uniform Delay [s]	52.62	31.26	31.34	54.33	37.19	37.41	50.37	50.34	52.62	45.84	52.62
k, delay calibration	0.50	0.13	0.34	0.11	0.37	0.37	0.22	0.22	0.50	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	324.32	1.13	5.49	10.32	15.95	17.98	8.37	8.05	268.77	0.14	121.91
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.69	0.79	0.79	0.86	0.93	0.94	0.76	0.76	1.56	0.22	1.20
d, Delay for Lane Group [s/veh]	376.95	32.39	36.83	64.65	53.14	55.39	58.74	58.38	321.39	45.98	174.53
Lane Group LOS	F	C	D	E	D	E	E	E	F	D	F
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	34.31	14.82	16.37	6.04	21.44	21.27	7.19	7.19	26.91	1.73	17.48
50th-Percentile Queue Length [ft/ln]	857.63	370.47	409.33	150.92	536.09	531.83	179.64	179.85	672.64	43.29	437.12
95th-Percentile Queue Length [veh/ln]	53.37	21.13	23.01	10.07	29.04	28.84	11.58	11.59	42.07	3.12	26.51
95th-Percentile Queue Length [ft/ln]	1334.16	528.30	575.24	251.65	725.94	720.93	289.55	289.82	1051.84	77.92	662.71

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	376.9	376.9	33.81	36.83	64.65	64.65	54.10	55.39	58.58	58.38	321.39	45.98	174.53	174.53
Movement LOS	F	F	C	D	E	E	D	E	E	E	F	D	F	F
d_A, Approach Delay [s/veh]	106.31				55.52				183.49			153.55		
Approach LOS	F				E				F			F		
d_I, Intersection Delay [s/veh]	107.79													
Intersection LOS	F													
Intersection V/C	1.222													

Emissions

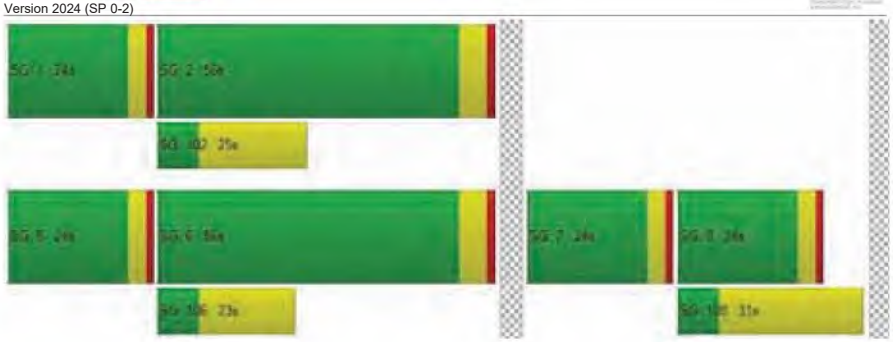
Vehicle Miles Traveled [mph]	90.33	222.20	115.42	42.99	157.18	152.59	13.56	13.63	24.63	3.07	15.75
Stops [stops/h]	986.38	852.17	470.79	173.57	616.57	611.67	206.61	206.85	773.63	49.79	502.75
Fuel consumption [US gal/h]	52.17	25.99	14.41	6.00	20.17	20.04	4.30	4.30	31.12	0.99	14.90
CO [g/h]	3646.85	1816.93	1006.98	419.36	1409.93	1400.56	300.50	300.57	2175.04	69.27	1041.21
NOx [g/h]	709.54	353.51	195.92	81.59	274.32	272.50	58.47	58.48	423.18	13.48	202.58
VOC [g/h]	845.19	421.09	233.38	97.19	326.76	324.59	69.64	69.66	504.09	16.05	241.31

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	52.08	52.08	52.08
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.517	2.807	2.324
Crosswalk LOS	F	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	803	803	319	319
d_b, Bicycle Delay [s]	22.41	22.41	44.20	44.20
l_b,int, Bicycle LOS Score for Intersection	2.820	2.682	3.191	2.333
Bicycle LOS	C	B	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	47.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.989

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	500.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	980	1679	319	0	37	1192	428	208	130	290	236	80	251
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	96	0	0	0	128	0	0	87	0	0	75
Total Hourly Volume [veh/h]	1	980	1679	223	0	37	1192	300	208	130	203	236	80	176
Peak Hour Factor	1.000	0.840	0.990	0.840	1.000	0.840	0.990	0.840	0.8400	0.8400	0.8400	0.8400	0.8400	0.8400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	292	424	66	0	11	301	89	62	39	60	70	24	52
Total Analysis Volume [veh/h]	1	1167	1696	265	0	44	1204	357	248	155	242	281	95	210
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	136
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	45	62	0	0	14	29	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	50	68	0	0	19	35	28	0	28	0	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	45	73	73	7	34	57	18	18	18	18	18
g / C, Green / Cycle	0.33	0.54	0.54	0.05	0.25	0.42	0.13	0.13	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.34	0.36	0.39	0.02	0.24	0.22	0.11	0.11	0.10	0.10	0.13
s, saturation flow rate [veh/h]	3459	3532	1735	1781	5053	1589	1781	1847	1781	1824	1589
c, Capacity [veh/h]	1155	1901	934	86	1275	668	232	241	241	247	216
d1, Uniform Delay [s]	45.29	22.80	23.74	63.17	49.89	29.48	57.87	57.86	56.74	56.71	58.54
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.15	0.15	0.20	0.20	0.37
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.50	1.95	4.85	1.76	14.94	3.05	11.47	11.02	9.28	8.86	46.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.01	0.68	0.72	0.51	0.94	0.53	0.85	0.85	0.77	0.77	0.97
d, Delay for Lane Group [s/veh]	55.80	24.75	28.59	64.94	64.83	32.54	69.34	68.88	66.02	65.57	104.89
Lane Group LOS	F	C	C	E	E	C	E	E	E	E	F
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	21.00	15.22	17.34	1.50	14.76	9.01	7.41	7.65	6.81	6.92	9.98
50th-Percentile Queue Length [ft/ln]	525.05	380.44	433.45	37.60	369.01	225.17	185.34	191.29	170.24	173.01	249.49
95th-Percentile Queue Length [veh/ln]	28.74	21.62	24.17	2.71	21.06	13.93	11.88	12.19	11.09	11.23	15.16
95th-Percentile Queue Length [ft/ln]	718.46	540.38	604.17	67.67	526.53	348.21	296.97	304.71	277.23	280.87	379.01

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.80	55.80	25.68	28.59	64.94	64.94	64.83	32.54	69.25	68.88	0.00	65.87	65.57	104.89
Movement LOS	E	F	C	C	E	E	E	C	E	E		E	E	F
d_A, Approach Delay [s/veh]	37.17				57.65				45.96			79.80		
Approach LOS	D				E				D			E		
d_I, Intersection Delay [s/veh]	47.90													
Intersection LOS	D													
Intersection V/C	0.989													

Emissions

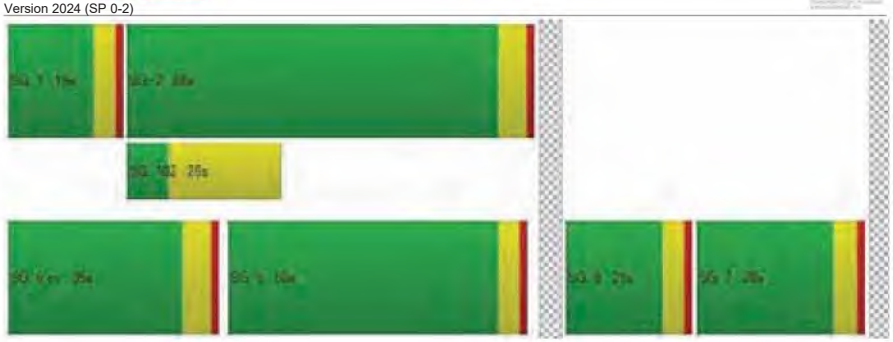
Vehicle Miles Traveled [mph]	200.04	220.20	115.65	8.28	226.59	67.19	9.15	9.49	5.92	6.04	6.68
Stops [stops/h]	1111.86	805.64	458.95	39.81	1172.16	238.41	196.24	202.55	180.25	183.19	264.17
Fuel consumption [US gal/h]	27.64	19.99	11.23	1.36	38.22	7.63	4.25	4.38	3.74	3.79	6.22
CO [g/h]	1931.92	1397.45	784.63	95.08	2671.78	533.39	297.32	306.43	261.35	265.23	434.50
NOx [g/h]	375.88	271.89	152.66	18.50	519.83	103.78	57.85	59.62	50.85	51.60	84.54
VOC [g/h]	447.74	323.87	181.85	22.03	619.21	123.62	68.91	71.02	60.57	61.47	100.70

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	57.44
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.555
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	915	429	337	241
d_b, Bicycle Delay [s]	20.02	41.93	47.03	52.59
l_b,int, Bicycle LOS Score for Intersection	3.333	2.489	2.225	2.105
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Latrobe Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	22.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.912

Intersection Setup

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	200.00	570.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No			No		
Crosswalk	No			No				No			Yes		

Volumes

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Base Volume Input [veh/h]	0	2117	609	1	388	1330	0	0	0	1197	0	0	861
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	183	0	0	0	0	0	0	359	0	0	258
Total Hourly Volume [veh/h]	0	2117	426	1	388	1330	0	0	0	838	0	0	603
Peak Hour Factor	1.0000	0.9500	0.8400	1.000	0.840	0.950	1.000	1.0000	1.0000	0.8400	1.0000	1.0000	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	557	127	0	115	350	0	0	0	249	0	0	179
Total Analysis Volume [veh/h]	0	2228	507	1	462	1400	0	0	0	998	0	0	718
Presence of On-Street Parking	No		No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0				0			0	
v_co, Outbound Pedestrian Volume crossing		0			0				0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0	
Bicycle Volume [bicycles/h]		0			0				0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	26.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	30	0	0	26	34	0	0	0	22	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No				No			
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	4.2	0.0	0.0	2.6	4.2	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	2.5	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Minimum Recall		Yes			No	Yes				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	R	
C, Cycle Length [s]	68	68	68	68	68	
L, Total Lost Time per Cycle [s]	6.20	6.20	4.60	6.20	4.60	
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	4.20	4.20	2.60	4.20	2.60	
g_i, Effective Green Time [s]	38	38	20	35	22	
g / C, Green / Cycle	0.55	0.55	0.29	0.51	0.33	
(v / s)_i Volume / Saturation Flow Rate	0.44	0.32	0.26	0.21	0.35	
s, saturation flow rate [veh/h]	5094	1589	1781	6792	2813	
c, Capacity [veh/h]	2809	876	516	3476	927	
d1, Uniform Delay [s]	12.16	10.05	23.17	10.21	22.80	
k, delay calibration	0.50	0.50	0.17	0.50	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	2.40	2.78	8.80	0.35	36.65	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.79	0.58	0.90	0.40	1.08	
d, Delay for Lane Group [s/veh]	14.56	12.83	31.97	10.56	59.45	
Lane Group LOS	B	B	C	B	F	
Critical Lane Group	Yes	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	7.08	4.32	7.43	2.58	11.48	
50th-Percentile Queue Length [ft/ln]	177.08	107.99	185.84	64.46	286.92	
95th-Percentile Queue Length [veh/ln]	11.45	7.73	11.90	4.64	17.80	
95th-Percentile Queue Length [ft/ln]	286.20	193.20	297.62	116.02	444.96	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	14.56	12.83	31.97	31.97	10.56	0.00	0.00	0.00	59.45	0.00	0.00	0.00
Movement LOS		B	B	C	C	B				F			
d_A, Approach Delay [s/veh]	14.24			15.88			59.45				0.00		
Approach LOS	B			B			E				A		
d_I, Intersection Delay [s/veh]	22.85												
Intersection LOS	C												
Intersection V/C	0.912												

Emissions

Vehicle Miles Traveled [mph]	322.38	73.36	79.30	239.78	71.42	
Stops [stops/h]	1125.01	228.68	393.53	545.99	1215.17	
Fuel consumption [US gal/h]	31.64	6.68	10.62	18.02	21.73	
CO [g/h]	2211.68	467.03	742.59	1259.31	1518.63	
NOx [g/h]	430.31	90.87	144.48	245.02	295.47	
VOC [g/h]	512.58	108.24	172.10	291.86	351.96	

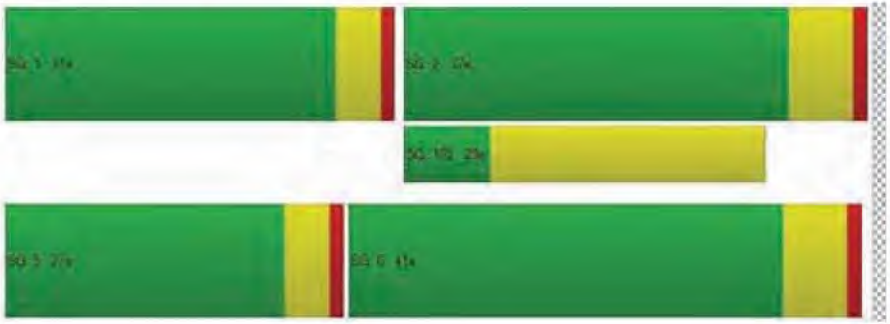
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	23.89
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.067
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	906	1024	659	0
d_b, Bicycle Delay [s]	10.18	8.10	15.29	34.00
l_b,int, Bicycle LOS Score for Intersection	3.165	2.138	1.560	1.560
Bicycle LOS	C	B	A	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	38.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.925

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

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Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	24	1820	215	3	532	1803	189	299	33	67	1	91	6	604
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	65	0	0	0	57	0	0	20	0	0	0	181
Total Hourly Volume [veh/h]	1	24	1820	150	3	532	1803	132	299	33	47	1	91	6	423
Peak Hour Factor	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.9600	0.9600	0.9600	0.960	0.960	0.960	0.960
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	6	474	39	1	139	470	34	78	9	12	0	24	2	110
Total Analysis Volume [veh/h]	1	25	1896	156	3	554	1878	138	311	34	49	1	95	6	441
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	138
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	0	5	2	0	3	4	0	4	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	40	0	0	12	65	0	15	20	0	20	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	0.0	3.0	4.5	0.0	3.0	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.0	0.5	1.0	0.0	0.5	0.5	0.0	0.5	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	7	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	20	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	0.0	1.5	3.5	0.0	1.5	1.5	0.0	1.5	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	245.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	46	0	0	16	71	0	19	24	0	24	19	19	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	Lag	Lag	-	-
Minimum Green [s]	0	4	5	0	0	4	5	0	6	6	0	6	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.5	2.5	0.0	2.5	2.5	2.5	0.0
Minimum Recall		No	Yes			No	Yes			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	92	92	92	92	92	92	92	92	92	92	92	92
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	2	38	38	12	48	48	11	11	11	15	15	15
g / C, Green / Cycle	0.02	0.42	0.42	0.13	0.53	0.53	0.12	0.12	0.12	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.01	0.37	0.10	0.16	0.37	0.09	0.09	0.02	0.03	0.05	0.14	0.14
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	1870	1589	1781	1596	1589
c, Capacity [veh/h]	75	2120	662	452	2676	835	408	221	187	286	257	256
d1, Uniform Delay [s]	44.25	24.91	17.34	39.89	16.38	11.33	39.23	36.36	36.84	34.16	37.59	37.59
k, delay calibration	0.04	0.04	0.04	0.08	0.04	0.04	0.08	0.08	0.08	0.08	0.32	0.32
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.01	0.57	0.07	107.68	0.13	0.03	2.23	0.24	0.54	0.51	21.97	22.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.35	0.89	0.24	1.23	0.70	0.17	0.76	0.15	0.26	0.34	0.87	0.87
d, Delay for Lane Group [s/veh]	45.26	25.48	17.41	147.56	16.51	11.36	41.45	36.60	37.38	34.67	59.57	59.64
Lane Group LOS	D	C	B	F	B	B	D	D	D	C	E	E
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.30	12.16	2.08	11.76	9.14	1.40	3.47	0.69	1.02	1.91	6.38	6.36
50th-Percentile Queue Length [ft/ln]	7.47	304.01	52.07	294.05	228.38	34.88	86.70	17.30	25.43	47.85	159.41	158.91
95th-Percentile Queue Length [veh/ln]	0.54	17.88	3.75	18.89	14.09	2.51	6.24	1.25	1.83	3.45	10.52	10.49
95th-Percentile Queue Length [ft/ln]	13.45	446.98	93.72	472.34	352.30	62.79	156.06	31.14	45.77	86.13	262.94	262.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.26	45.26	25.48	17.41	147.5	147.5	16.51	11.36	41.45	36.60	37.38	34.67	34.67	59.57	59.61
Movement LOS	D	D	C	B	F	F	B	B	D	D	D	C	C	E	E
d_A, Approach Delay [s/veh]	25.12				44.60				40.53			55.20			
Approach LOS	C				D				D			E			
d_I, Intersection Delay [s/veh]	38.10														
Intersection LOS	D														
Intersection V/C	0.925														

Emissions

Vehicle Miles Traveled [mph]	5.80	423.26	34.82	80.60	271.74	19.97	39.67	4.34	6.25	33.69	78.60	78.29
Stops [stops/h]	23.50	1434.36	81.88	924.91	1077.50	54.86	272.70	27.20	39.99	75.26	250.70	249.92
Fuel consumption [US gal/h]	0.61	35.18	2.44	25.15	23.45	1.44	5.76	0.58	0.85	2.48	7.34	7.31
CO [g/h]	42.51	2459.09	170.46	1758.07	1639.11	100.95	402.84	40.69	59.48	173.35	512.72	511.01
NOx [g/h]	8.27	478.45	33.17	342.06	318.91	19.64	78.38	7.92	11.57	33.73	99.76	99.42
VOC [g/h]	9.85	569.92	39.51	407.45	379.88	23.40	93.36	9.43	13.79	40.18	118.83	118.43

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	35.44	0.00	35.44	35.44
l_p,int, Pedestrian LOS Score for Intersectio	3.395	0.000	2.586	2.857
Crosswalk LOS	C	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	885	1431	448	339
d_b, Bicycle Delay [s]	14.24	3.71	27.58	31.59
l_b,int, Bicycle LOS Score for Intersection	2.738	2.701	1.901	2.597
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	51.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.630

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	3	2	0	0	1	2	0	0	0	3	0	0
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	260.0	100.0	100.0	260.0	360.0	100.0	100.0	100.0	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	6	73	1515	362	2	243	1325	392	2	349	336	86	393	164	194
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	109	0	0	0	118	0	0	0	26	0	0	58
Total Hourly Volume [veh/h]	6	73	1515	253	2	243	1325	274	2	349	336	60	393	164	136
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	20	407	68	1	65	356	74	1	94	90	16	106	44	37
Total Analysis Volume [veh/h]	6	78	1629	272	2	261	1425	295	2	375	361	65	423	176	146
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	158
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups															
Maximum Green [s]	0	25	50	0	0	35	50	0	0	25	15	0	15	25	0
Amber [s]	0.0	4.0	4.7	0.0	0.0	4.0	4.7	0.0	0.0	4.5	4.7	0.0	4.5	4.7	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	39	0	0	0	37	0	0	0	48	0	0	50	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	3.7	0.0	0.0	3.0	3.7	0.0	0.0	4.0	3.7	0.0	4.0	3.7	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	30	56	0	0	40	56	0	0	31	21	0	21	31	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	7	0	0	10	7	0	0	10	10	0	10	10	0
Vehicle Extension [s]	0.0	1.5	3.0	0.0	0.0	1.5	3.0	0.0	0.0	1.5	2.0	0.0	1.5	2.0	0.0
Minimum Recall		No	Yes			No	Yes			No	No		No	No	
Maximum Recall		No	No			No	No			No	No		No	No	
Pedestrian Recall		No	No			No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	158	158	158	158	158	158	158	158	158	158	158	158
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	6.00	5.70	5.70	6.00	5.70	5.70
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	4.00	3.70	3.70	4.00	3.70	3.70
g_i, Effective Green Time [s]	10	85	85	14	90	90	19	21	21	15	17	17
g / C, Green / Cycle	0.06	0.54	0.54	0.09	0.57	0.57	0.12	0.13	0.13	0.09	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.05	0.24	0.17	0.08	0.28	0.19	0.11	0.12	0.12	0.12	0.05	0.09
s, saturation flow rate [veh/h]	1781	6792	1589	3459	5094	1589	3459	1870	1772	3459	3560	1589
c, Capacity [veh/h]	111	3672	859	309	2893	903	424	249	236	328	376	168
d1, Uniform Delay [s]	72.94	21.93	20.11	70.89	20.47	18.10	68.27	67.21	67.22	71.50	66.47	69.58
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.47	0.48	0.05	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.97	0.39	0.97	2.55	0.60	0.96	2.61	31.29	32.83	132.03	0.34	5.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.44	0.32	0.85	0.49	0.33	0.89	0.88	0.88	1.29	0.47	0.87
d, Delay for Lane Group [s/veh]	76.91	22.32	21.08	73.44	21.07	19.07	70.88	98.50	100.06	203.53	66.81	74.84
Lane Group LOS	E	C	C	E	C	B	E	F	F	F	E	E
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.50	9.35	5.90	5.29	10.31	5.81	7.69	10.87	10.41	12.70	3.38	6.09
50th-Percentile Queue Length [ft/ln]	87.44	233.75	147.42	132.27	257.66	145.35	192.28	271.68	260.34	317.58	84.62	152.31
95th-Percentile Queue Length [veh/ln]	6.30	14.36	9.88	9.06	15.57	9.77	12.24	16.27	15.71	20.28	6.09	10.14
95th-Percentile Queue Length [ft/ln]	157.38	359.12	246.98	226.58	389.29	244.22	305.99	406.84	392.65	506.94	152.31	253.50

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	76.91	76.91	22.32	21.08	73.44	73.44	21.07	19.07	70.88	70.88	99.12	100.0	203.53	66.81	74.84
Movement LOS	E	E	C	C	E	E	C	B	E	E	F	F	F	E	E
d_A, Approach Delay [s/veh]	24.46				27.72				85.94				146.01		
Approach LOS	C				C				F				F		
d_I, Intersection Delay [s/veh]	51.00														
Intersection LOS	D														
Intersection V/C	0.630														

Emissions

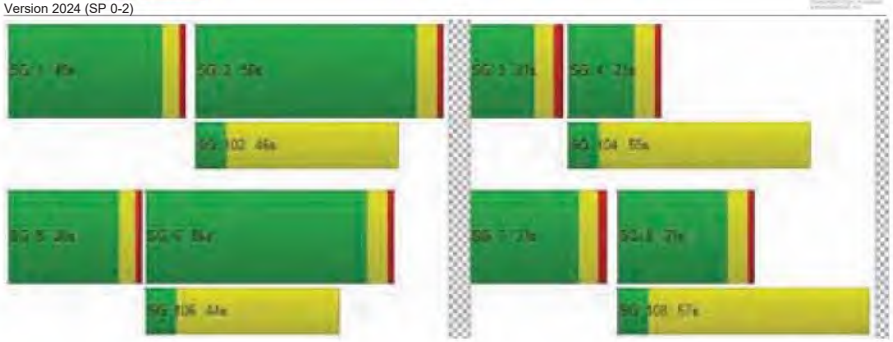
Vehicle Miles Traveled [mph]	33.44	648.48	108.28	58.71	318.11	65.85	94.09	54.55	51.77	44.20	18.39	15.25
Stops [stops/h]	79.69	852.15	134.36	241.10	704.50	132.47	350.49	247.61	237.28	578.88	154.24	138.81
Fuel consumption [US gal/h]	3.13	38.80	6.37	8.94	25.77	5.05	11.25	7.99	7.67	22.53	4.00	3.62
CO [g/h]	218.88	2712.27	445.01	624.92	1801.60	352.93	786.16	558.77	535.80	1575.10	279.72	252.90
NOx [g/h]	42.59	527.71	86.58	121.59	350.53	68.67	152.96	108.72	104.25	306.46	54.42	49.20
VOC [g/h]	50.73	628.60	103.14	144.83	417.54	81.80	182.20	129.50	124.18	365.04	64.83	58.61

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	68.38	68.38	68.38	68.38
l_p,int, Pedestrian LOS Score for Intersectio	3.468	3.791	2.760	2.955
Crosswalk LOS	C	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	637	637	194	320
d_b, Bicycle Delay [s]	36.71	36.71	64.44	55.73
l_b,int, Bicycle LOS Score for Intersection	2.421	2.572	1.934	2.222
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	20.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.825

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	6	1300	21	0	21	1371	285	408	7	15	1	4	9
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	6	0	0	0	86	0	0	5	0	0	3
Total Hourly Volume [veh/h]	1	6	1300	15	0	21	1371	199	408	7	10	1	4	6
Peak Hour Factor	1.000	0.890	0.890	0.870	1.000	0.870	0.890	0.890	0.8900	0.8700	0.8900	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	365	4	0	6	385	56	115	2	3	0	1	2
Total Analysis Volume [veh/h]	1	7	1461	17	0	24	1540	224	458	8	11	1	5	7
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	112
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	12	40	0	0	15	40	0	0	20	0	0	20	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	12	0	0	0	20	0	0	20	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	0	0	18	46	0	0	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	38	38	1	38	38	12	12	1
g / C, Green / Cycle	0.01	0.54	0.54	0.02	0.54	0.54	0.17	0.17	0.02
(v / s)_i Volume / Saturation Flow Rate	0.00	0.40	0.40	0.01	0.47	0.49	0.13	0.13	0.01
s, saturation flow rate [veh/h]	1781	1870	1862	1781	1870	1789	1781	1774	1702
c, Capacity [veh/h]	19	1006	1002	29	1017	973	306	305	28
d1, Uniform Delay [s]	34.37	12.35	12.36	34.28	13.86	14.26	27.66	27.66	34.07
k, delay calibration	0.04	0.24	0.24	0.04	0.33	0.35	0.11	0.11	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.69	2.37	2.40	19.51	7.16	9.57	4.30	4.32	4.55
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.74	0.74	0.83	0.87	0.90	0.78	0.78	0.47
d, Delay for Lane Group [s/veh]	40.06	14.73	14.76	53.79	21.02	23.84	31.96	31.98	38.63
Lane Group LOS	D	B	B	D	C	C	C	C	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.16	8.10	8.09	0.52	10.18	10.87	4.00	3.98	0.25
50th-Percentile Queue Length [ft/ln]	4.01	202.46	202.15	13.06	254.39	271.64	99.98	99.62	6.17
95th-Percentile Queue Length [veh/ln]	0.29	12.77	12.75	0.94	15.41	16.27	7.20	7.17	0.44
95th-Percentile Queue Length [ft/ln]	7.22	319.14	318.74	23.51	385.17	406.78	179.96	179.31	11.11

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.06	40.06	14.74	14.76	53.79	53.79	22.21	23.84	31.97	31.98	31.98	38.63	38.63	38.63
Movement LOS	D	D	B	B	D	D	C	C	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	14.88				22.84				31.97			38.63		
Approach LOS	B				C				C			D		
d_I, Intersection Delay [s/veh]	20.91													
Intersection LOS	C													
Intersection V/C	0.825													

Emissions

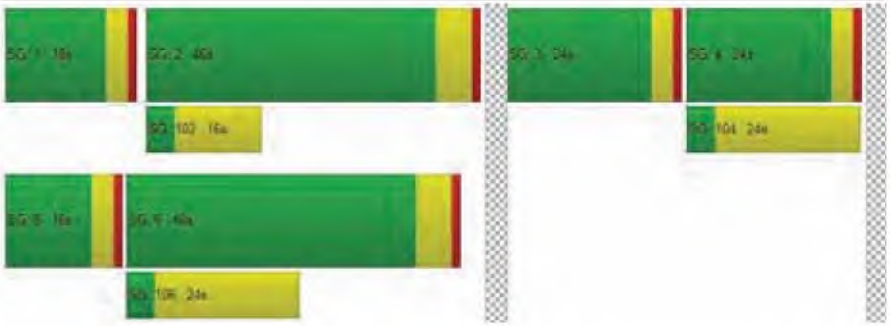
Vehicle Miles Traveled [mph]	2.83	261.89	261.12	9.55	353.46	348.77	57.55	57.32	0.25
Stops [stops/h]	8.28	417.99	417.35	26.97	525.19	560.80	206.40	205.66	12.74
Fuel consumption [US gal/h]	0.23	15.31	15.27	1.08	25.38	26.33	5.06	5.05	0.18
CO [g/h]	15.90	1070.05	1067.49	75.72	1773.87	1840.68	353.97	352.65	12.78
NOx [g/h]	3.09	208.19	207.70	14.73	345.13	358.13	68.87	68.61	2.49
VOC [g/h]	3.69	247.99	247.40	17.55	411.11	426.60	82.04	81.73	2.96

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	27.33	0.00	27.33	27.33
l_p,int, Pedestrian LOS Score for Intersectio	2.893	0.000	2.199	1.744
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1147	1147	573	573
d_b, Bicycle Delay [s]	6.34	6.34	17.74	17.74
l_b,int, Bicycle LOS Score for Intersection	2.790	3.086	2.355	1.586
Bicycle LOS	C	C	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Latrobe Rd/Suncast Ln

Control Type:	Signalized	Delay (sec / veh):	10.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.728

Intersection Setup

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Approach	Northbound			Southbound		Eastbound	
Lane Configuration							
Turning Movement	U-turn	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			No		Yes	

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Volumes

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Base Volume Input [veh/h]	0	48	1131	1259	129	197	61
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	39	0	18
Total Hourly Volume [veh/h]	0	48	1131	1259	90	197	43
Peak Hour Factor	1.0000	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	318	354	25	55	12
Total Analysis Volume [veh/h]	0	54	1271	1415	101	221	48
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permissive	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	5	2	6	0	3	0
Auxiliary Signal Groups							
Maximum Green [s]	0	12	40	40	0	20	0
Amber [s]	0.0	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No	No		No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	46	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-
Minimum Green [s]	0	5	5	5	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall		No	No	No		No	
Maximum Recall		No	No	No		No	
Pedestrian Recall		No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	L	R
C, Cycle Length [s]	55	55	55	55	55	55
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	3	36	29	29	9	9
g / C, Green / Cycle	0.05	0.66	0.53	0.53	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.03	0.36	0.41	0.41	0.12	0.03
s, saturation flow rate [veh/h]	1781	3560	1870	1827	1781	1589
c, Capacity [veh/h]	91	2334	994	971	291	260
d1, Uniform Delay [s]	25.62	5.10	10.18	10.35	22.06	19.92
k, delay calibration	0.04	0.15	0.16	0.17	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.25	0.28	1.83	2.17	4.06	0.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.54	0.76	0.78	0.76	0.18
d, Delay for Lane Group [s/veh]	27.87	5.38	12.01	12.52	26.12	20.26
Lane Group LOS	C	A	B	B	C	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.71	2.46	5.97	6.14	2.83	0.52
50th-Percentile Queue Length [ft/ln]	17.63	61.39	149.26	153.49	70.83	12.89
95th-Percentile Queue Length [veh/ln]	1.27	4.42	9.98	10.20	5.10	0.93
95th-Percentile Queue Length [ft/ln]	31.74	110.49	249.43	255.07	127.49	23.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.87	27.87	5.38	12.25	12.52	26.12	20.26
Movement LOS	C	C	A	B	B	C	C
d_A, Approach Delay [s/veh]	6.30			12.26		25.08	
Approach LOS	A			B		C	
d_I, Intersection Delay [s/veh]	10.83						
Intersection LOS	B						
Intersection V/C	0.728						

Emissions

Vehicle Miles Traveled [mph]	37.56	884.05	268.23	268.23	74.56	16.20
Stops [stops/h]	46.07	320.78	389.98	401.03	185.07	33.69
Fuel consumption [US gal/h]	2.11	39.56	15.05	15.19	5.27	1.05
CO [g/h]	147.28	2765.04	1051.97	1061.69	368.16	73.45
NOx [g/h]	28.66	537.98	204.67	206.57	71.63	14.29
VOC [g/h]	34.13	640.82	243.80	246.06	85.32	17.02

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	20.14	0.00	20.14
l_p,int, Pedestrian LOS Score for Intersectio	2.825	0.000	2.100
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1452	1452	726
d_b, Bicycle Delay [s]	2.07	2.07	11.19
l_b,int, Bicycle LOS Score for Intersection	2.653	2.842	1.560
Bicycle LOS	B	C	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	37.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.845

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	98	575	21	249	446	625	494	119	26	13	155	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	6	0	0	188	0	0	8	0	0	33
Total Hourly Volume [veh/h]	98	575	15	249	446	437	494	119	18	13	155	77
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	158	4	68	123	120	136	33	5	4	43	21
Total Analysis Volume [veh/h]	108	632	16	274	490	480	543	131	20	14	170	85
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Cycle Length [s]	71	71	71	71	71	71	71	71	71	71
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	6	17	17	12	23	23	15	15	9	9
g / C, Green / Cycle	0.08	0.23	0.23	0.17	0.32	0.32	0.21	0.21	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.06	0.17	0.17	0.15	0.26	0.30	0.19	0.19	0.10	0.05
s, saturation flow rate [veh/h]	1781	1870	1854	1781	1870	1589	1781	1801	1863	1589
c, Capacity [veh/h]	139	439	435	299	606	515	373	378	233	199
d1, Uniform Delay [s]	32.36	25.37	25.37	29.28	22.13	23.40	27.71	27.70	30.37	28.92
k, delay calibration	0.04	0.04	0.04	0.30	0.19	0.28	0.31	0.31	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.48	0.94	0.95	24.42	4.50	17.19	22.18	21.67	2.26	0.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.74	0.74	0.92	0.81	0.93	0.92	0.92	0.79	0.43
d, Delay for Lane Group [s/veh]	35.84	26.30	26.32	53.70	26.63	40.58	49.89	49.37	32.63	29.46
Lane Group LOS	D	C	C	D	C	D	D	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.91	4.97	4.93	6.07	6.99	8.92	7.78	7.80	3.10	1.33
50th-Percentile Queue Length [ft/ln]	47.65	124.13	123.14	151.74	174.85	222.97	194.51	195.02	77.54	33.24
95th-Percentile Queue Length [veh/ln]	3.43	8.62	8.57	10.11	11.33	13.82	12.35	12.38	5.58	2.39
95th-Percentile Queue Length [ft/ln]	85.77	215.49	214.14	252.75	283.28	345.42	308.87	309.53	139.57	59.84

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.84	26.31	26.32	53.70	26.63	40.58	49.70	49.37	49.37	32.63	32.63	29.46
Movement LOS	D	C	C	D	C	D	D	D	D	C	C	C
d_A, Approach Delay [s/veh]	27.67			37.98			49.63			31.63		
Approach LOS	C			D			D			C		
d_I, Intersection Delay [s/veh]	37.50											
Intersection LOS	D											
Intersection V/C	0.845											

Emissions

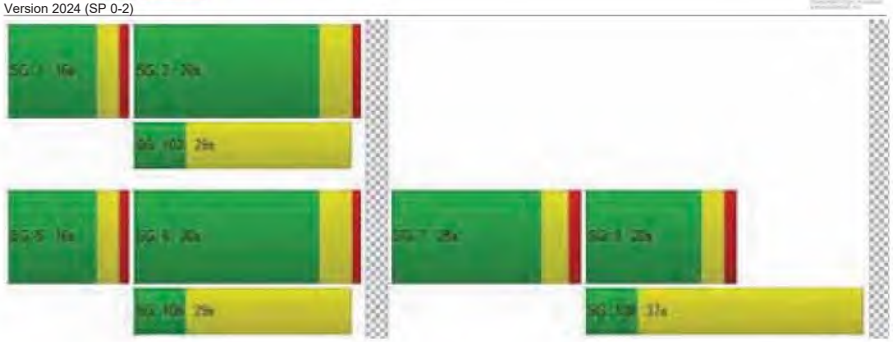
Vehicle Miles Traveled [mph]	62.37	187.89	186.34	190.58	340.82	333.86	25.99	26.22	20.35	9.40
Stops [stops/h]	96.08	250.28	248.30	305.95	352.56	449.58	392.19	393.22	156.34	67.03
Fuel consumption [US gal/h]	3.89	10.86	10.77	15.05	20.61	23.48	6.74	6.75	2.92	1.27
CO [g/h]	271.65	759.06	752.88	1052.15	1440.31	1641.49	471.36	472.12	204.34	88.55
NOx [g/h]	52.85	147.68	146.48	204.71	280.23	319.37	91.71	91.86	39.76	17.23
VOC [g/h]	62.96	175.92	174.49	243.85	333.81	380.43	109.24	109.42	47.36	20.52

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	25.56	0.00	25.56	25.56
l_p,int, Pedestrian LOS Score for Intersectio	2.548	0.000	2.474	2.211
Crosswalk LOS	B	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	692	692	434	560
d_b, Bicycle Delay [s]	15.28	15.28	21.89	18.51
l_b,int, Bicycle LOS Score for Intersection	2.188	2.741	2.718	2.058
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	18.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.779

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	115	314	447	38	380	79
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	11	0	24
Total Hourly Volume [veh/h]	115	314	447	27	380	55
Peak Hour Factor	0.9000	0.9000	0.9000	0.7900	0.7900	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	87	124	9	120	15
Total Analysis Volume [veh/h]	128	349	497	34	481	61
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	164
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	50	50	50	0	50	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	54	56	56	0	54	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	55	55	55	55	55	55
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	5	27	18	18	17	17
g / C, Green / Cycle	0.09	0.50	0.33	0.33	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.07	0.19	0.27	0.02	0.27	0.04
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1589
c, Capacity [veh/h]	168	929	615	523	571	510
d1, Uniform Delay [s]	24.17	8.52	16.77	12.58	17.30	13.13
k, delay calibration	0.04	0.15	0.15	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.68	0.36	3.63	0.07	3.47	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.38	0.81	0.06	0.84	0.12
d, Delay for Lane Group [s/veh]	26.85	8.88	20.39	12.65	20.77	13.23
Lane Group LOS	C	A	C	B	C	B
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.46	1.64	4.78	0.22	5.44	0.49
50th-Percentile Queue Length [ft/ln]	36.60	41.06	119.60	5.61	135.99	12.13
95th-Percentile Queue Length [veh/ln]	2.64	2.96	8.37	0.40	9.26	0.87
95th-Percentile Queue Length [ft/ln]	65.88	73.92	209.27	10.10	231.61	21.84

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.85	8.88	20.39	12.65	20.77	13.23
Movement LOS	C	A	C	B	C	B
d_A, Approach Delay [s/veh]	13.70		19.90		19.92	
Approach LOS	B		B		B	
d_I, Intersection Delay [s/veh]	18.00					
Intersection LOS	B					
Intersection V/C	0.779					

Emissions

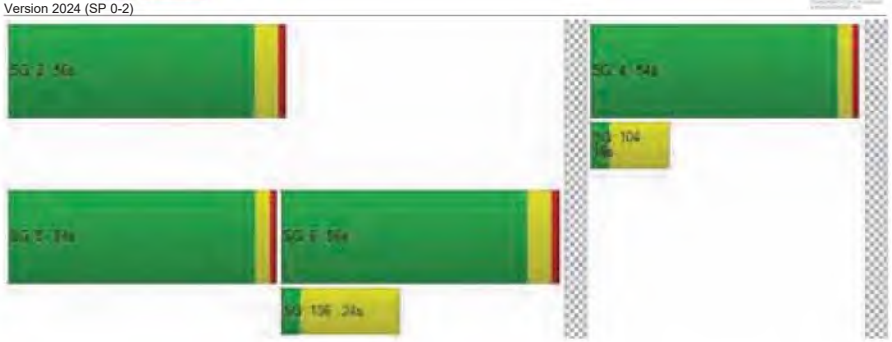
Vehicle Miles Traveled [mph]	15.79	43.06	287.03	19.64	112.97	14.33
Stops [stops/h]	96.59	108.36	315.60	14.81	358.86	32.01
Fuel consumption [US gal/h]	3.02	4.08	17.53	1.02	8.67	0.93
CO [g/h]	211.21	285.47	1225.09	71.26	605.81	65.07
NOx [g/h]	41.09	55.54	238.36	13.86	117.87	12.66
VOC [g/h]	48.95	66.16	283.93	16.51	140.40	15.08

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	19.87	0.00	19.87
l_p,int, Pedestrian LOS Score for Intersectio	2.548	0.000	2.192
Crosswalk LOS	B	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1833	1833	1833
d_b, Bicycle Delay [s]	0.19	0.19	0.19
l_b,int, Bicycle LOS Score for Intersection	2.347	2.454	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	11.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.077

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	380	0	25	501	0	0	0	0	0	0	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	380	0	25	501	0	0	0	0	0	0	49
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	103	0	6	136	0	0	0	0	0	0	12
Total Analysis Volume [veh/h]	0	413	0	25	545	0	0	0	0	0	0	49
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free		Free		Stop		Stop	
Flared Lane					Yes		Yes	
Storage Area [veh]	0		0		1		1	
Two-Stage Gap Acceptance					No		No	
Number of Storage Spaces in Median	0		0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08
d_M, Delay for Movement [s/veh]	8.52	0.00	0.00	8.17	0.00	0.00	24.09	20.45	11.69	22.43	20.92	11.10
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.04	0.04	0.04	0.00	0.00	0.00	0.25	0.25	0.25
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	1.06	1.06	1.06	0.00	0.00	0.00	6.21	6.21	6.21
d_A, Approach Delay [s/veh]	0.00			0.36			18.74			11.10		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	0.72											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Two-way stop	Delay (sec / veh):	28.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.278

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	311	16	94	407	0	0	0	0	54	0	69
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	311	16	94	407	0	0	0	0	54	0	69
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	84	4	25	109	0	0	0	0	15	0	19
Total Analysis Volume [veh/h]	0	334	17	101	438	0	0	0	0	58	0	74
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.28	0.00	0.11
d_M, Delay for Movement [s/veh]	8.21	0.00	0.00	8.25	0.00	0.00	25.41	20.96	10.82	28.58	27.13	16.49
Movement LOS	A	A	A	A	A	A	D	C	B	D	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.00	0.00	1.75	1.75	1.75
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	6.83	0.00	0.00	0.00	0.00	0.00	43.72	43.72	43.72
d_A, Approach Delay [s/veh]	0.00			1.55			19.07			21.80		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	3.63											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Two-way stop	Delay (sec / veh):	2,479.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	5.387

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	101	470	168	48	1	692	185
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	101	470	168	48	1	692	185
Peak Hour Factor	1.0000	0.8800	0.8800	0.8800	0.8800	1.0000	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	29	134	48	14	0	197	53
Total Analysis Volume [veh/h]	0	115	534	191	55	1	786	210
Pedestrian Volume [ped/h]	0			0		0		

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Intersection Settings

Priority Scheme	Stop		Free		Free		
Flared Lane	No						
Storage Area [veh]	0		0		0		
Two-Stage Gap Acceptance	No						
Number of Storage Spaces in Median	0		0		0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	5.39	0.65	0.00	0.00	0.00	0.60	0.00
d_M, Delay for Movement [s/veh]	2479.69	2479.69	2315.45	0.00	0.00	19.45	9.30	0.00
Movement LOS	F	F	F	A	A	C	A	A
95th-Percentile Queue Length [veh/ln]	71.11	71.11	71.11	0.00	0.00	2.31	2.31	2.31
95th-Percentile Queue Length [ft/ln]	1777.74	1777.74	1777.74	0.00	0.00	57.79	57.79	57.79
d_A, Approach Delay [s/veh]	2344.55			0.00		7.35		
Approach LOS	F			A		A		
d_I, Intersection Delay [s/veh]	808.11							
Intersection LOS	F							

Intersection Level Of Service Report
Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Control Type:	All-way stop	Delay (sec / veh):	19.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.735

Intersection Setup

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Base Volume Input [veh/h]	30	195	59	0	25	319	22	16	23	19	211	16	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	195	59	0	25	319	22	16	23	19	211	16	45
Peak Hour Factor	0.8300	0.8300	0.8300	1.000	0.790	0.830	0.830	0.8300	0.8300	0.8300	0.8300	0.8300	0.7900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	59	18	0	8	96	7	5	7	6	64	5	14
Total Analysis Volume [veh/h]	36	235	71	0	32	384	27	19	28	23	254	19	57
Pedestrian Volume [ped/h]	0			0				0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	592	603	506	555
Degree of Utilization, x	0.58	0.74	0.14	0.59

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.68	6.33	0.48	3.87
95th-Percentile Queue Length [ft]	91.97	158.21	11.94	96.71
Approach Delay [s/veh]	17.09	23.75	11.25	18.55
Approach LOS	C	C	B	C
Intersection Delay [s/veh]	19.64			
Intersection LOS	C			

Intersection Level Of Service Report
Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	14.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.019

Intersection Setup

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00			30.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	No		No			No		

Volumes

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Base Volume Input [veh/h]	6	80	0	143	48	2	109	190
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	80	0	143	48	2	109	190
Peak Hour Factor	0.8400	0.8400	1.0000	0.8400	0.8400	1.0000	0.8400	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	24	0	43	14	1	32	57
Total Analysis Volume [veh/h]	7	95	0	170	57	2	130	226
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.11	0.00	0.00	0.00	0.00	0.10	0.00
d_M, Delay for Movement [s/veh]	14.84	9.81	9.37	0.00	0.00	10.24	7.98	0.00
Movement LOS	B	A	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.38	0.00	0.00	0.00	0.33	0.33	0.00
95th-Percentile Queue Length [ft/ln]	1.43	9.49	0.00	0.00	0.00	8.28	8.28	0.00
d_A, Approach Delay [s/veh]	10.16		0.00			2.96		
Approach LOS	B		A			A		
d_I, Intersection Delay [s/veh]	3.05							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 16: Carson Crossing Rd/Calypso Cir.

Control Type:	Two-way stop	Delay (sec / veh):	11.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.021

Intersection Setup

Name			Carson Crossing Rd		Carson Crossing Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	190.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			Carson Crossing Rd		Carson Crossing Rd	
Base Volume Input [veh/h]	12	43	87	36	37	174
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	43	87	36	37	174
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	12	24	10	10	47
Total Analysis Volume [veh/h]	13	47	95	39	40	189
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.05	0.00	0.00	0.03	0.00
d_M, Delay for Movement [s/veh]	11.14	9.06	0.00	0.00	7.55	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.23	0.23	0.00	0.00	0.09	0.00
95th-Percentile Queue Length [ft/ln]	5.63	5.63	0.00	0.00	2.13	0.00
d_A, Approach Delay [s/veh]	9.51		0.00		1.32	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.06					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 17: Carson Crossing Rd/Four Seasons Dr

Control Type:	All-way stop	Delay (sec / veh):	8.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.127

Intersection Setup

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	500.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	500.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Base Volume Input [veh/h]	174	0	19	125	0	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	174	0	19	125	0	3
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	0	5	34	0	1
Total Analysis Volume [veh/h]	189	0	21	136	0	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	746	746	695	770	770	771
Degree of Utilization, x	0.13	0.13	0.03	0.09	0.09	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.43	0.43	0.09	0.29	0.29	0.01
95th-Percentile Queue Length [ft]	10.82	10.82	2.33	7.25	7.25	0.29
Approach Delay [s/veh]	8.23		7.86			7.69
Approach LOS	A		A			A
Intersection Delay [s/veh]	8.06					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	69.3
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.767

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	138	0	25	7	1	21	5	408	85	66	397	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	138	0	25	7	1	21	5	408	85	66	397	11
Peak Hour Factor	0.9700	1.0000	0.9300	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9300	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	0	7	2	0	5	1	105	22	18	102	3
Total Analysis Volume [veh/h]	142	0	27	7	1	22	5	421	88	71	409	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.77	0.00	0.05	0.04	0.00	0.03	0.00	0.00	0.00	0.07	0.00	0.00
d_M, Delay for Movement [s/veh]	69.30	22.05	11.31	24.99	23.43	11.41	8.17	0.00	0.00	8.65	0.00	0.00
Movement LOS	F	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	5.08	0.14	0.14	0.25	0.25	0.25	0.01	0.00	0.00	0.22	0.00	0.00
95th-Percentile Queue Length [ft/ln]	127.10	3.54	3.54	6.20	6.20	6.20	0.33	0.00	0.00	5.40	0.00	0.00
d_A, Approach Delay [s/veh]	60.03			14.98			0.08			1.25		
Approach LOS	F			B			A			A		
d_I, Intersection Delay [s/veh]	9.34											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 19: White Rock Rd/Windfield Way

Control Type:	Signalized	Delay (sec / veh):	29.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.452

Intersection Setup

Name	Windfield Way						White Rock Rd			White Rock Rd			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00			
Grade [%]	0.00			0.00			0.00			0.00			
Curb Present	No			No			No			No			
Crosswalk	Yes			Yes			Yes			No			

Volumes

Name	Windfield Way						White Rock Rd			White Rock Rd			
Base Volume Input [veh/h]	238	5	239	5	5	5	5	520	71	14	144	468	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	72	0	0	0	0	0	21	0	0	0	0
Total Hourly Volume [veh/h]	238	5	167	5	5	5	5	520	50	14	144	468	5
Peak Hour Factor	0.9400	1.0000	0.9400	1.0000	1.0000	1.0000	1.0000	0.9400	0.9400	1.000	0.940	0.940	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	63	1	44	1	1	1	1	138	13	4	38	124	1
Total Analysis Volume [veh/h]	253	5	178	5	5	5	5	553	53	14	153	498	5
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	73.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi
Signal Group	3	8	0	7	4	0	5	2	0	0	1	6	0
Auxiliary Signal Groups													
Maximum Green [s]	25	25	0	10	10	0	9	19	0	0	44	54	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	2.0	1.0	0.0	0.0	2.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	26	0	0	13	0	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	245.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	15	15	0	15	25	0	0	50	60	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	3	3	0	5	3	0	5	7	0	0	3	7	0
Vehicle Extension [s]	1.0	1.0	0.0	3.0	1.0	0.0	3.0	3.6	0.0	0.0	1.0	3.6	0.0
Minimum Recall	No	No		No	No		No	Yes			No	Yes	
Maximum Recall	No	No		No	No		No	No			No	No	
Pedestrian Recall	No	No		No	No		No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	19	19	1	1	1	65	65	13	78	78
g / C, Green / Cycle	0.16	0.16	0.01	0.01	0.01	0.54	0.54	0.11	0.65	0.65
(v / s)_i Volume / Saturation Flow Rate	0.14	0.11	0.00	0.01	0.00	0.16	0.16	0.09	0.13	0.13
s, saturation flow rate [veh/h]	1781	1596	1781	1718	1781	1870	1813	1781	1870	1863
c, Capacity [veh/h]	279	251	12	13	12	1016	985	195	1208	1203
d1, Uniform Delay [s]	49.73	48.11	59.37	59.46	59.37	14.98	14.99	52.52	8.70	8.70
k, delay calibration	0.14	0.04	0.11	0.04	0.11	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.27	1.52	21.73	31.68	21.99	0.77	0.79	4.19	0.39	0.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.73	0.42	0.79	0.42	0.30	0.30	0.86	0.21	0.21
d, Delay for Lane Group [s/veh]	62.99	49.62	81.09	91.14	81.36	15.75	15.79	56.71	9.09	9.09
Lane Group LOS	E	D	F	F	F	B	B	E	A	A
Critical Lane Group	Yes	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	8.47	5.31	0.22	0.42	0.22	4.75	4.63	5.17	2.73	2.72
50th-Percentile Queue Length [ft/ln]	211.69	132.87	5.59	10.39	5.60	118.63	115.78	129.19	68.14	67.94
95th-Percentile Queue Length [veh/ln]	13.24	9.10	0.40	0.75	0.40	8.32	8.16	8.90	4.91	4.89
95th-Percentile Queue Length [ft/ln]	330.99	227.39	10.06	18.70	10.08	207.94	204.02	222.39	122.66	122.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	62.99	49.62	49.62	81.09	91.14	91.14	81.36	15.76	15.79	56.71	56.71	9.09	9.09
Movement LOS	E	D	D	F	F	F	F	B	B	E	E	A	A
d_A, Approach Delay [s/veh]	57.38			87.79			16.30			20.96			
Approach LOS	E			F			B			C			
d_I, Intersection Delay [s/veh]	29.06												
Intersection LOS	C												
Intersection V/C	0.452												

Emissions

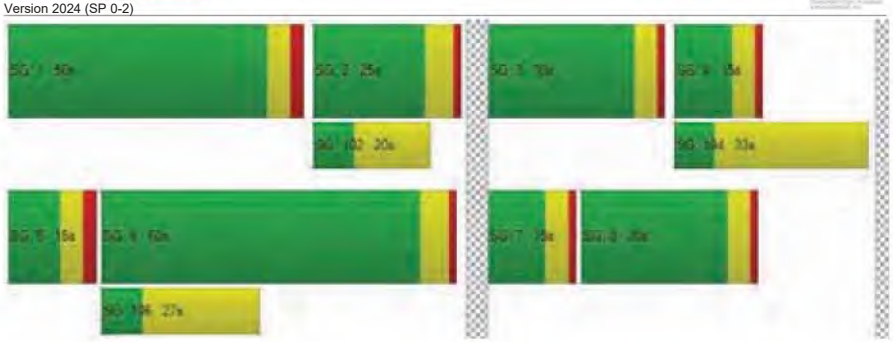
Vehicle Miles Traveled [mph]	97.48	70.51	0.23	0.46	4.21	258.37	251.59	41.68	62.87	62.67
Stops [stops/h]	254.03	159.45	6.71	12.47	6.72	142.36	138.94	155.02	81.77	81.53
Fuel consumption [US gal/h]	8.66	5.63	0.13	0.27	0.29	12.41	12.09	4.50	3.51	3.49
CO [g/h]	605.29	393.64	9.01	19.09	20.49	867.22	844.76	314.50	245.05	244.29
NOx [g/h]	117.77	76.59	1.75	3.71	3.99	168.73	164.36	61.19	47.68	47.53
VOC [g/h]	140.28	91.23	2.09	4.42	4.75	200.99	195.78	72.89	56.79	56.62

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.297	1.964	2.614	0.000
Crosswalk LOS	B	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	417	167	317	900
d_b, Bicycle Delay [s]	37.60	50.42	42.50	18.15
l_b,int, Bicycle LOS Score for Intersection	2.398	1.584	2.081	1.986
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 20: White Rock Rd/Post St

Control Type:	Signalized	Delay (sec / veh):	70.4
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.522

Intersection Setup

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Approach	Northbound			Southbound			Eastbound				Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0	120.00	100.00	400.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00				30.00		
Grade [%]	0.00			0.00			0.00				0.00		
Curb Present	No			No			No				No		
Crosswalk	Yes			Yes			Yes				No		

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Report File: C:\...\2 2023 PM no Proj.pdf
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Volumes

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	50	16	29	186	15	177	3	205	712	21	86	521	178
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	9	0	0	53	0	0	0	6	0	0	53
Total Hourly Volume [veh/h]	50	16	20	186	15	124	3	205	712	15	86	521	125
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	1.000	0.910	0.860	0.910	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	4	5	51	4	34	1	56	207	4	24	143	34
Total Analysis Volume [veh/h]	55	18	22	204	16	136	3	225	828	16	95	573	137
Presence of On-Street Parking	No		No	No		No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0				0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0				0		
v_co, Outbound Pedestrian Volume crossing	0			0			0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0				0		
Bicycle Volume [bicycles/h]	0			0			0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	55.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups													
Maximum Green [s]	21	62	0	8	48	0	0	14	31	0	16	34	0
Amber [s]	3.5	5.0	0.0	3.5	5.0	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.7	1.0	0.0	1.0	1.0	0.0	0.0	2.0	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	32	0	0	0	21	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.2	4.0	0.0	2.5	4.0	0.0	0.0	3.5	2.5	0.0	3.0	2.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	100.0	0.0	100.0	100.0	0.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	0	13	54	0	0	20	36	0	21	39	0
Lead / Lag	Lead	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	3	7	0	3	7	0	0	3	3	0	3	3	0
Vehicle Extension [s]	1.0	3.6	0.0	1.0	3.6	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No			No	Yes		No	Yes	
Maximum Recall	No	No		No	No			No	No		No	No	
Pedestrian Recall	No	No		No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	5.20	6.00	4.50	6.00	5.50	4.50	4.50	5.00	4.50	4.50
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.20	4.00	2.50	4.00	3.50	2.50	2.50	3.00	2.50	2.50
g_i, Effective Green Time [s]	6	13	9	16	20	89	89	9	78	78
g / C, Green / Cycle	0.04	0.10	0.06	0.11	0.14	0.64	0.64	0.07	0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.03	0.02	0.11	0.09	0.13	0.23	0.01	0.05	0.20	0.20
s, saturation flow rate [veh/h]	1781	1705	1781	1615	1781	3560	1589	1781	1870	1747
c, Capacity [veh/h]	71	163	108	180	250	2261	1010	117	1041	972
d1, Uniform Delay [s]	66.57	58.62	65.75	61.02	59.30	12.14	9.41	64.56	17.12	17.13
k, delay calibration	0.04	0.13	0.50	0.13	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.44	0.96	431.73	12.47	5.21	0.46	0.03	5.05	0.94	1.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.25	1.89	0.84	0.91	0.37	0.02	0.81	0.35	0.35
d, Delay for Lane Group [s/veh]	73.00	59.59	497.48	73.49	64.51	12.60	9.44	69.61	18.05	18.13
Lane Group LOS	E	E	F	E	E	B	A	E	B	B
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.08	1.37	16.84	5.94	8.35	6.23	0.19	3.52	6.82	6.40
50th-Percentile Queue Length [ft/ln]	52.07	34.17	421.00	148.48	208.63	155.83	4.76	88.04	170.45	160.07
95th-Percentile Queue Length [veh/ln]	3.75	2.46	27.32	9.94	13.08	10.33	0.34	6.34	11.10	10.55
95th-Percentile Queue Length [ft/ln]	93.73	61.50	682.94	248.40	327.07	258.19	8.57	158.46	277.51	263.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	73.00	59.59	59.59	497.48	73.49	73.49	64.51	64.51	12.60	9.44	69.61	18.08	18.13
Movement LOS	E	E	E	F	E	E	E	E	B	A	E	B	B
d_A, Approach Delay [s/veh]	67.35			316.45			23.59				24.17		
Approach LOS	E			F			C				C		
d_I, Intersection Delay [s/veh]	70.36												
Intersection LOS	E												
Intersection V/C	0.522												

Emissions

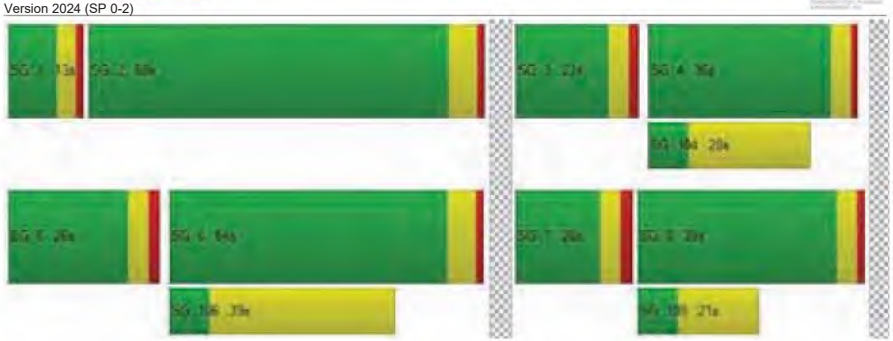
Vehicle Miles Traveled [mph]	2.75	2.00	9.48	7.07	23.82	86.51	1.67	33.26	128.41	120.20
Stops [stops/h]	53.56	35.14	433.03	152.72	214.59	320.57	4.90	90.55	175.32	164.65
Fuel consumption [US gal/h]	1.23	0.76	23.43	3.41	5.16	7.46	0.13	3.22	7.60	7.12
CO [g/h]	85.71	53.23	1637.77	238.19	360.60	521.17	8.85	224.75	531.40	498.00
NOx [g/h]	16.68	10.36	318.65	46.34	70.16	101.40	1.72	43.73	103.39	96.89
VOC [g/h]	19.86	12.34	379.57	55.20	83.57	120.79	2.05	52.09	123.16	115.42

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	59.43	59.43	59.43	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.051	2.310	2.790	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	886	686	450	493
d_b, Bicycle Delay [s]	21.73	30.23	42.04	39.75
l_b,int, Bicycle LOS Score for Intersection	1.731	2.234	2.263	2.267
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	54.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.917

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	57	61	268	230	100	36	33	574	121	234	562	158
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	80	0	0	11	0	0	36	0	0	47
Total Hourly Volume [veh/h]	57	61	188	230	100	25	33	574	85	234	562	111
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	16	48	59	26	6	9	148	22	60	145	29
Total Analysis Volume [veh/h]	59	63	194	237	103	26	34	592	88	241	579	114
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	0	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	35	0	0	40	0	25	45	0	25	45	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	18	0	0	17	0	0	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	0	0	44	0	29	50	0	29	51	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	0.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	121	121	121	121	121	121	121	121
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	3.50	5.30	3.50	6.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	1.50	3.30	1.50	4.00
g_i, Effective Green Time [s]	22	22	19	19	3	45	18	59
g / C, Green / Cycle	0.18	0.18	0.16	0.16	0.03	0.37	0.15	0.49
(v / s)_i Volume / Saturation Flow Rate	0.03	0.16	0.13	0.07	0.02	0.37	0.14	0.38
s, saturation flow rate [veh/h]	1781	1650	1781	1806	1781	1828	1781	1817
c, Capacity [veh/h]	318	294	281	285	51	677	270	887
d1, Uniform Delay [s]	42.44	48.60	49.69	46.39	58.48	38.27	50.55	25.76
k, delay calibration	0.13	0.14	0.13	0.13	0.04	0.45	0.15	0.46
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.35	10.13	8.24	1.39	5.63	33.92	13.00	6.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.19	0.87	0.84	0.45	0.67	1.00	0.89	0.78
d, Delay for Lane Group [s/veh]	42.78	58.72	57.93	47.79	64.11	72.19	63.56	32.05
Lane Group LOS	D	E	E	D	E	F	E	C
Critical Lane Group	No	Yes	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.55	8.38	7.61	3.65	1.11	26.06	8.14	17.63
50th-Percentile Queue Length [ft/ln]	38.63	209.54	190.36	91.32	27.85	651.58	203.54	440.73
95th-Percentile Queue Length [veh/ln]	2.78	13.13	12.14	6.58	2.01	34.55	12.82	24.52
95th-Percentile Queue Length [ft/ln]	69.53	328.24	303.50	164.38	50.13	863.77	320.53	612.88

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.78	58.72	58.72	57.93	47.79	47.79	64.11	72.19	72.19	63.56	32.05	32.05
Movement LOS	D	E	E	E	D	D	E	E	E	E	C	C
d_A, Approach Delay [s/veh]	55.75			54.35			71.81			40.18		
Approach LOS	E			D			E			D		
d_I, Intersection Delay [s/veh]	54.21											
Intersection LOS	D											
Intersection V/C	0.917											

Emissions

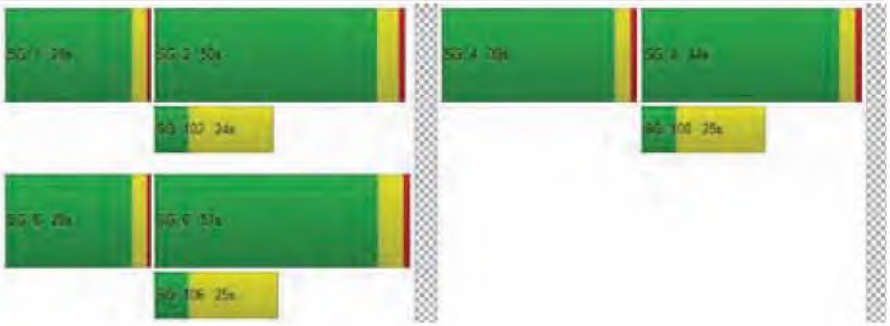
Vehicle Miles Traveled [mph]	101.52	442.21	48.05	26.15	11.91	238.11	108.74	312.70
Stops [stops/h]	45.85	248.74	225.97	108.40	33.06	773.46	241.61	523.17
Fuel consumption [US gal/h]	4.95	22.65	6.02	2.93	1.12	24.06	8.93	20.28
CO [g/h]	345.73	1583.18	420.79	204.80	78.03	1682.07	624.08	1417.74
NOx [g/h]	67.27	308.03	81.87	39.85	15.18	327.27	121.42	275.84
VOC [g/h]	80.13	366.92	97.52	47.46	18.08	389.84	144.64	328.58

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	50.15	50.15	50.15	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.349	2.177	2.469	0.000
Crosswalk LOS	B	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	574	656	737	742
d_b, Bicycle Delay [s]	30.85	27.38	24.19	24.00
l_b,int, Bicycle LOS Score for Intersection	2.213	2.182	2.797	3.178
Bicycle LOS	B	B	C	C

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 22: White Rock Rd/Clarksville Crossing

Control Type:	Signalized	Delay (sec / veh):	23.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.755

Intersection Setup

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	180.00	460.00	100.00	100.00	290.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	0	0	2	80	0	334	8	1064	0	0	620	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	2	80	0	334	8	1064	0	0	620	2
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.9600	0.7800	0.7800	0.9600	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	26	0	107	3	277	0	0	161	1
Total Analysis Volume [veh/h]	0	0	3	103	0	428	10	1108	0	0	646	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	20	0	0	20	0	20	50	0	20	50	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	5.0	0.0	4.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	5.0	0.0	3.0	5.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	R
C, Cycle Length [s]	64	64	64	64	64	64	64	64	64	64
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	7.00	7.00	5.00	7.00	7.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	5.00	5.00	3.00	5.00	5.00
g_i, Effective Green Time [s]	0	0	19	19	1	23	23	0	22	22
g / C, Green / Cycle	0.00	0.00	0.30	0.30	0.01	0.36	0.36	0.00	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.06	0.27	0.01	0.30	0.30	0.00	0.18	0.00
s, saturation flow rate [veh/h]	1870	1589	1781	1589	1781	1870	1870	1781	3560	1589
c, Capacity [veh/h]	8	7	528	471	23	669	669	0	1228	548
d1, Uniform Delay [s]	0.00	32.02	16.93	21.82	31.58	18.89	18.89	0.00	16.89	13.85
k, delay calibration	0.11	0.11	0.11	0.31	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	41.33	0.18	16.55	12.38	2.70	2.70	0.00	0.35	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.45	0.19	0.91	0.43	0.83	0.83	0.00	0.53	0.01
d, Delay for Lane Group [s/veh]	0.00	73.35	17.10	38.37	43.96	21.59	21.59	0.00	17.24	13.86
Lane Group LOS	A	E	B	D	D	C	C	A	B	B
Critical Lane Group	No	Yes	No	Yes	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.00	0.12	1.09	7.84	0.23	7.27	7.27	0.00	3.54	0.03
50th-Percentile Queue Length [ft/ln]	0.00	3.03	27.13	196.03	5.69	181.71	181.71	0.00	88.54	0.68
95th-Percentile Queue Length [veh/ln]	0.00	0.22	1.95	12.43	0.41	11.69	11.69	0.00	6.38	0.05
95th-Percentile Queue Length [ft/ln]	0.00	5.45	48.84	310.84	10.24	292.24	292.24	0.00	159.38	1.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	73.35	17.10	17.10	38.37	43.96	21.59	21.59	0.00	17.24	13.86
Movement LOS	A	A	E	B	B	D	D	C	C	A	B	B
d_A, Approach Delay [s/veh]		73.35			34.24			21.79			17.23	
Approach LOS		E			C			C			B	
d_I, Intersection Delay [s/veh]	23.44											
Intersection LOS	C											
Intersection V/C	0.755											

Emissions

Vehicle Miles Traveled [mph]	0.00	0.15	48.86	203.03	4.51	249.98	249.98	0.00	112.69	0.52
Stops [stops/h]	0.00	6.78	60.75	438.89	12.73	406.83	406.83	0.00	396.48	1.52
Fuel consumption [US gal/h]	0.00	0.09	2.71	14.12	0.35	14.97	14.97	0.00	9.10	0.04
CO [g/h]	0.00	6.18	189.12	987.31	24.15	1046.56	1046.56	0.00	635.85	2.68
NOx [g/h]	0.00	1.20	36.80	192.09	4.70	203.62	203.62	0.00	123.71	0.52
VOC [g/h]	0.00	1.43	43.83	228.82	5.60	242.55	242.55	0.00	147.36	0.62

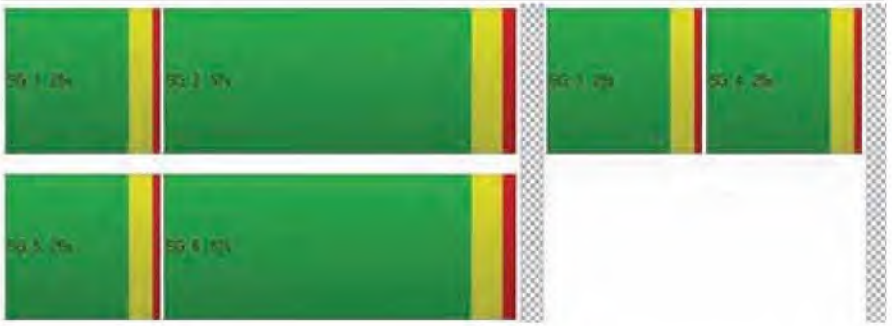
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	622	622	1555	1555
d_b, Bicycle Delay [s]	15.27	15.27	1.59	1.59
l_b,int, Bicycle LOS Score for Intersection	1.565	2.436	2.482	2.095
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 23: White Rock Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	31.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.659

Intersection Setup

Name	White Rock Rd		White Rock Rd		US 50 EB	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	1	0	1
Entry Pocket Length [ft]	500.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	White Rock Rd		White Rock Rd		US 50 EB	
Base Volume Input [veh/h]	623	523	587	200	511	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	12
Total Hourly Volume [veh/h]	623	523	587	200	511	44
Peak Hour Factor	0.8300	0.9100	0.9100	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	188	144	161	60	154	13
Total Analysis Volume [veh/h]	751	575	645	241	616	53
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	21	61	32	0	16	0
Amber [s]	3.7	4.8	4.8	0.0	4.8	0.0
All red [s]	0.5	2.0	2.0	0.0	1.0	0.0
Walk [s]	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.2	4.8	4.8	0.0	3.8	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	39	0	22	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	8	9	9	0	8	0
Vehicle Extension [s]	2.0	1.0	1.0	0.0	2.0	0.0
Minimum Recall	No	Yes	Yes		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80
g_i, Effective Green Time [s]	21	61	36	36	16	16	16
g / C, Green / Cycle	0.24	0.68	0.40	0.40	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.22	0.16	0.18	0.15	0.17	0.17	0.03
s, saturation flow rate [veh/h]	3459	3560	3560	1589	1781	1781	1589
c, Capacity [veh/h]	817	2421	1414	631	321	321	286
d1, Uniform Delay [s]	33.54	5.50	19.97	19.27	36.59	36.59	31.30
k, delay calibration	0.04	0.50	0.50	0.50	0.30	0.30	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.92	0.23	1.06	1.75	30.10	30.10	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.24	0.46	0.38	0.96	0.96	0.19
d, Delay for Lane Group [s/veh]	35.46	5.73	21.03	21.02	66.69	66.69	31.42
Lane Group LOS	D	A	C	C	E	E	C
Critical Lane Group	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	7.99	1.83	5.01	3.77	9.24	9.24	0.97
50th-Percentile Queue Length [ft/ln]	199.87	45.80	125.19	94.20	231.02	231.02	24.37
95th-Percentile Queue Length [veh/ln]	12.63	3.30	8.68	6.78	14.23	14.23	1.75
95th-Percentile Queue Length [ft/ln]	315.80	82.43	216.94	169.56	355.66	355.66	43.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.46	5.73	21.03	21.02	66.69	31.42
Movement LOS	D	A	C	C	E	C
d_A, Approach Delay [s/veh]	22.57		21.03		63.90	
Approach LOS	C		C		E	
d_I, Intersection Delay [s/veh]	31.69					
Intersection LOS	C					
Intersection V/C	0.659					

Emissions

Vehicle Miles Traveled [mph]	131.01	100.30	114.30	42.71	18.65	18.65	3.21
Stops [stops/h]	639.59	146.55	400.61	150.72	369.64	369.64	39.00
Fuel consumption [US gal/h]	14.35	5.61	9.68	3.62	6.99	6.99	0.69
CO [g/h]	1002.80	392.08	676.57	253.17	488.57	488.57	47.98
NOx [g/h]	195.11	76.28	131.64	49.26	95.06	95.06	9.34
VOC [g/h]	232.41	90.87	156.80	58.67	113.23	113.23	11.12

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1360	716	360
d_b, Bicycle Delay [s]	4.61	18.56	30.26
l_b,int, Bicycle LOS Score for Intersection	2.654	2.291	2.683
Bicycle LOS	B	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 24: Silva Valley Pkwy/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	19.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.528

Intersection Setup

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Approach	Northbound				Southbound			Westbound			Northeastbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	550.0	100.0	100.0	100.0	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No					
Crosswalk	No				No			No			No		

Volumes

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Base Volume Input [veh/h]	1	152	881	0	0	381	207	405	1	198	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	47	0	0	30	0	0	0
Total Hourly Volume [veh/h]	1	152	881	0	0	381	160	405	1	168	0	0	0
Peak Hour Factor	1.000	0.790	0.790	1.000	1.0000	0.7900	0.7900	0.7900	0.7900	0.7900	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	48	279	0	0	121	51	128	0	53	0	0	0
Total Analysis Volume [veh/h]	1	192	1115	0	0	482	203	513	1	213	0	0	0
Presence of On-Street Parking	No			No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	6	0	0	8	0	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	20	54	0	0	26	0	0	23	0	0	0	0
Amber [s]	0.0	3.7	4.8	0.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0
All red [s]	0.0	0.5	2.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	4.8	0.0	0.0	4.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	61	0	0	33	0	0	29	0	0	0	0
Lead / Lag	-	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	8	8	0	0	8	0	0	8	0	0	0	0
Vehicle Extension [s]	0.0	2.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No	Yes			Yes			No				
Maximum Recall		No	No			No			No				
Pedestrian Recall		No	No			No			No				

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	R	L	C	R	
C, Cycle Length [s]	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80	
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80	
g_i, Effective Green Time [s]	12	62	47	47	15	15	15	
g / C, Green / Cycle	0.13	0.69	0.52	0.52	0.17	0.17	0.17	
(v / s)_i Volume / Saturation Flow Rate	0.11	0.31	0.14	0.13	0.14	0.14	0.13	
s, saturation flow rate [veh/h]	1781	3560	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	231	2470	1842	822	296	296	264	
d1, Uniform Delay [s]	38.24	6.15	12.12	12.01	36.55	36.55	36.12	
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	3.07	0.60	0.35	0.72	3.03	3.03	2.20	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.84	0.45	0.26	0.25	0.87	0.87	0.81	
d, Delay for Lane Group [s/veh]	41.30	6.75	12.47	12.73	39.59	39.58	38.32	
Lane Group LOS	D	A	B	B	D	D	D	
Critical Lane Group	No	Yes	No	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	4.28	4.07	2.64	2.30	5.64	5.65	4.58	
50th-Percentile Queue Length [ft/ln]	107.12	101.85	66.06	57.40	141.12	141.14	114.52	
95th-Percentile Queue Length [veh/ln]	7.68	7.33	4.76	4.13	9.54	9.54	8.09	
95th-Percentile Queue Length [ft/ln]	191.99	183.33	118.91	103.31	238.53	238.55	202.27	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.30	41.30	6.75	0.00	0.00	12.47	12.73	39.58	39.58	38.32	0.00	0.00	0.00
Movement LOS	D	D	A			B	B	D	D	D			
d_A, Approach Delay [s/veh]	11.84				12.54			39.21			0.00		
Approach LOS	B				B			D			A		
d_I, Intersection Delay [s/veh]	19.34												
Intersection LOS	B												
Intersection V/C	0.528												

Emissions

Vehicle Miles Traveled [mph]	34.20	197.59	65.91	27.76	8.90	8.90	7.38
Stops [stops/h]	171.39	325.93	211.39	91.83	225.79	225.82	183.22
Fuel consumption [US gal/h]	3.98	11.47	5.10	2.18	3.68	3.68	2.98
CO [g/h]	277.99	801.43	356.76	152.10	257.51	257.54	208.09
NOx [g/h]	54.09	155.93	69.41	29.59	50.10	50.11	40.49
VOC [g/h]	64.43	185.74	82.68	35.25	59.68	59.69	48.23

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1204	582	516	0
d_b, Bicycle Delay [s]	7.12	22.61	24.79	45.00
l_b,int, Bicycle LOS Score for Intersection	2.638	2.164	2.809	4.132
Bicycle LOS	B	B	C	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 25: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Base Volume Input [veh/h]	0	380	501	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	380	501	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	95	125	0	0	0
Total Analysis Volume [veh/h]	0	380	501	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	11.32
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		11.32	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 26: Latrobe/Wetsl-Oviatt

Control Type:	Two-way stop	Delay (sec / veh):	15.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.071

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Base Volume Input [veh/h]	0	300	441	20	27	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	300	441	20	27	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	75	110	5	7	0
Total Analysis Volume [veh/h]	0	300	441	20	27	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.07	0.00
d_M, Delay for Movement [s/veh]	8.27	0.00	0.00	0.00	15.24	11.65
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.23	0.23
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	5.73	5.73
d_A, Approach Delay [s/veh]	0.00		0.00		15.24	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.52					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 27: Latrobe/S. Shingle

Control Type:	Two-way stop	Delay (sec / veh):	18.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.133

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Base Volume Input [veh/h]	0	185	66	43	288	31	10	32	2	44	13	79
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	185	66	43	288	31	10	32	2	44	13	79
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	48	17	11	74	8	3	8	1	11	3	20
Total Analysis Volume [veh/h]	0	191	68	44	297	32	10	33	2	45	13	81
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free		Free		Stop		Stop	
Flared Lane					No		No	
Storage Area [veh]	0		0		0		0	
Two-Stage Gap Acceptance					No		No	
Number of Storage Spaces in Median	0		0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.00	0.00	0.03	0.09	0.00	0.13	0.03	0.10
d_M, Delay for Movement [s/veh]	7.93	0.00	0.00	7.81	0.00	0.00	18.12	16.23	11.38	18.19	17.08	11.93
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.08	0.08	0.08	0.42	0.42	0.42	1.07	1.07	1.07
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	1.92	1.92	1.92	10.61	10.61	10.61	26.78	26.78	26.78
d_A, Approach Delay [s/veh]	0.00			0.92			16.43			14.44		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	3.79											
Intersection LOS	C											

Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	380	526	49	0
2	369	510	48	0
3	361	500	47	0
4	338	468	44	0
5	300	416	39	0
6	296	410	38	0
7	293	405	38	0
8	266	368	34	0
9	262	363	34	0
10	258	358	33	0
11	224	310	29	0
12	209	289	27	0
13	205	284	26	0
14	152	210	20	0
15	152	210	20	0
16	106	147	14	0
17	61	84	8	0
18	61	84	8	0
19	34	47	4	0
20	19	26	2	0
21	11	16	1	0
22	4	5	0	0
23	4	5	0	0
24	4	5	0	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	906	1	49	No	No	No	No	No	No	No	Yes	No	No
2	1	879	1	48	No	No	No	No	No	No	No	Yes	No	No
3	1	861	1	47	No	No	No	No	No	No	No	Yes	No	No
4	1	806	1	44	No	No	No	No	No	No	No	Yes	No	No
5	1	716	1	39	No	No	No	No	No	No	No	No	No	No
6	1	706	1	38	No	No	No	No	No	No	No	No	No	No
7	1	698	1	38	No	No	No	No	No	No	No	No	No	No
8	1	634	1	34	No	No	No	No	No	No	No	No	No	No
9	1	625	1	34	No	No	No	No	No	No	No	No	No	No
10	1	616	1	33	No	No	No	No	No	No	No	No	No	No
11	1	534	1	29	No	No	No	No	No	No	No	No	No	No
12	1	498	1	27	No	No	No	No	No	No	No	No	No	No
13	1	489	1	26	No	No	No	No	No	No	No	No	No	No
14	1	362	1	20	No	No	No	No	No	No	No	No	No	No
15	1	362	1	20	No	No	No	No	No	No	No	No	No	No
16	1	253	1	14	No	No	No	No	No	No	No	No	No	No
17	1	145	1	8	No	No	No	No	No	No	No	No	No	No
18	1	145	1	8	No	No	No	No	No	No	No	No	No	No
19	1	81	1	4	No	No	No	No	No	No	No	No	No	No
20	1	45	1	2	No	No	No	No	No	No	No	No	No	No
21	1	27	1	1	No	No	No	No	No	No	No	No	No	No
22	1	9	1	0	No	No	No	No	No	No	No	No	No	No
23	1	9	1	0	No	No	No	No	No	No	No	No	No	No
24	1	9	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	4	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	11.1	18.7
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:09	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	49	0
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	955	955
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 12: Latrobe Rd/Royal Oaks Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	56%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	327	501	123	0
2	317	486	119	0
3	311	476	117	0
4	291	446	109	0
5	258	396	97	0
6	255	391	96	0
7	252	386	95	0
8	229	351	86	0
9	226	346	85	0
10	222	341	84	0
11	193	296	73	0
12	180	276	68	0
13	177	271	66	0
14	131	200	49	0
15	131	200	49	0
16	92	140	34	0
17	52	80	20	0
18	52	80	20	0
19	29	45	11	0
20	16	25	6	0
21	10	15	4	0
22	3	5	1	0
23	3	5	1	0
24	3	5	1	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	828	1	123	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
2	2	803	1	119	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No
3	2	787	1	117	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No
4	2	737	1	109	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No
5	2	654	1	97	No	No	No	Yes	No	No	Yes	Yes	No	No
6	2	646	1	96	No	No	No	Yes	No	No	Yes	Yes	No	No
7	2	638	1	95	No	No	No	Yes	No	No	Yes	Yes	No	No
8	2	580	1	86	No	No	No	Yes	No	No	No	Yes	No	No
9	2	572	1	85	No	No	No	Yes	No	No	No	Yes	No	No
10	2	563	1	84	No	No	No	Yes	No	No	No	Yes	No	No
11	2	489	1	73	No	No	No	No	No	No	No	No	No	No
12	2	456	1	68	No	No	No	No	No	No	No	No	No	No
13	2	448	1	66	No	No	No	No	No	No	No	No	No	No
14	2	331	1	49	No	No	No	No	No	No	No	No	No	No
15	2	331	1	49	No	No	No	No	No	No	No	No	No	No
16	2	232	1	34	No	No	No	No	No	No	No	No	No	No
17	2	132	1	20	No	No	No	No	No	No	No	No	No	No
18	2	132	1	20	No	No	No	No	No	No	No	No	No	No
19	2	74	1	11	No	No	No	No	No	No	No	No	No	No
20	2	41	1	6	No	No	No	No	No	No	No	No	No	No
21	2	25	1	4	No	No	No	No	No	No	No	No	No	No
22	2	8	1	1	No	No	No	No	No	No	No	No	No	No
23	2	8	1	1	No	No	No	No	No	No	No	No	No	No
24	2	8	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	1	4	10	0	4	7	10	4	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	21.8	19.1
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:44	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	123	0
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	951	951
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 13: Golden Foothill/Robert J Mathews

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	878	216	571
2	852	210	554
3	834	205	542
4	781	192	508
5	694	171	451
6	685	168	445
7	676	166	440
8	615	151	400
9	606	149	394
10	597	147	388
11	518	127	337
12	483	119	314
13	474	117	308
14	351	86	228
15	351	86	228
16	246	60	160
17	140	35	91
18	140	35	91
19	79	19	51
20	44	11	29
21	26	6	17
22	9	2	6
23	9	2	6
24	9	2	6

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1094	1	571	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1062	1	554	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1039	1	542	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	973	1	508	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	865	1	451	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	853	1	445	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1	842	1	440	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	1	766	1	400	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	1	755	1	394	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	1	744	1	388	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
11	1	645	1	337	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
12	1	602	1	314	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
13	1	591	1	308	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
14	1	437	1	228	No	Yes	Yes	Yes	No	No	No	Yes	No	No
15	1	437	1	228	No	Yes	Yes	Yes	No	No	No	Yes	No	No
16	1	306	1	160	No	No	No	Yes	No	No	No	No	No	No
17	1	175	1	91	No	No	No	No	No	No	No	No	No	No
18	1	175	1	91	No	No	No	No	No	No	No	No	No	No
19	1	98	1	51	No	No	No	No	No	No	No	No	No	No
20	1	55	1	29	No	No	No	No	No	No	No	No	No	No
21	1	32	1	17	No	No	No	No	No	No	No	No	No	No
22	1	11	1	6	No	No	No	No	No	No	No	No	No	No
23	1	11	1	6	No	No	No	No	No	No	No	No	No	No
24	1	11	1	6	No	No	No	No	No	No	No	No	No	No
Hours Met					13	15	15	16	9	12	13	15	13	9

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	2344.6
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	371:52
Delay Condition Met	Yes
Volume on Minor Street Approach During Same Hour	571
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1665
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	Yes
Warrant Met for Intersection	**Yes**

Signal Warrants Report For Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	284	366	272	58
2	275	355	264	56
3	270	348	258	55
4	253	326	242	52
5	224	289	215	46
6	222	285	212	45
7	219	282	209	45
8	199	256	190	41
9	196	253	188	40
10	193	249	185	39
11	168	216	160	34
12	156	201	150	32
13	153	198	147	31
14	114	146	109	23
15	114	146	109	23
16	80	102	76	16
17	45	59	44	9
18	45	59	44	9
19	26	33	24	5
20	14	18	14	3
21	9	11	8	2
22	3	4	3	1
23	3	4	3	1
24	3	4	3	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	650	1	272	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
2	1	630	1	264	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
3	1	618	1	258	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
4	1	579	1	242	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
5	1	513	1	215	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
6	1	507	1	212	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
7	1	501	1	209	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
8	1	455	1	190	No	Yes	Yes	Yes	No	No	No	Yes	No	No
9	1	449	1	188	No	Yes	Yes	Yes	No	No	No	Yes	No	No
10	1	442	1	185	No	Yes	Yes	Yes	No	No	No	Yes	No	No
11	1	384	1	160	No	No	Yes	Yes	No	No	No	No	No	No
12	1	357	1	150	No	No	Yes	Yes	No	No	No	No	No	No
13	1	351	1	147	No	No	Yes	Yes	No	No	No	No	No	No
14	1	260	1	109	No	No	No	No	No	No	No	No	No	No
15	1	260	1	109	No	No	No	No	No	No	No	No	No	No
16	1	182	1	76	No	No	No	No	No	No	No	No	No	No
17	1	104	1	44	No	No	No	No	No	No	No	No	No	No
18	1	104	1	44	No	No	No	No	No	No	No	No	No	No
19	1	59	1	24	No	No	No	No	No	No	No	No	No	No
20	1	32	1	14	No	No	No	No	No	No	No	No	No	No
21	1	20	1	8	No	No	No	No	No	No	No	No	No	No
22	1	7	1	3	No	No	No	No	No	No	No	No	No	No
23	1	7	1	3	No	No	No	No	No	No	No	No	No	No
24	1	7	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					7	10	13	13	0	3	4	10	4	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	18.6	11.3
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:24	0:10
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	272	58
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	980	980
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	301	191	86
2	292	185	83
3	286	181	82
4	268	170	77
5	238	151	68
6	235	149	67
7	232	147	66
8	211	134	60
9	208	132	59
10	205	130	58
11	178	113	51
12	166	105	47
13	163	103	46
14	120	76	34
15	120	76	34
16	84	53	24
17	48	31	14
18	48	31	14
19	27	17	8
20	15	10	4
21	9	6	3
22	3	2	1
23	3	2	1
24	3	2	1

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	492	2	86	No	No	No	No	No	No	No	No	No	No
2	2	477	2	83	No	No	No	No	No	No	No	No	No	No
3	2	467	2	82	No	No	No	No	No	No	No	No	No	No
4	2	438	2	77	No	No	No	No	No	No	No	No	No	No
5	2	389	2	68	No	No	No	No	No	No	No	No	No	No
6	2	384	2	67	No	No	No	No	No	No	No	No	No	No
7	2	379	2	66	No	No	No	No	No	No	No	No	No	No
8	2	345	2	60	No	No	No	No	No	No	No	No	No	No
9	2	340	2	59	No	No	No	No	No	No	No	No	No	No
10	2	335	2	58	No	No	No	No	No	No	No	No	No	No
11	2	291	2	51	No	No	No	No	No	No	No	No	No	No
12	2	271	2	47	No	No	No	No	No	No	No	No	No	No
13	2	266	2	46	No	No	No	No	No	No	No	No	No	No
14	2	196	2	34	No	No	No	No	No	No	No	No	No	No
15	2	196	2	34	No	No	No	No	No	No	No	No	No	No
16	2	137	2	24	No	No	No	No	No	No	No	No	No	No
17	2	79	2	14	No	No	No	No	No	No	No	No	No	No
18	2	79	2	14	No	No	No	No	No	No	No	No	No	No
19	2	44	2	8	No	No	No	No	No	No	No	No	No	No
20	2	25	2	4	No	No	No	No	No	No	No	No	No	No
21	2	15	2	3	No	No	No	No	No	No	No	No	No	No
22	2	5	2	1	No	No	No	No	No	No	No	No	No	No
23	2	5	2	1	No	No	No	No	No	No	No	No	No	No
24	2	5	2	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	10.2
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:14
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	86
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	578
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 16: Carson Crossing Rd/Calypso Cir.

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	211	123	55
2	205	119	53
3	200	117	52
4	188	109	49
5	167	97	43
6	165	96	43
7	162	95	42
8	148	86	39
9	146	85	38
10	143	84	37
11	124	73	32
12	116	68	30
13	114	66	30
14	84	49	22
15	84	49	22
16	59	34	15
17	34	20	9
18	34	20	9
19	19	11	5
20	11	6	3
21	6	4	2
22	2	1	1
23	2	1	1
24	2	1	1

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	334	1	55	No	No	No	No	No	No	No	No	No	No
2	2	324	1	53	No	No	No	No	No	No	No	No	No	No
3	2	317	1	52	No	No	No	No	No	No	No	No	No	No
4	2	297	1	49	No	No	No	No	No	No	No	No	No	No
5	2	264	1	43	No	No	No	No	No	No	No	No	No	No
6	2	261	1	43	No	No	No	No	No	No	No	No	No	No
7	2	257	1	42	No	No	No	No	No	No	No	No	No	No
8	2	234	1	39	No	No	No	No	No	No	No	No	No	No
9	2	231	1	38	No	No	No	No	No	No	No	No	No	No
10	2	227	1	37	No	No	No	No	No	No	No	No	No	No
11	2	197	1	32	No	No	No	No	No	No	No	No	No	No
12	2	184	1	30	No	No	No	No	No	No	No	No	No	No
13	2	180	1	30	No	No	No	No	No	No	No	No	No	No
14	2	133	1	22	No	No	No	No	No	No	No	No	No	No
15	2	133	1	22	No	No	No	No	No	No	No	No	No	No
16	2	93	1	15	No	No	No	No	No	No	No	No	No	No
17	2	54	1	9	No	No	No	No	No	No	No	No	No	No
18	2	54	1	9	No	No	No	No	No	No	No	No	No	No
19	2	30	1	5	No	No	No	No	No	No	No	No	No	No
20	2	17	1	3	No	No	No	No	No	No	No	No	No	No
21	2	10	1	2	No	No	No	No	No	No	No	No	No	No
22	2	3	1	1	No	No	No	No	No	No	No	No	No	No
23	2	3	1	1	No	No	No	No	No	No	No	No	No	No
24	2	3	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	9.5
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:08
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	55
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	389
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 17: Carson Crossing Rd/Four Seasons Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	174	144	3
2	169	140	3
3	165	137	3
4	155	128	3
5	137	114	2
6	136	112	2
7	134	111	2
8	122	101	2
9	120	99	2
10	118	98	2
11	103	85	2
12	96	79	2
13	94	78	2
14	70	58	1
15	70	58	1
16	49	40	1
17	28	23	0
18	28	23	0
19	16	13	0
20	9	7	0
21	5	4	0
22	2	1	0
23	2	1	0
24	2	1	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	318	1	3	No	No	No	No	No	No	No	No	No	No
2	3	309	1	3	No	No	No	No	No	No	No	No	No	No
3	3	302	1	3	No	No	No	No	No	No	No	No	No	No
4	3	283	1	3	No	No	No	No	No	No	No	No	No	No
5	3	251	1	2	No	No	No	No	No	No	No	No	No	No
6	3	248	1	2	No	No	No	No	No	No	No	No	No	No
7	3	245	1	2	No	No	No	No	No	No	No	No	No	No
8	3	223	1	2	No	No	No	No	No	No	No	No	No	No
9	3	219	1	2	No	No	No	No	No	No	No	No	No	No
10	3	216	1	2	No	No	No	No	No	No	No	No	No	No
11	3	188	1	2	No	No	No	No	No	No	No	No	No	No
12	3	175	1	2	No	No	No	No	No	No	No	No	No	No
13	3	172	1	2	No	No	No	No	No	No	No	No	No	No
14	3	128	1	1	No	No	No	No	No	No	No	No	No	No
15	3	128	1	1	No	No	No	No	No	No	No	No	No	No
16	3	89	1	1	No	No	No	No	No	No	No	No	No	No
17	3	51	1	0	No	No	No	No	No	No	No	No	No	No
18	3	51	1	0	No	No	No	No	No	No	No	No	No	No
19	3	29	1	0	No	No	No	No	No	No	No	No	No	No
20	3	16	1	0	No	No	No	No	No	No	No	No	No	No
21	3	9	1	0	No	No	No	No	No	No	No	No	No	No
22	3	3	1	0	No	No	No	No	No	No	No	No	No	No
23	3	3	1	0	No	No	No	No	No	No	No	No	No	No
24	3	3	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	7.7
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	3
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	321
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 18: White Rock Rd/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	474	498	163	29
2	460	483	158	28
3	450	473	155	28
4	422	443	145	26
5	374	393	129	23
6	370	388	127	23
7	365	383	126	22
8	332	349	114	20
9	327	344	112	20
10	322	339	111	20
11	280	294	96	17
12	261	274	90	16
13	256	269	88	16
14	190	199	65	12
15	190	199	65	12
16	133	139	46	8
17	76	80	26	5
18	76	80	26	5
19	43	45	15	3
20	24	25	8	1
21	14	15	5	1
22	5	5	2	0
23	5	5	2	0
24	5	5	2	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	972	2	163	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
2	2	943	2	158	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
3	2	923	2	155	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
4	2	865	2	145	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No
5	2	767	2	129	No	No	No	Yes	No	Yes	Yes	Yes	No	No
6	2	758	2	127	No	No	No	Yes	No	Yes	Yes	Yes	No	No
7	2	748	2	126	No	No	No	Yes	No	Yes	Yes	Yes	No	No
8	2	681	2	114	No	No	No	Yes	No	No	Yes	Yes	No	No
9	2	671	2	112	No	No	No	Yes	No	No	Yes	Yes	No	No
10	2	661	2	111	No	No	No	No	No	No	Yes	Yes	No	No
11	2	574	2	96	No	No	No	No	No	No	No	Yes	No	No
12	2	535	2	90	No	No	No	No	No	No	No	Yes	No	No
13	2	525	2	88	No	No	No	No	No	No	No	Yes	No	No
14	2	389	2	65	No	No	No	No	No	No	No	No	No	No
15	2	389	2	65	No	No	No	No	No	No	No	No	No	No
16	2	272	2	46	No	No	No	No	No	No	No	No	No	No
17	2	156	2	26	No	No	No	No	No	No	No	No	No	No
18	2	156	2	26	No	No	No	No	No	No	No	No	No	No
19	2	88	2	15	No	No	No	No	No	No	No	No	No	No
20	2	49	2	8	No	No	No	No	No	No	No	No	No	No
21	2	29	2	5	No	No	No	No	No	No	No	No	No	No
22	2	10	2	2	No	No	No	No	No	No	No	No	No	No
23	2	10	2	2	No	No	No	No	No	No	No	No	No	No
24	2	10	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	1	4	9	3	7	10	13	0	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	60	15
Number of Lanes on Minor Street Approach	2	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2:43	0:07
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	163	29
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1164	1164
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 25: New Intersection

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	380	501	0
2	369	486	0
3	361	476	0
4	338	446	0
5	300	396	0
6	296	391	0
7	293	386	0
8	266	351	0
9	262	346	0
10	258	341	0
11	224	296	0
12	209	276	0
13	205	271	0
14	152	200	0
15	152	200	0
16	106	140	0
17	61	80	0
18	61	80	0
19	34	45	0
20	19	25	0
21	11	15	0
22	4	5	0
23	4	5	0
24	4	5	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	881	1	0	No	No	No	No	No	No	No	No	No	No
2	1	855	1	0	No	No	No	No	No	No	No	No	No	No
3	1	837	1	0	No	No	No	No	No	No	No	No	No	No
4	1	784	1	0	No	No	No	No	No	No	No	No	No	No
5	1	696	1	0	No	No	No	No	No	No	No	No	No	No
6	1	687	1	0	No	No	No	No	No	No	No	No	No	No
7	1	679	1	0	No	No	No	No	No	No	No	No	No	No
8	1	617	1	0	No	No	No	No	No	No	No	No	No	No
9	1	608	1	0	No	No	No	No	No	No	No	No	No	No
10	1	599	1	0	No	No	No	No	No	No	No	No	No	No
11	1	520	1	0	No	No	No	No	No	No	No	No	No	No
12	1	485	1	0	No	No	No	No	No	No	No	No	No	No
13	1	476	1	0	No	No	No	No	No	No	No	No	No	No
14	1	352	1	0	No	No	No	No	No	No	No	No	No	No
15	1	352	1	0	No	No	No	No	No	No	No	No	No	No
16	1	246	1	0	No	No	No	No	No	No	No	No	No	No
17	1	141	1	0	No	No	No	No	No	No	No	No	No	No
18	1	141	1	0	No	No	No	No	No	No	No	No	No	No
19	1	79	1	0	No	No	No	No	No	No	No	No	No	No
20	1	44	1	0	No	No	No	No	No	No	No	No	No	No
21	1	26	1	0	No	No	No	No	No	No	No	No	No	No
22	1	9	1	0	No	No	No	No	No	No	No	No	No	No
23	1	9	1	0	No	No	No	No	No	No	No	No	No	No
24	1	9	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	11.3
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	881
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 26: Latrobe/Wetsl-Oviatt

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	300	461	27
2	291	447	26
3	285	438	26
4	267	410	24
5	237	364	21
6	234	360	21
7	231	355	21
8	210	323	19
9	207	318	19
10	204	313	18
11	177	272	16
12	165	254	15
13	162	249	15
14	120	184	11
15	120	184	11
16	84	129	8
17	48	74	4
18	48	74	4
19	27	41	2
20	15	23	1
21	9	14	1
22	3	5	0
23	3	5	0
24	3	5	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	761	1	27	No	No	No	No	No	No	No	No	No	No
2	1	738	1	26	No	No	No	No	No	No	No	No	No	No
3	1	723	1	26	No	No	No	No	No	No	No	No	No	No
4	1	677	1	24	No	No	No	No	No	No	No	No	No	No
5	1	601	1	21	No	No	No	No	No	No	No	No	No	No
6	1	594	1	21	No	No	No	No	No	No	No	No	No	No
7	1	586	1	21	No	No	No	No	No	No	No	No	No	No
8	1	533	1	19	No	No	No	No	No	No	No	No	No	No
9	1	525	1	19	No	No	No	No	No	No	No	No	No	No
10	1	517	1	18	No	No	No	No	No	No	No	No	No	No
11	1	449	1	16	No	No	No	No	No	No	No	No	No	No
12	1	419	1	15	No	No	No	No	No	No	No	No	No	No
13	1	411	1	15	No	No	No	No	No	No	No	No	No	No
14	1	304	1	11	No	No	No	No	No	No	No	No	No	No
15	1	304	1	11	No	No	No	No	No	No	No	No	No	No
16	1	213	1	8	No	No	No	No	No	No	No	No	No	No
17	1	122	1	4	No	No	No	No	No	No	No	No	No	No
18	1	122	1	4	No	No	No	No	No	No	No	No	No	No
19	1	68	1	2	No	No	No	No	No	No	No	No	No	No
20	1	38	1	1	No	No	No	No	No	No	No	No	No	No
21	1	23	1	1	No	No	No	No	No	No	No	No	No	No
22	1	8	1	0	No	No	No	No	No	No	No	No	No	No
23	1	8	1	0	No	No	No	No	No	No	No	No	No	No
24	1	8	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	15.2
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:06
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	27
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	788
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 27: Latrobe/S. Shingle

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	56%

Warrant Analysis Traffic Volumes

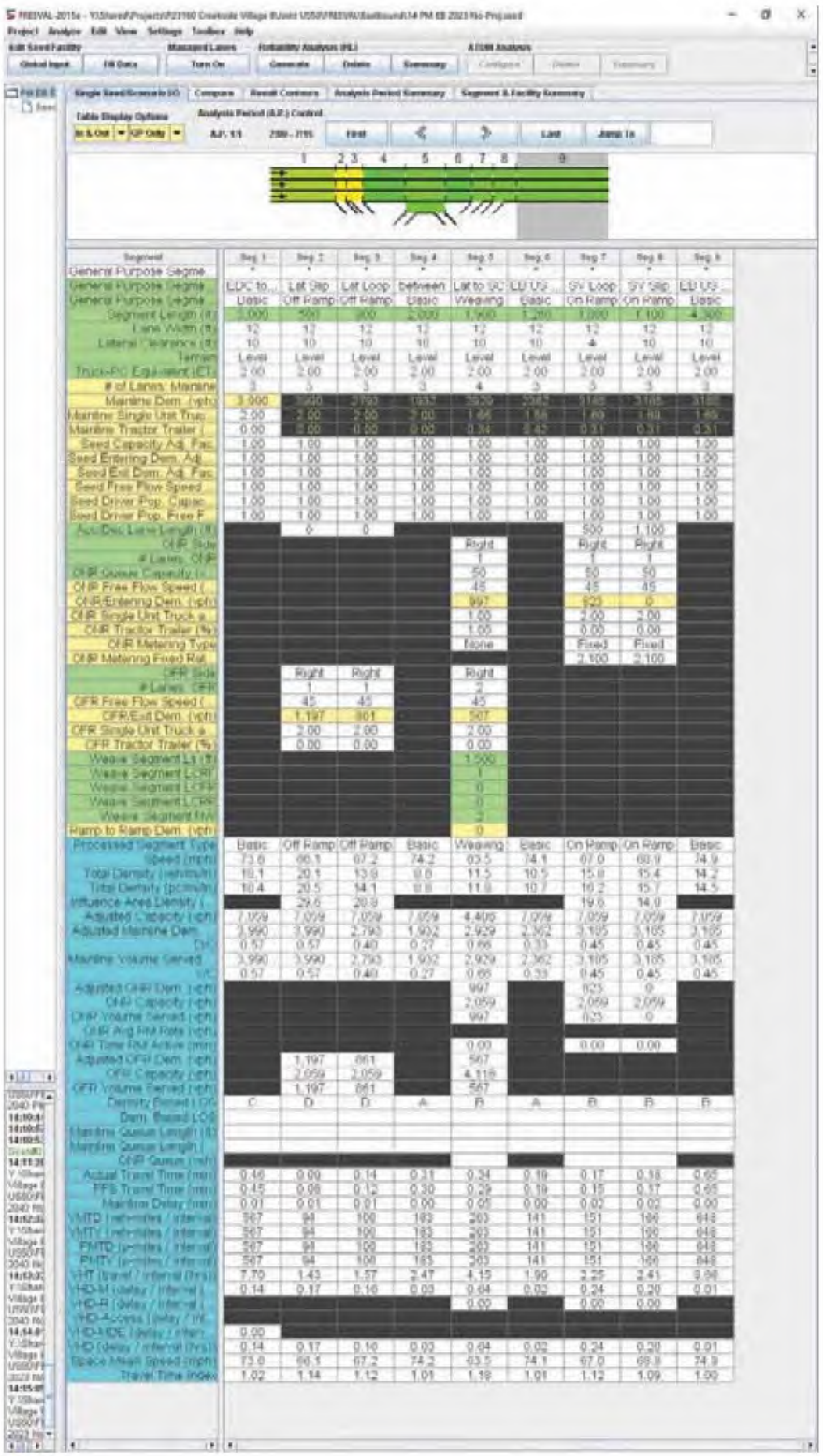
Hour	Major Streets		Minor Streets	
	S	N	E	W
1	251	362	136	44
2	243	351	132	43
3	238	344	129	42
4	223	322	121	39
5	198	286	107	35
6	196	282	106	34
7	193	279	105	34
8	176	253	95	31
9	173	250	94	30
10	171	246	92	30
11	148	214	80	26
12	138	199	75	24
13	136	195	73	24
14	100	145	54	18
15	100	145	54	18
16	70	101	38	12
17	40	58	22	7
18	40	58	22	7
19	23	33	12	4
20	13	18	7	2
21	8	11	4	1
22	3	4	1	0
23	3	4	1	0
24	3	4	1	0

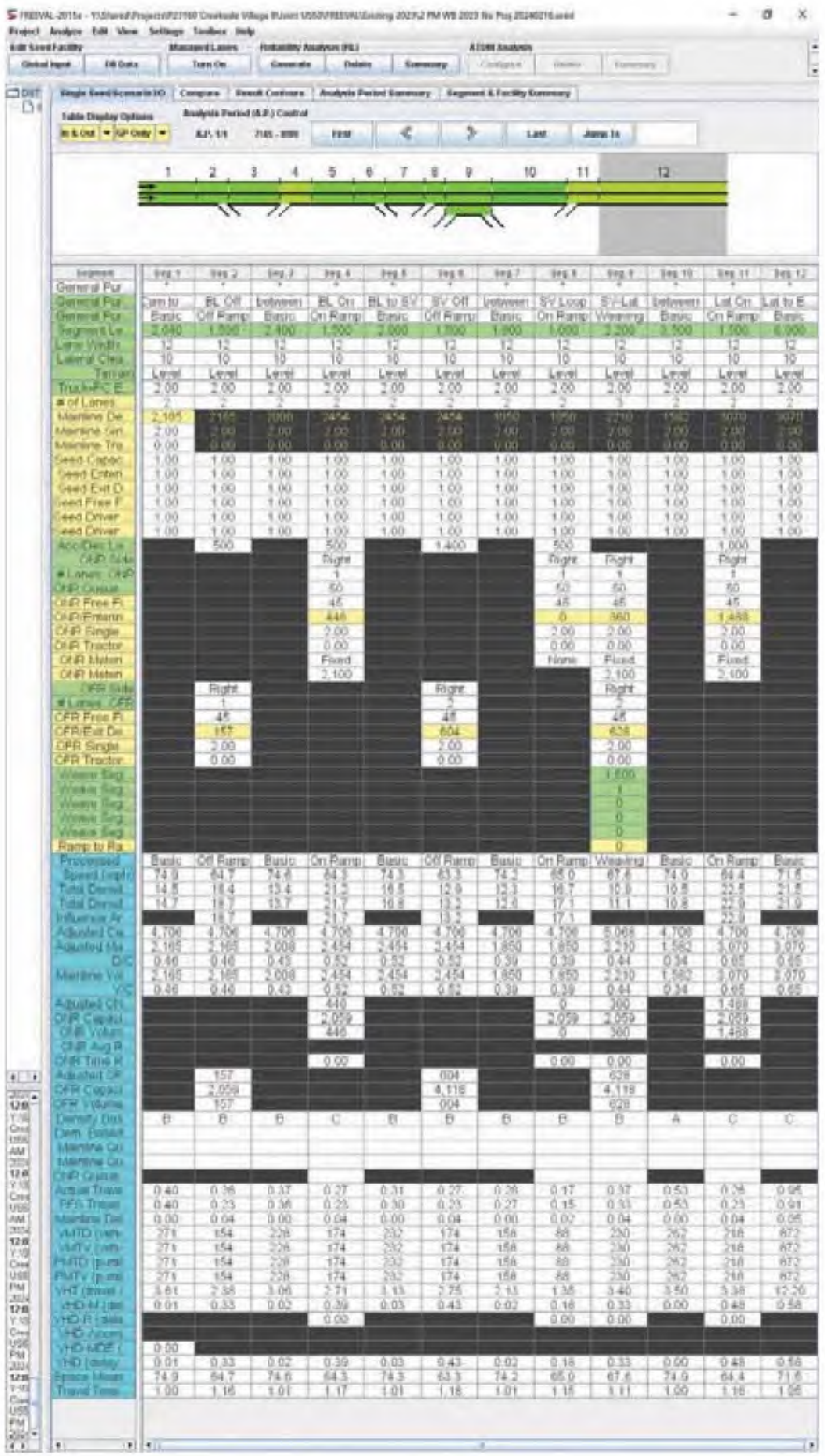
Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	613	1	136	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
2	1	594	1	132	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
3	1	582	1	129	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
4	1	545	1	121	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
5	1	484	1	107	No	No	Yes	Yes	No	No	No	Yes	No	No
6	1	478	1	106	No	No	Yes	Yes	No	No	No	Yes	No	No
7	1	472	1	105	No	No	Yes	Yes	No	No	No	Yes	No	No
8	1	429	1	95	No	No	No	Yes	No	No	No	Yes	No	No
9	1	423	1	94	No	No	No	Yes	No	No	No	Yes	No	No
10	1	417	1	92	No	No	No	Yes	No	No	No	No	No	No
11	1	362	1	80	No	No	No	No	No	No	No	No	No	No
12	1	337	1	75	No	No	No	No	No	No	No	No	No	No
13	1	331	1	73	No	No	No	No	No	No	No	No	No	No
14	1	245	1	54	No	No	No	No	No	No	No	No	No	No
15	1	245	1	54	No	No	No	No	No	No	No	No	No	No
16	1	171	1	38	No	No	No	No	No	No	No	No	No	No
17	1	98	1	22	No	No	No	No	No	No	No	No	No	No
18	1	98	1	22	No	No	No	No	No	No	No	No	No	No
19	1	56	1	12	No	No	No	No	No	No	No	No	No	No
20	1	31	1	7	No	No	No	No	No	No	No	No	No	No
21	1	19	1	4	No	No	No	No	No	No	No	No	No	No
22	1	7	1	1	No	No	No	No	No	No	No	No	No	No
23	1	7	1	1	No	No	No	No	No	No	No	No	No	No
24	1	7	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	10	0	1	4	9	4	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.4	16.4
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:32	0:12
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	136	44
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	793	793
Number of Approaches on Intersection	4	4
Total Volume Condition Met	No	No
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	





Existing AM plus Project

Vistro File: C:\...\AM 918 DU 20240213.vistro Scenario 3 2023 AM, + Project
Report File: C:\...\3 2023 AM plus Proj.pdf 2/14/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	El Dorado Hills Blvd/Serrano Pkwy	Signalized	HCM 7th Edition	SB Right	1.057	116.7	F
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	EB Right	1.374	155.9	F
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	NB Left	1.206	113.3	F
4	Latrobe Rd/US 50 EB	Signalized	HCM 7th Edition	NB Thru	1.121	36.7	D
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	WB Right	0.836	23.4	C
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	NB Left	0.660	32.9	C
7	Latrobe Rd/Golden Foothill Pkwy N	Signalized	HCM 7th Edition	SB Right	0.912	31.9	C
8	Latrobe Rd/Suncast Ln	Signalized	HCM 7th Edition	NB Left	0.784	10.8	B
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	NB Right	0.893	51.8	D
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	NB Left	0.911	15.0	B
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	EB Left	0.852	185.7	F
12	Latrobe Rd/Royal Oaks Dr	Two-way stop	HCM 7th Edition	EB Left	4.443	1,681.7	F
13	Golden Foothill/Robert J Mathews	Two-way stop	HCM 7th Edition	NB Left	0.300	94.2	F
14	Investment Blvd/Robert J Mathews Pkwy	All-way stop	HCM 7th Edition	SB Thru	0.886	26.6	D
15	Golden Foothill Pkwy/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.068	12.9	B
16	Carson Crossing Rd/Calypso Cir.	Two-way stop	HCM 7th Edition	NB Left	0.090	12.5	B
17	Carson Crossing Rd/Four Seasons Dr	All-way stop	HCM 7th Edition	WB Left	0.133	8.3	A
	White Rock Rd/Carson		HCM 7th				

18	White Rock Rd/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.629	38.7	E
19	White Rock Rd/Windfield Way	Signalized	HCM 7th Edition	EB Left	0.398	25.8	C
20	White Rock Rd/Post St	Signalized	HCM 7th Edition	SB Left	0.463	37.7	D
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 7th Edition	WB Thru	1.024	91.5	F
22	White Rock Rd/Clarksville Crossing	Signalized	HCM 7th Edition	NB Right	0.743	24.1	C
23	White Rock Rd/US 50 EB	Signalized	HCM 7th Edition	EB Left	0.494	18.1	B
24	Silva Valley Pkwy/US 50 WB	Signalized	HCM 7th Edition	WB Left	0.861	36.1	D
25	New Intersection	Two-way stop	HCM 6th Edition	NB Thru	0.010	0.0	A
26	Latrobe/Wetsl-Oviatt	Two-way stop	HCM 7th Edition	EB Left	0.068	15.0	C
27	Latrobe/S. Shingle	Two-way stop	HCM 7th Edition	EB Left	0.193	24.4	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: El Dorado Hills Blvd/Serrano Pkwy

Control Type:	Signalized	Delay (sec / veh):	116.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.057

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	260.0	100.0	100.0	100.0	110.00	100.00	100.00	100.00	100.00	100.00	430.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No			No		
Crosswalk	No				Yes			Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Base Volume Input [veh/h]	5	194	705	301	68	1419	40	18	11	260	467	57	108
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	59	0	0	26	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	12	0	0	78	0	0	32
Total Hourly Volume [veh/h]	5	194	764	301	68	1445	28	18	11	182	467	57	76
Peak Hour Factor	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	56	220	86	20	415	8	5	3	52	134	16	22
Total Analysis Volume [veh/h]	5	223	878	346	78	1661	32	21	13	209	537	66	87
Presence of On-Street Parking	No			No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	1	6	0	7	7	0	0	8	0
Auxiliary Signal Groups													
Maximum Green [s]	0	25	40	0	25	40	0	35	35	0	0	35	0
Amber [s]	0.0	3.0	4.7	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	12	0	0	12	0	0	0	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	100.0	245.0	0.0	100.0	100.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	29	46	0	29	46	0	39	39	0	0	39	0
Lead / Lag	-	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	3	6	0	3	3	0	3	3	0	0	3	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	4.0	0.0
Minimum Recall		No	No		No	No			No			No	
Maximum Recall		No	No		No	No			No			No	
Pedestrian Recall		No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C
C, Cycle Length [s]	122	122	122	122	122	122	122	122	122	122
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	18	51	51	7	40	40	19	19	28	28
g / C, Green / Cycle	0.14	0.42	0.42	0.06	0.33	0.33	0.16	0.16	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.13	0.25	0.22	0.04	0.45	0.46	0.01	0.14	0.20	0.20
s, saturation flow rate [veh/h]	1781	3560	1589	1781	1870	1858	1781	1604	1781	1744
c, Capacity [veh/h]	257	1481	661	100	613	609	277	250	404	396
d1, Uniform Delay [s]	51.21	27.61	26.59	56.79	40.98	40.98	43.99	50.45	45.30	45.34
k, delay calibration	0.11	0.04	0.14	0.04	0.50	0.50	0.04	0.04	0.25	0.26
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.29	0.14	0.83	4.79	181.82	184.56	0.04	4.28	11.80	12.31
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.59	0.52	0.78	1.38	1.39	0.08	0.89	0.86	0.86
d, Delay for Lane Group [s/veh]	61.50	27.76	27.42	61.58	222.80	225.54	44.03	54.73	57.10	57.65
Lane Group LOS	E	C	C	E	F	F	D	D	E	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	7.37	9.46	7.31	2.45	48.45	48.59	0.55	6.91	11.39	11.25
50th-Percentile Queue Length [ft/ln]	184.31	236.39	182.67	61.18	1211.27	1214.86	13.73	172.86	284.81	281.33
95th-Percentile Queue Length [veh/ln]	11.83	14.50	11.74	4.40	71.97	72.30	0.99	11.23	16.93	16.75
95th-Percentile Queue Length [ft/ln]	295.64	362.47	293.50	110.12	1799.28	1807.45	24.71	280.67	423.20	418.86

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	61.50	61.50	27.76	27.42	61.58	224.14	225.54	44.03	54.73	54.73	57.29	57.65	57.65
Movement LOS	E	E	C	C	E	F	F	D	D	D	E	E	E
d_A, Approach Delay [s/veh]	32.97				217.01			53.81			57.37		
Approach LOS	C				F			D			E		
d_I, Intersection Delay [s/veh]	116.67												
Intersection LOS	F												
Intersection V/C	1.057												

Emissions

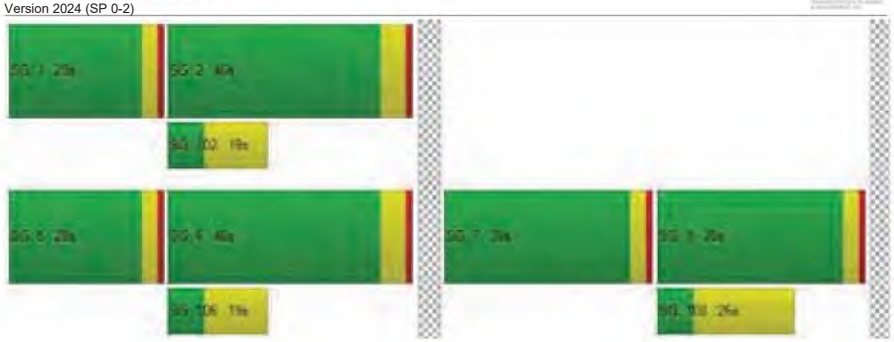
Vehicle Miles Traveled [mph]	54.44	209.63	82.61	11.47	124.66	124.39	0.90	9.51	18.17	17.85
Stops [stops/h]	217.96	559.09	216.02	72.34	1432.38	1436.62	16.23	204.42	336.80	332.68
Fuel consumption [US gal/h]	7.43	19.10	7.45	2.27	60.50	60.93	0.31	3.99	6.65	6.58
CO [g/h]	519.28	1334.83	520.64	158.68	4228.68	4258.92	22.01	279.12	464.98	460.21
NOx [g/h]	101.03	259.71	101.30	30.87	822.75	828.63	4.28	54.31	90.47	89.54
VOC [g/h]	120.35	309.36	120.66	36.78	980.04	987.04	5.10	64.69	107.76	106.66

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	50.38	50.38	50.38
I_p,int, Pedestrian LOS Score for Intersectio	0.000	3.151	2.278	2.377
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	662	662	575	575
d_b, Bicycle Delay [s]	27.25	27.25	30.92	30.92
I_b,int, Bicycle LOS Score for Intersection	2.753	3.031	2.089	2.751
Bicycle LOS	C	C	B	C

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	155.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.374

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	1	0	1	0	0	1
Entry Pocket Length [ft]	230.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	1	348	988	150	1	148	1611	391	132	61	682	11	13	84
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	30	59	0	0	0	26	0	0	0	14	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	45	0	0	0	117	0	0	209	0	0	25
Total Hourly Volume [veh/h]	1	378	1047	105	1	148	1637	274	132	61	487	11	13	59
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	102	281	28	0	40	440	74	35	16	131	3	3	16
Total Analysis Volume [veh/h]	1	406	1126	113	1	159	1760	295	142	66	524	12	14	63
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	0	3	8	0
Auxiliary Signal Groups														
Maximum Green [s]	0	20	50	0	0	20	50	0	20	20	0	0	20	0
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	18	0	0	0	16	0	0	0	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	0	24	56	0	24	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	58	58	12	50	50	20	20	20	7	7
g / C, Green / Cycle	0.17	0.50	0.50	0.11	0.44	0.44	0.17	0.17	0.17	0.06	0.06
(v / s)_i Volume / Saturation Flow Rate	0.23	0.23	0.23	0.09	0.55	0.58	0.06	0.06	0.33	0.01	0.05
s, saturation flow rate [veh/h]	1781	3560	1784	1781	1870	1780	1781	1836	1589	1781	1634
c, Capacity [veh/h]	310	1792	898	190	815	775	310	320	277	110	101
d1, Uniform Delay [s]	47.39	18.43	18.43	50.33	32.39	32.39	41.53	41.51	47.39	50.87	53.03
k, delay calibration	0.50	0.13	0.13	0.04	0.50	0.50	0.04	0.04	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	161.38	0.22	0.45	3.87	127.44	155.27	0.23	0.22	414.69	0.16	4.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.31	0.46	0.46	0.84	1.26	1.33	0.33	0.33	1.89	0.11	0.76
d, Delay for Lane Group [s/veh]	208.77	18.65	18.88	54.19	159.82	187.66	41.76	41.73	462.08	51.03	57.49
Lane Group LOS	F	B	B	D	F	F	D	D	F	D	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	22.46	6.63	6.71	4.58	49.64	53.24	2.58	2.63	39.76	0.33	2.31
50th-Percentile Queue Length [ft/ln]	561.51	165.80	167.70	114.60	1241.02	1331.04	64.40	65.84	994.08	8.29	57.73
95th-Percentile Queue Length [veh/ln]	34.19	10.86	10.96	8.10	71.58	78.29	4.64	4.74	62.66	0.60	4.16
95th-Percentile Queue Length [ft/ln]	854.66	271.39	273.89	202.38	1789.38	1957.15	115.92	118.51	1566.60	14.92	103.92

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	208.7	208.7	18.71	18.88	54.19	54.19	171.4	187.6	41.76	41.73	462.08	51.03	57.49	57.49
Movement LOS	F	F	B	B	D	D	F	F	D	D	F	D	E	E
d_A, Approach Delay [s/veh]	65.72				165.10				342.64			56.62		
Approach LOS	E				F				F			E		
d_I, Intersection Delay [s/veh]	155.86													
Intersection LOS	F													
Intersection V/C	1.374													

Emissions

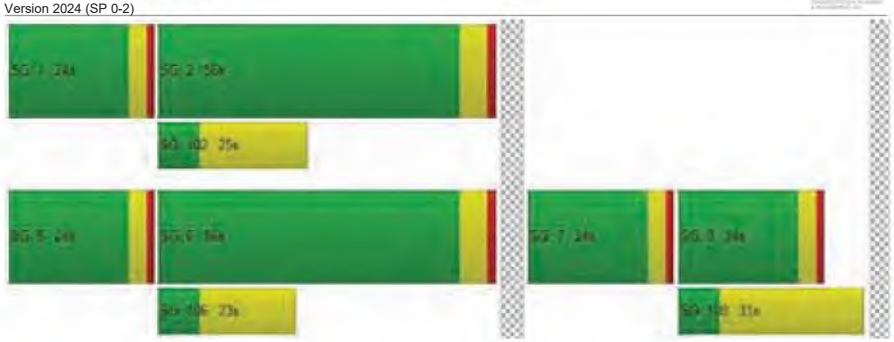
Vehicle Miles Traveled [mph]	76.60	155.30	77.87	38.20	245.33	245.33	6.41	6.56	32.68	0.59	3.75
Stops [stops/h]	704.82	416.23	210.50	143.84	1557.75	1670.73	80.84	82.64	1247.78	10.40	72.47
Fuel consumption [US gal/h]	28.68	13.63	6.88	4.86	61.19	68.41	1.58	1.62	57.50	0.21	1.46
CO [g/h]	2004.52	952.82	480.67	339.88	4277.17	4782.07	110.74	113.22	4019.33	14.41	101.75
NOx [g/h]	390.01	185.38	93.52	66.13	832.18	930.42	21.55	22.03	782.01	2.80	19.80
VOC [g/h]	464.57	220.82	111.40	78.77	991.28	1108.29	25.66	26.24	931.52	3.34	23.58

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	46.89	46.89	46.89
I_p,int, Pedestrian LOS Score for Intersectio	0.000	3.530	2.872	2.149
Crosswalk LOS	F	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	877	877	349	349
d_b, Bicycle Delay [s]	18.09	18.09	39.10	39.10
I_b,int, Bicycle LOS Score for Intersection	2.489	3.352	3.112	1.748
Bicycle LOS	B	C	C	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	113.3
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.206

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	500.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1181	1173	138	3	49	1285	968	256	92	816	146	92	55
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	108	89	18	0	0	40	0	0	0	16	8	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	47	0	0	0	290	0	0	250	0	0	17
Total Hourly Volume [veh/h]	1	1289	1262	109	3	49	1325	678	256	92	582	154	92	38
Peak Hour Factor	1.000	0.840	0.840	0.840	1.000	0.840	0.840	0.840	0.8400	0.8400	0.8400	0.8400	0.8400	0.8400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	384	376	32	1	15	394	202	76	27	173	46	27	11
Total Analysis Volume [veh/h]	1	1535	1502	130	3	58	1577	807	305	110	693	183	110	45
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	134
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	37	62	0	0	14	39	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	42	68	0	0	19	45	28	0	28	0	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	37	69	69	7	39	73	28	28	11	11	11
g / C, Green / Cycle	0.28	0.51	0.51	0.05	0.29	0.54	0.21	0.21	0.08	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.44	0.30	0.31	0.03	0.31	0.51	0.12	0.12	0.06	0.06	0.06
s, saturation flow rate [veh/h]	3459	3560	1797	1781	5094	1589	1781	1826	1781	1814	1746
c, Capacity [veh/h]	951	1819	918	95	1472	851	372	381	141	144	139
d1, Uniform Delay [s]	36.83	5.84	5.92	63.12	48.34	29.83	48.11	48.11	61.52	61.49	61.56
k, delay calibration	0.27	0.50	0.50	0.04	0.50	0.50	0.08	0.08	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	279.44	1.40	3.04	2.72	45.03	20.62	0.95	0.92	3.84	3.65	4.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.61	0.59	0.61	0.64	1.07	0.95	0.55	0.55	0.80	0.79	0.80
d, Delay for Lane Group [s/veh]	316.27	7.24	8.96	65.84	93.37	50.45	49.06	49.04	65.36	65.13	65.62
Lane Group LOS	F	A	A	E	F	D	D	D	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	50.66	3.15	3.73	2.11	22.23	27.80	6.35	6.50	3.99	4.02	3.95
50th-Percentile Queue Length [ft/ln]	1266.45	78.78	93.14	52.65	555.75	695.12	158.73	162.62	99.71	100.57	98.78
95th-Percentile Queue Length [veh/ln]	78.15	5.67	6.71	3.79	31.28	36.45	10.48	10.69	7.18	7.24	7.11
95th-Percentile Queue Length [ft/ln]	1953.74	141.80	167.65	94.76	782.05	911.31	262.04	267.19	179.48	181.03	177.81

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	316.2	316.2	7.74	8.96	65.84	65.84	93.37	50.45	49.05	49.04	0.00	65.27	65.43	65.62
Movement LOS	F	F	A	A	E	E	F	D	D	D		E	E	E
d_A, Approach Delay [s/veh]	157.38				78.52				20.42			65.37		
Approach LOS	F				E				C			E		
d_I, Intersection Delay [s/veh]	113.28													
Intersection LOS	F													
Intersection V/C	1.206													

Emissions

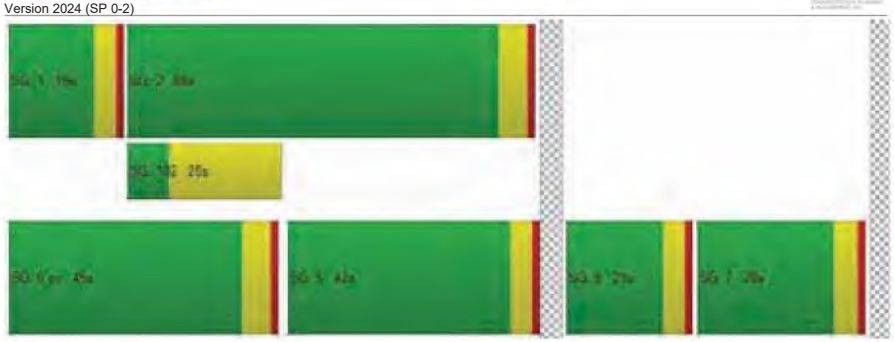
Vehicle Miles Traveled [mph]	263.07	183.26	96.25	11.48	296.78	151.87	9.48	9.72	3.58	3.62	3.54
Stops [stops/h]	2681.90	166.82	98.62	55.74	1765.33	736.01	168.06	172.19	105.58	106.49	104.59
Fuel consumption [US gal/h]	124.48	10.04	5.53	1.90	62.08	22.64	3.36	3.45	2.23	2.25	2.21
CO [g/h]	8701.30	702.01	386.68	133.08	4339.59	1582.63	235.19	240.96	155.85	157.08	154.54
NOx [g/h]	1692.96	136.59	75.23	25.89	844.33	307.92	45.76	46.88	30.32	30.56	30.07
VOC [g/h]	2016.61	162.70	89.62	30.84	1005.74	366.79	54.51	55.85	36.12	36.40	35.82

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		57.44	
l_p,int, Pedestrian LOS Score for Intersectio	0.000		0.000		0.000		2.346	
Crosswalk LOS	F		F		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	915		576		337		241	
d_b, Bicycle Delay [s]	20.02		34.45		47.03		52.59	
l_b,int, Bicycle LOS Score for Intersection	3.327		3.032		2.244		1.852	
Bicycle LOS	C		C		B		A	

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Latrobe Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	36.7
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.121

Intersection Setup

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	200.00	570.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No			No		
Crosswalk	No			No				No			Yes		

Volumes

Name	Latrobe Rd			El Dorado Hills Blvd			US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Base Volume Input [veh/h]	0	1965	463	0	520	1728	0	0	1058	0	0	528
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	215	34	0	0	64	0	0	0	53	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	149	0	0	0	0	0	0	333	0	0	158
Total Hourly Volume [veh/h]	0	2180	348	0	520	1792	0	0	0	778	0	0	370
Peak Hour Factor	1.0000	0.8400	0.8400	1.000	0.840	0.840	1.000	1.0000	1.0000	0.8400	1.0000	1.0000	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	649	104	0	155	533	0	0	0	232	0	0	110
Total Analysis Volume [veh/h]	0	2595	414	0	619	2133	0	0	0	926	0	0	440
Presence of On-Street Parking	No		No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	74.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	50	0	0	39	50	0	0	0	45	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No				No			
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
l2, Clearance Lost Time [s]	0.0	4.2	0.0	0.0	2.6	4.2	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	2.5	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Minimum Recall		No			No	No				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	R	
C, Cycle Length [s]	68	68	68	68	68	
L, Total Lost Time per Cycle [s]	6.20	6.20	4.60	6.20	4.60	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	4.20	4.20	2.60	4.20	2.60	
g_i, Effective Green Time [s]	32	32	25	35	22	
g / C, Green / Cycle	0.47	0.47	0.37	0.51	0.33	
(v / s)_i Volume / Saturation Flow Rate	0.51	0.26	0.35	0.31	0.33	
s, saturation flow rate [veh/h]	5094	1589	1781	6792	2813	
c, Capacity [veh/h]	2395	747	661	3476	927	
d1, Uniform Delay [s]	18.02	12.91	20.61	11.82	22.79	
k, delay calibration	0.50	0.50	0.14	0.50	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	45.70	2.95	8.51	0.82	8.18	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	1.08	0.55	0.94	0.61	1.00	
d, Delay for Lane Group [s/veh]	63.72	15.86	29.13	12.63	30.97	
Lane Group LOS	F	B	C	B	C	
Critical Lane Group	Yes	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	19.81	4.21	9.47	4.60	7.80	
50th-Percentile Queue Length [ft/ln]	495.24	105.23	236.75	114.89	195.09	
95th-Percentile Queue Length [veh/ln]	28.72	7.57	14.52	8.11	12.39	
95th-Percentile Queue Length [ft/ln]	717.96	189.34	362.92	202.78	309.63	

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	63.72	15.86	29.13	29.13	12.63	0.00	0.00	0.00	30.97	0.00	0.00	0.00
Movement LOS		F	B	C	C	B				C			
d_A, Approach Delay [s/veh]		57.13			16.34				30.97			0.00	
Approach LOS		E			B				C			A	
d_I, Intersection Delay [s/veh]	36.72												
Intersection LOS	D												
Intersection V/C	1.121												

Emissions

Vehicle Miles Traveled [mph]	375.49	59.90	106.02	365.32	66.27	
Stops [stops/h]	3146.22	222.83	501.35	973.16	826.28	
Fuel consumption [US gal/h]	85.63	6.16	13.54	30.11	13.13	
CO [g/h]	5985.80	430.60	946.20	2104.45	917.68	
NOx [g/h]	1164.62	83.78	184.10	409.45	178.55	
VOC [g/h]	1387.27	99.80	219.29	487.73	212.68	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0		0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00		0.00	0.00	23.89
I_p,int, Pedestrian LOS Score for Intersectio	0.000		0.000	0.000	2.276
Crosswalk LOS	F		F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000		2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	906		1024	659	0
d_b, Bicycle Delay [s]	10.18		8.10	15.29	34.00
I_b,int, Bicycle LOS Score for Intersection	3.297		2.439	1.560	1.560
Bicycle LOS	C		B	A	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	23.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.836

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	61	1808	235	4	440	1970	372	140	8	20	1	70	30	476
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	249	21	0	0	117	0	0	0	3	0	10	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	77	0	0	0	112	0	0	7	0	0	0	143
Total Hourly Volume [veh/h]	1	67	2057	179	4	440	2087	260	140	8	16	1	80	30	333
Peak Hour Factor	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.9800	0.9800	0.9800	0.980	0.980	0.980	0.980
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	17	525	46	1	112	532	66	36	2	4	0	20	8	85
Total Analysis Volume [veh/h]	1	68	2099	183	4	449	2130	265	143	8	16	1	82	31	340
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	123
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	5	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	50	0	15	15	50	0	15	20	0	0	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	3.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.5	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	1.5	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	245.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	19	19	56	0	19	24	0	0	19	19	0
Lead / Lag	-	Lead	-	-	Lead	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	4	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	No			No	No			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	98	98	98	98	98	98	98	98	98	98	98	98
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	3	48	48	15	59	59	6	6	6	13	13	13
g / C, Green / Cycle	0.03	0.49	0.49	0.15	0.60	0.60	0.06	0.06	0.06	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.02	0.41	0.12	0.13	0.42	0.17	0.04	0.00	0.01	0.05	0.12	0.12
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	1870	1589	1781	1630	1589
c, Capacity [veh/h]	121	2481	774	518	3066	957	220	119	101	243	222	217
d1, Uniform Delay [s]	46.63	21.96	14.59	40.81	13.37	9.33	44.89	43.22	43.47	38.39	41.37	41.37
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.08	0.08	0.08	0.08	0.24	0.24
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.56	0.32	0.06	1.87	0.11	0.06	2.39	0.17	0.54	0.62	16.78	17.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.85	0.24	0.87	0.69	0.28	0.65	0.07	0.16	0.34	0.84	0.85
d, Delay for Lane Group [s/veh]	48.19	22.28	14.65	42.68	13.48	9.39	47.28	43.39	44.00	39.01	58.16	58.52
Lane Group LOS	D	C	B	D	B	A	D	D	D	D	E	E
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.85	13.25	2.30	5.41	9.72	2.54	1.76	0.19	0.38	1.84	5.41	5.30
50th-Percentile Queue Length [ft/ln]	21.24	331.18	57.55	135.35	243.09	63.54	43.98	4.68	9.51	45.93	135.37	132.58
95th-Percentile Queue Length [veh/ln]	1.53	19.22	4.14	9.23	14.84	4.57	3.17	0.34	0.68	3.31	9.23	9.08
95th-Percentile Queue Length [ft/ln]	38.22	480.41	103.58	230.75	370.94	114.37	79.16	8.43	17.12	82.67	230.78	227.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.19	48.19	22.28	14.65	42.68	42.68	13.48	9.39	47.28	43.39	44.00	39.01	39.01	58.16	58.36
Movement LOS	D	D	C	B	D	D	B	A	D	D	D	D	D	E	E
d_A, Approach Delay [s/veh]	22.45				17.74				46.78			54.81			
Approach LOS	C				B				D			D			
d_I, Intersection Delay [s/veh]	23.37														
Intersection LOS	C														
Intersection V/C	0.836														

Emissions

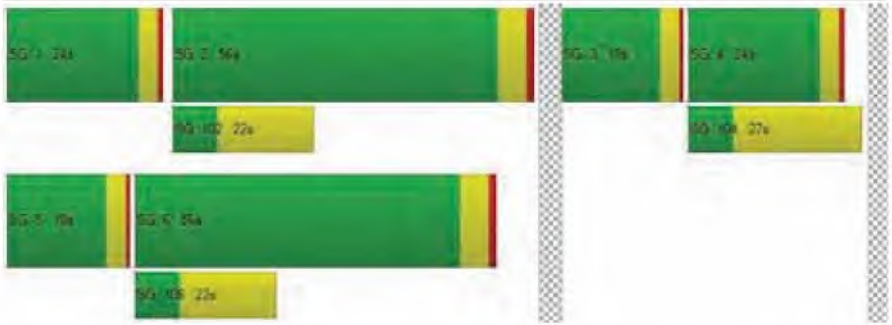
Vehicle Miles Traveled [mph]	15.40	468.45	40.84	65.55	308.20	38.34	18.24	1.02	2.04	29.13	65.92	64.29
Stops [stops/h]	62.42	1460.21	84.58	397.85	1071.81	93.38	129.27	6.89	13.98	67.50	198.95	194.85
Fuel consumption [US gal/h]	1.66	36.87	2.69	8.83	24.45	2.60	2.84	0.15	0.30	2.23	6.04	5.90
CO [g/h]	115.71	2577.23	188.33	617.26	1709.13	181.81	198.57	10.53	21.28	155.95	421.87	412.74
NOx [g/h]	22.51	501.43	36.64	120.10	332.53	35.37	38.63	2.05	4.14	30.34	82.08	80.30
VOC [g/h]	26.82	597.30	43.65	143.06	396.11	42.14	46.02	2.44	4.93	36.14	97.77	95.66

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	38.61	0.00	38.61	38.61
I_p,int, Pedestrian LOS Score for Intersectio	3.468	0.000	2.572	2.763
Crosswalk LOS	C	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1031	1031	418	316
d_b, Bicycle Delay [s]	11.50	11.50	30.63	34.72
I_b,int, Bicycle LOS Score for Intersection	2.894	2.941	1.703	2.409
Bicycle LOS	C	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	32.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.660

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	3	2	0	0	1	2	0	0	0	3	0	0
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	260.0	100.0	100.0	260.0	360.0	100.0	100.0	100.0	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	2	84	1607	388	1	92	1561	407	2	310	108	60	298	227	187
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	276	68	0	0	130	0	0	0	0	0	30	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	137	0	0	0	122	0	0	0	18	0	0	56
Total Hourly Volume [veh/h]	2	84	1883	319	1	92	1691	285	2	310	108	42	328	227	131
Peak Hour Factor	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	0.9400	0.9400	0.9400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	22	501	85	0	24	450	76	1	82	29	11	87	60	35
Total Analysis Volume [veh/h]	2	89	2003	339	1	98	1799	303	2	330	115	45	349	241	139
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	157
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups															
Maximum Green [s]	0	15	45	0	0	25	45	0	0	30	25	0	20	35	0
Amber [s]	0.0	4.0	4.7	0.0	0.0	4.0	4.7	0.0	0.0	4.5	4.7	0.0	4.5	4.7	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	39	0	0	0	37	0	0	0	48	0	0	50	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	3.0	3.7	0.0	0.0	3.0	3.7	0.0	0.0	4.0	3.7	0.0	4.0	3.7	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	19	51	0	0	29	51	0	0	36	31	0	26	41	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	7	0	0	10	7	0	0	10	10	0	10	10	0
Vehicle Extension [s]	0.0	1.5	3.0	0.0	0.0	1.5	3.0	0.0	0.0	1.5	2.0	0.0	1.5	2.0	0.0
Minimum Recall		No	Yes			No	Yes			No	No		No	No	
Maximum Recall		No	No			No	No			No	No		No	No	
Pedestrian Recall		No	No			No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	157	157	157	157	157	157	157	157	157	157	157	157
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	6.00	5.70	5.70	6.00	5.70	5.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	4.00	3.70	3.70	4.00	3.70	3.70
g_i, Effective Green Time [s]	10	91	91	10	91	91	17	16	16	18	16	16
g / C, Green / Cycle	0.06	0.58	0.58	0.06	0.58	0.58	0.11	0.10	0.10	0.11	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.05	0.30	0.22	0.03	0.36	0.19	0.10	0.04	0.05	0.10	0.07	0.09
s, saturation flow rate [veh/h]	1767	6737	1577	3431	5053	1577	3431	1855	1682	3431	3532	1577
c, Capacity [veh/h]	111	3915	916	217	2939	917	379	184	167	391	362	162
d1, Uniform Delay [s]	72.72	19.60	17.55	70.94	21.33	17.01	68.78	66.69	66.76	68.62	67.85	69.33
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.63	0.48	1.15	0.56	0.96	0.97	2.58	0.64	0.74	2.91	0.79	5.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.51	0.37	0.46	0.61	0.33	0.88	0.45	0.46	0.89	0.67	0.86
d, Delay for Lane Group [s/veh]	78.35	20.08	18.70	71.50	22.29	17.97	71.35	67.33	67.50	71.53	68.63	74.37
Lane Group LOS	E	C	B	E	C	B	E	E	E	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.82	11.08	6.93	1.92	13.92	5.75	6.74	3.20	2.97	7.10	4.73	5.75
50th-Percentile Queue Length [ft/ln]	95.46	277.06	173.23	47.95	348.03	143.69	168.40	79.91	74.31	177.62	118.21	143.84
95th-Percentile Queue Length [veh/ln]	6.87	16.54	11.25	3.45	20.04	9.68	10.99	5.75	5.35	11.48	8.29	9.69
95th-Percentile Queue Length [ft/ln]	171.83	413.55	281.16	86.30	501.00	241.99	274.81	143.85	133.76	286.91	207.37	242.19

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	78.35	78.35	20.08	18.70	71.50	71.50	22.29	17.97	71.35	71.35	67.38	67.50	71.53	68.63	74.37
Movement LOS	E	E	C	B	E	E	C	B	E	E	E	E	E	E	E
d_A, Approach Delay [s/veh]	22.07				23.91				70.07				71.11		
Approach LOS	C				C				E				E		
d_I, Intersection Delay [s/veh]	32.90														
Intersection LOS	C														
Intersection V/C	0.660														

Emissions

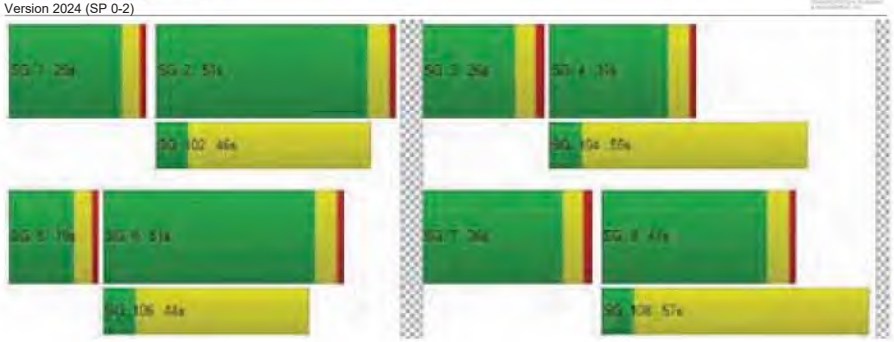
Vehicle Miles Traveled [mph]	36.23	797.46	134.97	22.09	401.50	67.62	82.74	20.68	19.19	36.59	25.27	14.57
Stops [stops/h]	87.56	1016.47	158.89	87.95	957.62	131.80	308.91	73.30	68.16	325.83	216.85	131.93
Fuel consumption [US gal/h]	3.43	46.63	7.72	3.29	33.83	5.06	9.93	2.39	2.22	8.39	5.60	3.43
CO [g/h]	239.46	3259.44	539.88	230.05	2364.74	354.02	694.30	167.31	155.46	586.17	391.70	239.92
NOx [g/h]	46.59	634.17	105.04	44.76	460.09	68.88	135.09	32.55	30.25	114.05	76.21	46.68
VOC [g/h]	55.50	755.41	125.12	53.32	548.05	82.05	160.91	38.78	36.03	135.85	90.78	55.60

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	67.89	67.89	67.89	67.89
l_p,int, Pedestrian LOS Score for Intersectio	3.588	3.876	2.710	2.905
Crosswalk LOS	D	D	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	577	577	322	450
d_b, Bicycle Delay [s]	39.74	39.74	55.24	47.17
l_b,int, Bicycle LOS Score for Intersection	2.619	2.783	1.708	2.207
Bicycle LOS	B	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	31.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.912

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	38	1287	2	2	8	1439	388	167	4	10	3	7	14
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	345	0	0	0	160	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	1	0	0	0	116	0	0	3	0	0	4
Total Hourly Volume [veh/h]	1	38	1632	1	2	8	1599	272	167	4	7	3	7	10
Peak Hour Factor	1.000	0.870	0.870	0.870	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	11	469	0	1	2	459	78	48	1	2	1	2	3
Total Analysis Volume [veh/h]	1	44	1876	1	2	9	1838	313	192	5	8	3	8	11
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	112
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	12	40	0	0	15	40	0	0	20	0	0	20	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	12	0	0	0	20	0	0	20	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	0	0	18	46	0	0	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	69	69	69	69	69	69	69	69	69
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	42	42	1	40	40	6	6	2
g / C, Green / Cycle	0.04	0.61	0.61	0.01	0.58	0.58	0.09	0.09	0.03
(v / s)_i Volume / Saturation Flow Rate	0.03	0.50	0.50	0.01	0.58	0.60	0.06	0.06	0.01
s, saturation flow rate [veh/h]	1781	1870	1870	1781	1870	1779	1781	1768	1708
c, Capacity [veh/h]	76	1146	1146	16	1083	1030	162	161	45
d1, Uniform Delay [s]	32.46	10.39	10.39	34.12	14.40	14.53	30.29	30.30	33.17
k, delay calibration	0.04	0.35	0.35	0.04	0.43	0.46	0.11	0.11	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.67	4.74	4.75	15.97	23.82	39.24	4.07	4.12	3.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.82	0.82	0.67	0.99	1.04	0.63	0.64	0.49
d, Delay for Lane Group [s/veh]	35.12	15.13	15.14	50.08	38.22	53.78	34.36	34.42	36.19
Lane Group LOS	D	B	B	D	D	F	C	C	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.77	9.99	10.00	0.24	17.33	21.05	1.77	1.76	0.39
50th-Percentile Queue Length [ft/ln]	19.24	249.87	249.95	5.96	433.14	526.33	44.20	44.04	9.73
95th-Percentile Queue Length [veh/ln]	1.39	15.18	15.18	0.43	24.15	29.58	3.18	3.17	0.70
95th-Percentile Queue Length [ft/ln]	34.64	379.49	379.59	10.74	603.80	739.48	79.55	79.27	17.52

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.12	35.12	15.14	15.14	50.08	50.08	44.67	53.78	34.39	34.42	34.42	36.19	36.19	36.19
Movement LOS	D	D	B	B	D	D	D	D	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	15.60				46.02				34.39			36.19		
Approach LOS	B				D				C			D		
d_I, Intersection Delay [s/veh]	31.86													
Intersection LOS	C													
Intersection V/C	0.912													

Emissions

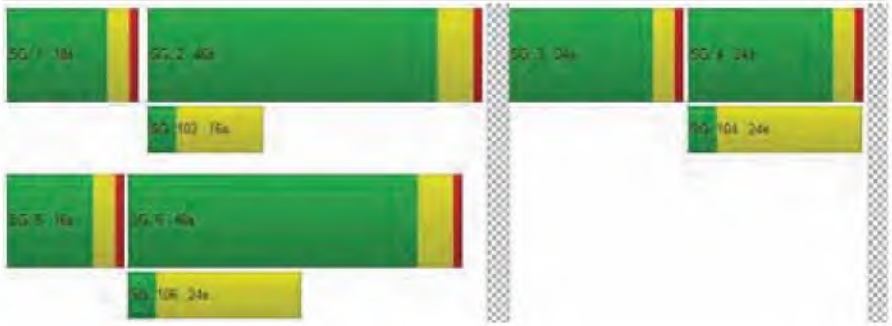
Vehicle Miles Traveled [mph]	15.92	332.10	332.10	4.38	428.19	428.19	24.74	24.63	0.42
Stops [stops/h]	40.21	522.02	522.19	12.46	904.91	1099.61	92.33	92.01	20.33
Fuel consumption [US gal/h]	1.20	19.45	19.45	0.49	39.50	46.52	2.25	2.24	0.29
CO [g/h]	83.83	1359.26	1359.42	34.25	2760.81	3251.54	157.08	156.46	20.38
NOx [g/h]	16.31	264.46	264.49	6.66	537.15	632.63	30.56	30.44	3.97
VOC [g/h]	19.43	315.02	315.06	7.94	639.85	753.58	36.41	36.26	4.72

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.93	0.00	26.93	26.93
l_p,int, Pedestrian LOS Score for Intersectio	3.027	0.000	2.158	1.730
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1161	1161	580	580
d_b, Bicycle Delay [s]	6.07	6.07	17.36	17.36
l_b,int, Bicycle LOS Score for Intersection	3.145	3.432	1.903	1.603
Bicycle LOS	C	C	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Latrobe Rd/Suncast Ln

Control Type:	Signalized	Delay (sec / veh):	10.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.784

Intersection Setup

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Approach	Northbound			Southbound		Eastbound	
Lane Configuration							
Turning Movement	U-turn	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			No		Yes	

Volumes

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Base Volume Input [veh/h]	1	60	1194	1152	301	134	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	13	345	160	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	90	0	3
Total Hourly Volume [veh/h]	1	73	1539	1312	211	134	6
Peak Hour Factor	1.0000	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	21	442	377	61	39	2
Total Analysis Volume [veh/h]	1	84	1769	1508	243	154	7
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permissive	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	5	2	6	0	3	0
Auxiliary Signal Groups							
Maximum Green [s]	0	12	40	40	0	20	0
Amber [s]	0.0	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No	No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	46	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-
Minimum Green [s]	0	5	5	5	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall		No	No	No		No	
Maximum Recall		No	No	No		No	
Pedestrian Recall		No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	L	R
C, Cycle Length [s]	59	59	59	59	59	59
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	4	42	35	35	7	7
g / C, Green / Cycle	0.06	0.72	0.59	0.59	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.05	0.50	0.47	0.49	0.09	0.00
s, saturation flow rate [veh/h]	1781	3560	1870	1783	1781	1589
c, Capacity [veh/h]	114	2552	1095	1044	205	183
d1, Uniform Delay [s]	27.34	4.74	9.60	10.03	25.47	23.37
k, delay calibration	0.04	0.15	0.25	0.27	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.64	0.49	3.11	4.51	5.48	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.69	0.80	0.84	0.75	0.04
d, Delay for Lane Group [s/veh]	30.98	5.23	12.71	14.54	30.95	23.45
Lane Group LOS	C	A	B	B	C	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.23	3.31	7.44	8.10	2.28	0.09
50th-Percentile Queue Length [ft/ln]	30.85	82.72	186.06	202.39	57.10	2.16
95th-Percentile Queue Length [veh/ln]	2.22	5.96	11.92	12.76	4.11	0.16
95th-Percentile Queue Length [ft/ln]	55.53	148.89	297.91	319.05	102.78	3.89

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.98	30.98	5.23	13.48	14.54	30.95	23.45
Movement LOS	C	C	A	B	B	C	C
d_A, Approach Delay [s/veh]	6.41			13.63		30.62	
Approach LOS	A			B		C	
d_I, Intersection Delay [s/veh]	10.80						
Intersection LOS	B						
Intersection V/C	0.784						

Emissions

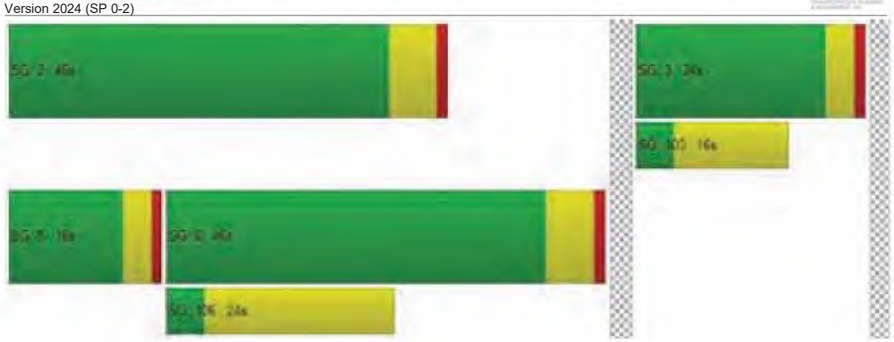
Vehicle Miles Traveled [mph]	59.31	1234.25	309.81	309.81	51.96	2.36
Stops [stops/h]	74.92	401.73	451.80	491.46	138.65	5.25
Fuel consumption [US gal/h]	3.39	54.91	17.52	18.06	3.87	0.16
CO [g/h]	237.04	3838.33	1224.30	1262.40	270.86	11.16
NOx [g/h]	46.12	746.80	238.20	245.62	52.70	2.17
VOC [g/h]	54.94	889.57	283.74	292.57	62.77	2.59

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0		0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00	0.00
d_p, Pedestrian Delay [s]	22.19		0.00	22.19
l_p,int, Pedestrian LOS Score for Intersectio	2.939		0.000	2.115
Crosswalk LOS	C		F	B
s_b, Saturation Flow Rate of the bicycle lane	2000		2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1349		1349	675
d_b, Bicycle Delay [s]	3.14		3.14	13.02
l_b,int, Bicycle LOS Score for Intersection	3.088		3.078	1.560
Bicycle LOS	C		C	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	51.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.893

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	41	605	21	209	386	563	314	41	5	136	94	335
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	99	358	42	0	164	0	0	0	47	19	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	19	0	0	169	0	0	16	0	0	101
Total Hourly Volume [veh/h]	140	963	44	209	550	394	314	41	36	155	94	234
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	271	12	59	154	111	88	12	10	44	26	66
Total Analysis Volume [veh/h]	157	1082	49	235	618	443	353	46	40	174	106	263
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Cycle Length [s]	83	83	83	83	83	83	83	83	83	83
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	9	25	25	12	28	28	12	12	15	15
g / C, Green / Cycle	0.11	0.30	0.30	0.14	0.34	0.34	0.15	0.15	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.09	0.30	0.30	0.13	0.30	0.31	0.12	0.12	0.16	0.16
s, saturation flow rate [veh/h]	1781	1870	1842	1781	1870	1615	1781	1760	1806	1589
c, Capacity [veh/h]	194	561	553	257	627	542	262	259	331	291
d1, Uniform Delay [s]	36.29	29.15	29.15	35.16	26.36	26.54	34.60	34.60	33.07	33.08
k, delay calibration	0.06	0.40	0.41	0.30	0.40	0.41	0.12	0.12	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.74	37.87	38.62	27.00	15.47	19.46	8.17	8.27	7.40	8.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	1.01	1.02	0.92	0.90	0.91	0.84	0.84	0.87	0.87
d, Delay for Lane Group [s/veh]	41.03	67.02	67.77	62.16	41.83	46.00	42.77	42.87	40.48	41.52
Lane Group LOS	D	F	F	E	D	D	D	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	3.31	16.55	16.41	6.19	11.86	11.02	4.84	4.79	6.18	5.53
50th-Percentile Queue Length [ft/ln]	82.66	413.73	410.32	154.72	296.44	275.43	120.94	119.69	154.42	138.21
95th-Percentile Queue Length [veh/ln]	5.95	23.44	23.30	10.27	17.50	16.46	8.44	8.38	10.25	9.38
95th-Percentile Queue Length [ft/ln]	148.78	585.94	582.38	256.72	437.62	411.52	211.12	209.40	256.32	234.62

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.03	67.38	67.77	62.16	42.19	46.00	42.80	42.87	42.87	40.48	40.48	41.52
Movement LOS	D	E	E	E	D	D	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	64.18			47.11			42.82			40.96		
Approach LOS	E			D			D			D		
d_I, Intersection Delay [s/veh]	51.81											
Intersection LOS	D											
Intersection V/C	0.893											

Emissions

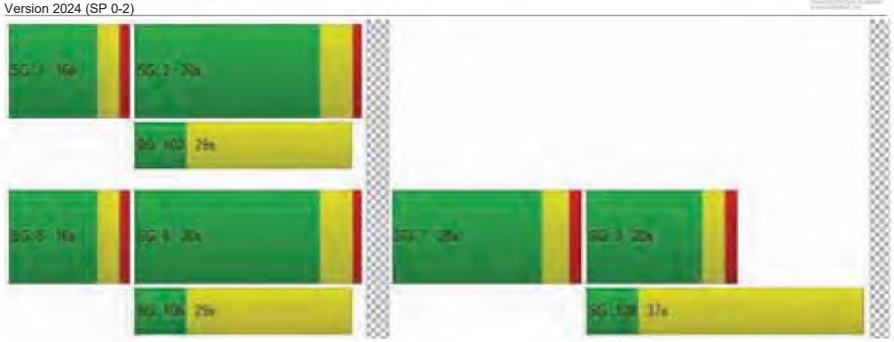
Vehicle Miles Traveled [mph]	90.67	328.82	324.35	163.96	394.40	345.87	16.61	16.41	31.92	28.14
Stops [stops/h]	143.09	716.21	710.31	267.84	513.17	476.80	209.36	207.20	267.32	239.26
Fuel consumption [US gal/h]	5.83	25.26	25.02	13.43	27.54	25.07	3.76	3.72	5.17	4.63
CO [g/h]	407.80	1765.59	1749.02	938.91	1924.85	1752.14	262.97	260.29	361.24	323.59
NOx [g/h]	79.34	343.52	340.30	182.68	374.51	340.90	51.16	50.64	70.28	62.96
VOC [g/h]	94.51	409.19	405.35	217.60	446.10	406.07	60.95	60.32	83.72	74.99

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.32	0.00	31.32	31.32
l_p,int, Pedestrian LOS Score for Intersectio	2.743	0.000	2.391	2.402
Crosswalk LOS	B	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	594	594	373	481
d_b, Bicycle Delay [s]	20.56	20.56	27.54	24.00
l_b,int, Bicycle LOS Score for Intersection	2.638	2.768	2.310	2.622
Bicycle LOS	B	C	B	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	15.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.911

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	┐|		|┌		┬┌	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	122	465	254	273	202	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	498	230	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	135	963	484	273	202	59
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	268	134	76	56	16
Total Analysis Volume [veh/h]	150	1070	538	303	224	66
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	12	40	40	0	20	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	46	46	0	24	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	51	51	51	51	51	51
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	6	33	23	23	9	9
g / C, Green / Cycle	0.11	0.64	0.45	0.45	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.08	0.57	0.29	0.19	0.13	0.04
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1589
c, Capacity [veh/h]	194	1190	841	715	302	269
d1, Uniform Delay [s]	22.31	7.95	10.94	9.63	20.31	18.53
k, delay calibration	0.04	0.27	0.15	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.46	6.41	1.16	0.57	3.61	0.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.90	0.64	0.42	0.74	0.25
d, Delay for Lane Group [s/veh]	24.77	14.36	12.11	10.20	23.93	19.00
Lane Group LOS	C	B	B	B	C	B
Critical Lane Group	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.56	5.04	3.16	1.55	2.60	0.65
50th-Percentile Queue Length [ft/ln]	38.91	125.95	79.11	38.67	65.01	16.31
95th-Percentile Queue Length [veh/ln]	2.80	8.72	5.70	2.78	4.68	1.17
95th-Percentile Queue Length [ft/ln]	70.03	217.97	142.39	69.61	117.01	29.36

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	24.77	14.36	12.11	10.20	23.93	19.00
Movement LOS	C	B	B	B	C	B
d_A, Approach Delay [s/veh]	15.64		11.42		22.81	
Approach LOS	B		B		C	
d_I, Intersection Delay [s/veh]	15.01					
Intersection LOS	B					
Intersection V/C	0.911					

Emissions

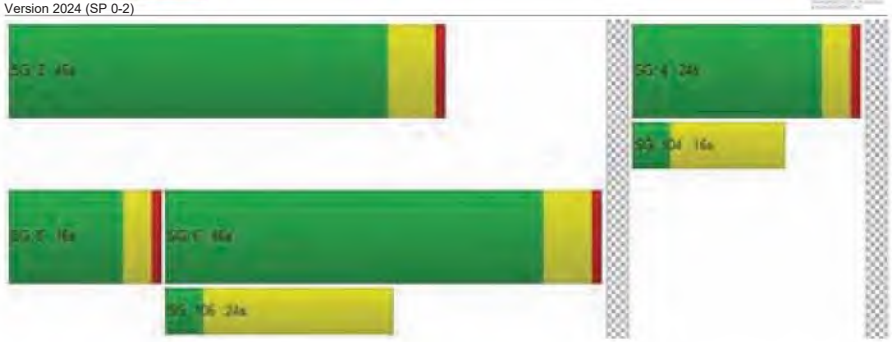
Vehicle Miles Traveled [mph]	18.51	132.02	310.71	174.99	52.61	15.50
Stops [stops/h]	109.12	353.25	221.87	108.46	182.33	45.75
Fuel consumption [US gal/h]	3.40	14.10	15.84	8.50	4.26	1.15
CO [g/h]	237.80	985.87	1107.25	593.96	298.05	80.11
NOx [g/h]	46.27	191.82	215.43	115.56	57.99	15.59
VOC [g/h]	55.11	228.49	256.62	137.66	69.08	18.57

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	18.29	0.00	18.29
l_p,int, Pedestrian LOS Score for Intersectio	3.001	0.000	2.156
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1558	1558	779
d_b, Bicycle Delay [s]	1.25	1.25	9.57
l_b,int, Bicycle LOS Score for Intersection	3.573	2.947	1.560
Bicycle LOS	D	C	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	185.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.852

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	548	0	14	295	0	0	0	0	0	0	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	466	0	0	218	16	45	0	5	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	1014	0	14	513	16	45	0	5	0	0	39
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	276	0	4	139	4	12	0	1	0	0	10
Total Analysis Volume [veh/h]	2	1102	0	14	558	17	49	0	5	0	0	39
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			Yes	Yes
Storage Area [veh]	0	0	1	1
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.02	0.01	0.00	0.85	0.00	0.01	0.00	0.00	0.15
d_M, Delay for Movement [s/veh]	8.61	0.00	0.00	10.70	0.00	0.00	185.68	163.75	129.94	59.66	48.66	21.47
Movement LOS	A	A	A	B	A	A	F	F	F	F	E	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.02	0.02	0.02	3.95	3.95	3.95	0.53	0.53	0.53
95th-Percentile Queue Length [ft/ln]	0.08	0.08	0.08	0.59	0.59	0.59	98.82	98.82	98.82	13.14	13.14	13.14
d_A, Approach Delay [s/veh]	0.02			0.25			180.52			21.47		
Approach LOS	A			A			F			C		
d_I, Intersection Delay [s/veh]	6.02											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Two-way stop	Delay (sec / veh):	1,681.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	4.443

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	387	32	41	254	0	0	0	0	10	0	161
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	22	24	0	0	14	141	445	6	51	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	37	0	0	0	0	0	37	0	18	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	59	411	32	41	268	141	482	6	69	10	2	161
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	110	9	11	72	38	130	2	19	3	1	43
Total Analysis Volume [veh/h]	63	442	34	44	288	152	518	6	74	11	2	173
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.00	0.04	0.00	0.00	4.44	0.03	0.11	0.07	0.01	0.29
d_M, Delay for Movement [s/veh]	8.41	0.00	0.00	8.45	0.00	0.00	1681.66	1668.38	1656.07	32.43	28.19	15.10
Movement LOS	A	A	A	A	A	A	F	F	F	D	D	C
95th-Percentile Queue Length [veh/ln]	0.18	0.00	0.00	0.13	0.00	0.00	62.05	62.05	62.05	1.68	1.68	1.68
95th-Percentile Queue Length [ft/ln]	4.46	0.00	0.00	3.16	0.00	0.00	1551.13	1551.13	1551.13	42.10	42.10	42.10
d_A, Approach Delay [s/veh]	0.98			0.77			1678.36			16.27		
Approach LOS	A			A			F			C		
d_I, Intersection Delay [s/veh]	557.60											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Two-way stop	Delay (sec / veh):	94.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.300

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	13	232	128	45	0	546	152
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	47	0	0	0	99
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	13	232	175	45	0	546	251
Peak Hour Factor	1.0000	0.9060	0.9060	0.9060	0.9060	1.0000	0.9060	0.9060
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	64	48	12	0	151	69
Total Analysis Volume [veh/h]	0	14	256	193	50	0	603	277
Pedestrian Volume [ped/h]	0			0		0		

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.30	0.31	0.00	0.00	0.00	0.46	0.00
d_M, Delay for Movement [s/veh]	94.20	94.20	21.40	0.00	0.00	12.52	8.72	0.00
Movement LOS	F	F	C	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	3.98	3.98	3.98	0.00	0.00	1.50	1.50	1.50
95th-Percentile Queue Length [ft/ln]	99.61	99.61	99.61	0.00	0.00	37.41	37.41	37.41
d_A, Approach Delay [s/veh]	25.18			0.00		5.98		
Approach LOS	D			A		A		
d_I, Intersection Delay [s/veh]	8.66							
Intersection LOS	F							

Intersection Level Of Service Report
Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Control Type:	All-way stop	Delay (sec / veh):	26.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.886

Intersection Setup

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Base Volume Input [veh/h]	2	39	63	2	30	443	13	2	9	0	225	26	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	4	0	0	0	0	0	0	0	13
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	39	63	2	34	443	13	2	9	0	225	26	59
Peak Hour Factor	0.8300	0.8300	0.8300	1.000	0.830	0.830	0.830	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	12	19	1	10	133	4	1	3	0	68	8	18
Total Analysis Volume [veh/h]	2	47	76	2	41	534	16	2	11	0	271	31	71
Pedestrian Volume [ped/h]	0			0				0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	623	669	526	603
Degree of Utilization, x	0.20	0.89	0.02	0.62

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.74	10.90	0.08	4.24
95th-Percentile Queue Length [ft]	18.62	272.46	1.90	106.09
Approach Delay [s/veh]	10.23	35.72	10.02	18.18
Approach LOS	B	E	B	C
Intersection Delay [s/veh]	26.61			
Intersection LOS	D			

Intersection Level Of Service Report
Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	12.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.068

Intersection Setup

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00			30.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	No		No			No		

Volumes

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Base Volume Input [veh/h]	31	108	1	65	13	0	49	91
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	47	0	0	0	0	99	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	155	1	65	13	0	148	91
Peak Hour Factor	0.9500	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	41	0	17	3	0	39	24
Total Analysis Volume [veh/h]	33	163	1	68	14	0	156	96
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.17	0.00	0.00	0.00	0.00	0.10	0.00
d_M, Delay for Movement [s/veh]	12.94	9.37	8.60	0.00	0.00	9.49	7.65	0.00
Movement LOS	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.22	0.59	0.00	0.00	0.00	0.34	0.34	0.00
95th-Percentile Queue Length [ft/ln]	5.44	14.76	0.04	0.04	0.04	8.59	8.59	0.00
d_A, Approach Delay [s/veh]	9.97		0.10			4.73		
Approach LOS	A		A			A		
d_I, Intersection Delay [s/veh]	5.94							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 16: Carson Crossing Rd/Calypso Cir.

Control Type:	Two-way stop	Delay (sec / veh):	12.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.090

Intersection Setup

Name			Carson Crossing Rd		Carson Crossing Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	190.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			Carson Crossing Rd		Carson Crossing Rd	
Base Volume Input [veh/h]	45	43	78	31	65	51
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	47	0	0	99
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	43	125	31	65	150
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	12	34	8	18	41
Total Analysis Volume [veh/h]	49	47	136	34	71	163
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.05	0.00	0.00	0.05	0.00
d_M, Delay for Movement [s/veh]	12.48	9.82	0.00	0.00	7.69	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.49	0.49	0.00	0.00	0.16	0.00
95th-Percentile Queue Length [ft/ln]	12.27	12.27	0.00	0.00	3.98	0.00
d_A, Approach Delay [s/veh]	11.18		0.00		2.33	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.24					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 17: Carson Crossing Rd/Four Seasons Dr

Control Type:	All-way stop	Delay (sec / veh):	8.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.133

Intersection Setup

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	500.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	500.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Base Volume Input [veh/h]	67	10	10	114	18	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	99	0	0	47	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	166	10	10	161	18	18
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	3	3	44	5	5
Total Analysis Volume [veh/h]	180	11	11	175	20	20
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	719	731	679	750	750	699
Degree of Utilization, x	0.13	0.13	0.02	0.12	0.12	0.06

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.46	0.45	0.05	0.39	0.39	0.18
95th-Percentile Queue Length [ft]	11.42	11.21	1.23	9.86	9.86	4.54
Approach Delay [s/veh]	8.42		8.13			8.46
Approach LOS	A		A			A
Intersection Delay [s/veh]	8.29					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	38.7
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.629

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	65	0	18	66	1	8	4	227	71	37	439	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	99	0	0	0	0	0	0	0	47	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	164	0	18	66	1	8	4	227	118	37	439	15
Peak Hour Factor	0.9700	1.0000	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	0	5	17	0	2	1	59	30	10	113	4
Total Analysis Volume [veh/h]	169	0	19	68	1	8	4	234	122	38	453	15
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.63	0.00	0.03	0.25	0.00	0.01	0.00	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	38.70	17.62	9.96	23.06	23.05	15.62	8.30	0.00	0.00	8.09	0.00	0.00
Movement LOS	E	C	A	C	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	3.88	0.08	0.08	1.07	1.07	1.07	0.01	0.00	0.00	0.10	0.00	0.00
95th-Percentile Queue Length [ft/ln]	97.06	1.96	1.96	26.74	26.74	26.74	0.28	0.00	0.00	2.45	0.00	0.00
d_A, Approach Delay [s/veh]	35.80			22.29			0.09			0.61		
Approach LOS	E			C			A			A		
d_I, Intersection Delay [s/veh]	7.77											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 19: White Rock Rd/Windfield Way

Control Type:	Signalized	Delay (sec / veh):	25.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.398

Intersection Setup

Name	Windfield Way				White Rock Rd				White Rock Rd			
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00			
Grade [%]	0.00			0.00			0.00			0.00			
Curb Present	No			No			No			No			
Crosswalk	Yes			Yes			Yes			No			

Volumes

Name	Windfield Way						White Rock Rd			White Rock Rd			
Base Volume Input [veh/h]	53	5	117	5	5	5	5	359	115	0	300	415	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	35	0	0	2	0	0	35	0	0	0	2
Total Hourly Volume [veh/h]	53	5	82	5	5	3	5	359	80	0	300	415	3
Peak Hour Factor	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000	1.0000	0.9700	0.9700	1.000	0.970	0.970	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	14	1	21	1	1	1	1	93	21	0	77	107	1
Total Analysis Volume [veh/h]	55	5	85	5	5	3	5	370	82	0	309	428	3
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	31.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi
Signal Group	3	8	0	7	4	0	5	2	0	0	1	6	0
Auxiliary Signal Groups													
Maximum Green [s]	25	25	0	10	10	0	9	19	0	0	44	54	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	2.0	1.0	0.0	0.0	2.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	26	0	0	13	0	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	245.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	15	15	0	15	25	0	0	50	60	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	3	3	0	5	3	0	5	7	0	0	3	7	0
Vehicle Extension [s]	1.0	1.0	0.0	3.0	1.0	0.0	3.0	3.6	0.0	0.0	1.0	3.6	0.0
Minimum Recall	No	No		No	No		No	Yes			No	Yes	
Maximum Recall	No	No		No	No		No	No			No	No	
Pedestrian Recall	No	No		No	No		No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	5	8	1	4	1	66	66	23	88	88
g / C, Green / Cycle	0.04	0.07	0.01	0.04	0.01	0.55	0.55	0.19	0.73	0.73
(v / s)_i Volume / Saturation Flow Rate	0.03	0.06	0.00	0.00	0.00	0.12	0.13	0.17	0.12	0.12
s, saturation flow rate [veh/h]	1781	1603	1781	1754	1781	1870	1755	1781	1870	1865
c, Capacity [veh/h]	72	111	12	62	12	1034	970	335	1373	1370
d1, Uniform Delay [s]	57.02	55.09	59.37	56.07	59.37	13.69	13.73	47.86	4.79	4.79
k, delay calibration	0.04	0.04	0.11	0.04	0.11	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.19	5.30	21.73	0.34	21.99	0.50	0.55	4.53	0.24	0.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.81	0.42	0.13	0.42	0.22	0.23	0.92	0.16	0.16
d, Delay for Lane Group [s/veh]	63.21	60.38	81.09	56.41	81.36	14.19	14.27	52.39	5.04	5.04
Lane Group LOS	E	E	F	E	F	B	B	D	A	A
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.78	2.85	0.22	0.24	0.22	3.31	3.18	9.46	1.55	1.54
50th-Percentile Queue Length [ft/ln]	44.40	71.18	5.59	6.03	5.60	82.81	79.51	236.57	38.67	38.59
95th-Percentile Queue Length [veh/ln]	3.20	5.13	0.40	0.43	0.40	5.96	5.72	14.51	2.78	2.78
95th-Percentile Queue Length [ft/ln]	79.91	128.13	10.06	10.85	10.08	149.05	143.12	362.69	69.61	69.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	63.21	60.38	60.38	81.09	56.41	56.41	81.36	14.22	14.27	52.39	52.39	5.04	5.04
Movement LOS	E	E	E	F	E	E	F	B	B	D	D	A	A
d_A, Approach Delay [s/veh]	61.45			65.91			14.97			24.81			
Approach LOS	E			E			B			C			
d_I, Intersection Delay [s/veh]	25.81												
Intersection LOS	C												
Intersection V/C	0.398												

Emissions

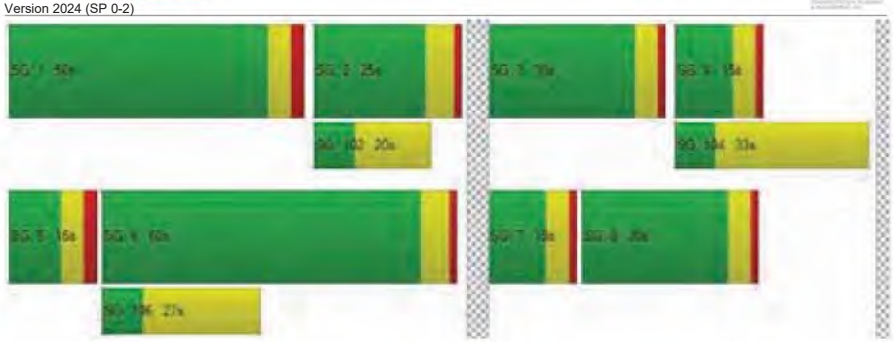
Vehicle Miles Traveled [mph]	21.19	34.68	0.17	0.28	4.21	194.56	185.81	77.01	53.77	53.64
Stops [stops/h]	53.28	85.42	6.71	7.23	6.72	99.37	95.42	283.88	46.41	46.31
Fuel consumption [US gal/h]	1.87	3.01	0.13	0.14	0.29	9.23	8.82	8.03	2.69	2.68
CO [g/h]	131.00	210.07	8.86	10.02	20.49	644.92	616.35	561.47	188.10	187.67
NOx [g/h]	25.49	40.87	1.72	1.95	3.99	125.48	119.92	109.24	36.60	36.51
VOC [g/h]	30.36	48.68	2.05	2.32	4.75	149.47	142.85	130.13	43.59	43.49

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.202	1.967	2.555	0.000
Crosswalk LOS	B	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	417	167	317	900
d_b, Bicycle Delay [s]	37.60	50.42	42.50	18.15
I_b,int, Bicycle LOS Score for Intersection	1.857	1.584	1.966	1.917
Bicycle LOS	A	A	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 20: White Rock Rd/Post St

Control Type:	Signalized	Delay (sec / veh):	37.7
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.463

Intersection Setup

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Approach	Northbound			Southbound			Eastbound				Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0	120.00	100.00	400.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00				30.00		
Grade [%]	0.00			0.00			0.00				0.00		
Curb Present	No			No			No				No		
Crosswalk	Yes			Yes			Yes				No		

Volumes

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	57	7	20	114	11	147	0	145	431	12	53	508	204
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	68	0	0	30	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	6	0	0	44	0	0	0	4	0	0	61
Total Hourly Volume [veh/h]	57	7	14	114	11	103	0	145	499	8	53	538	143
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	1.000	0.910	0.910	0.910	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	2	4	31	3	28	0	40	137	2	15	148	39
Total Analysis Volume [veh/h]	63	8	15	125	12	113	0	159	548	9	58	591	157
Presence of On-Street Parking	No		No	No		No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0				0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0				0		
v_co, Outbound Pedestrian Volume crossing	0			0			0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0				0		
Bicycle Volume [bicycles/h]	0			0			0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	71.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups													
Maximum Green [s]	21	62	0	8	48	0	0	14	31	0	16	34	0
Amber [s]	3.5	5.0	0.0	3.5	5.0	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.7	1.0	0.0	1.0	1.0	0.0	0.0	2.0	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	32	0	0	0	21	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.2	4.0	0.0	2.5	4.0	0.0	0.0	3.5	2.5	0.0	3.0	2.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	100.0	0.0	100.0	100.0	0.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	0	13	54	0	0	20	36	0	21	39	0
Lead / Lag	Lead	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	3	7	0	3	7	0	0	3	3	0	3	3	0
Vehicle Extension [s]	1.0	3.6	0.0	1.0	3.6	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No			No	Yes		No	Yes	
Maximum Recall	No	No		No	No			No	No		No	No	
Pedestrian Recall	No	No		No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	5.20	6.00	4.50	6.00	5.50	4.50	4.50	5.00	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.20	4.00	2.50	4.00	3.50	2.50	2.50	3.00	2.50	2.50
g_i, Effective Green Time [s]	6	12	9	13	14	94	94	6	85	85
g / C, Green / Cycle	0.05	0.08	0.06	0.09	0.10	0.67	0.67	0.04	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.04	0.01	0.07	0.08	0.09	0.15	0.01	0.03	0.21	0.21
s, saturation flow rate [veh/h]	1781	1677	1781	1613	1781	3560	1589	1781	1870	1737
c, Capacity [veh/h]	81	140	108	152	182	2388	1066	75	1135	1054
d1, Uniform Delay [s]	66.12	59.59	65.75	62.29	61.92	8.97	7.63	66.41	13.66	13.66
k, delay calibration	0.04	0.13	0.40	0.13	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.91	0.68	125.62	12.93	4.94	0.22	0.01	6.26	0.82	0.89
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.16	1.16	0.82	0.87	0.23	0.01	0.78	0.34	0.34
d, Delay for Lane Group [s/veh]	72.03	60.26	191.37	75.22	66.86	9.20	7.65	72.66	14.48	14.55
Lane Group LOS	E	E	F	E	E	A	A	E	B	B
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.37	0.79	7.65	4.93	5.84	3.28	0.09	2.19	6.32	5.90
50th-Percentile Queue Length [ft/ln]	59.23	19.76	191.15	123.24	146.02	82.02	2.35	54.77	157.89	147.47
95th-Percentile Queue Length [veh/ln]	4.26	1.42	12.73	8.57	9.80	5.91	0.17	3.94	10.44	9.88
95th-Percentile Queue Length [ft/ln]	106.62	35.57	318.26	214.27	245.10	147.63	4.22	98.59	260.92	247.05

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	72.03	60.26	60.26	191.37	75.22	75.22	66.86	66.86	9.20	7.65	72.66	14.50	14.55
Movement LOS	E	E	E	F	E	E	E	E	A	A	E	B	B
d_A, Approach Delay [s/veh]	68.88			133.30			21.98				18.70		
Approach LOS	E			F			C				B		
d_I, Intersection Delay [s/veh]	37.71												
Intersection LOS	D												
Intersection V/C	0.463												

Emissions

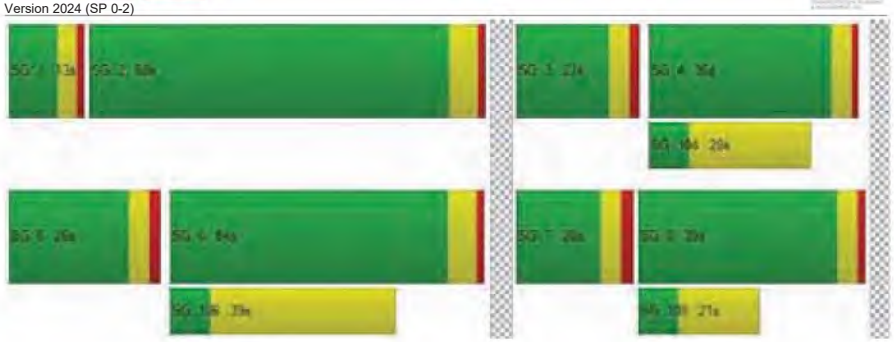
Vehicle Miles Traveled [mph]	3.15	1.15	5.81	5.81	16.67	57.45	0.94	20.31	135.67	126.25
Stops [stops/h]	60.92	20.33	196.61	126.76	150.19	168.72	2.41	56.34	162.40	151.69
Fuel consumption [US gal/h]	1.39	0.44	6.19	2.85	3.68	4.32	0.07	2.00	7.62	7.10
CO [g/h]	97.14	30.88	432.86	199.41	257.16	302.16	4.63	140.14	532.89	496.50
NOx [g/h]	18.90	6.01	84.22	38.80	50.03	58.79	0.90	27.27	103.68	96.60
VOC [g/h]	22.51	7.16	100.32	46.21	59.60	70.03	1.07	32.48	123.50	115.07

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0		11.0		11.0			0.0		
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00			0.00		
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00			0.00		
d_p, Pedestrian Delay [s]	59.43		59.43		59.43			0.00		
l_p,int, Pedestrian LOS Score for Intersectio	2.027		2.245		2.728			0.000		
Crosswalk LOS	B		B		B			F		
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	886		686		450			493		
d_b, Bicycle Delay [s]	21.73		30.23		42.04			39.75		
l_b,int, Bicycle LOS Score for Intersection	1.711		2.045		2.022			2.275		
Bicycle LOS	A		B		B			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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TKEAR

Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	91.5
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.024

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	95	50	256	155	36	46	68	194	30	162	653	238
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	34	0	0	10	21	47	0	16	20	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	87	0	0	17	0	0	9	0	0	71
Total Hourly Volume [veh/h]	95	50	203	155	36	39	89	241	21	178	673	167
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	14	58	45	10	11	26	69	6	51	193	48
Total Analysis Volume [veh/h]	109	57	233	178	41	45	102	277	24	205	774	192
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	0	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	35	0	0	40	0	25	45	0	25	45	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	18	0	0	17	0	0	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	0	0	44	0	29	50	0	29	51	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	0.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	3.50	5.30	3.50	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	1.50	3.30	1.50	4.00
g_i, Effective Green Time [s]	22	22	13	13	8	39	14	45
g / C, Green / Cycle	0.20	0.20	0.13	0.13	0.07	0.37	0.13	0.43
(v / s)_i Volume / Saturation Flow Rate	0.06	0.18	0.10	0.05	0.06	0.16	0.12	0.53
s, saturation flow rate [veh/h]	1781	1638	1781	1712	1781	1844	1781	1807
c, Capacity [veh/h]	365	336	225	216	130	685	239	769
d1, Uniform Delay [s]	35.56	40.56	44.80	42.46	48.15	24.96	44.76	30.34
k, delay calibration	0.13	0.14	0.13	0.13	0.04	0.11	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.56	8.16	7.52	1.47	3.84	0.44	3.44	125.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.30	0.86	0.79	0.40	0.78	0.44	0.86	1.26
d, Delay for Lane Group [s/veh]	36.12	48.72	52.32	43.93	52.00	25.41	48.19	155.99
Lane Group LOS	D	D	D	D	D	C	D	F
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.43	7.96	4.96	2.15	2.77	5.66	5.44	45.49
50th-Percentile Queue Length [ft/ln]	60.70	198.92	124.11	53.65	69.16	141.62	135.99	1137.29
95th-Percentile Queue Length [veh/ln]	4.37	12.58	8.62	3.86	4.98	9.57	9.26	65.85
95th-Percentile Queue Length [ft/ln]	109.26	314.58	215.46	96.57	124.49	239.20	231.62	1646.13

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.12	48.72	48.72	52.32	43.93	43.93	52.00	25.41	25.41	48.19	155.99	155.99
Movement LOS	D	D	D	D	D	D	D	C	C	D	F	F
d_A, Approach Delay [s/veh]	45.28			49.59			32.14			137.12		
Approach LOS	D			D			C			F		
d_I, Intersection Delay [s/veh]	91.49											
Intersection LOS	F											
Intersection V/C	1.024											

Emissions

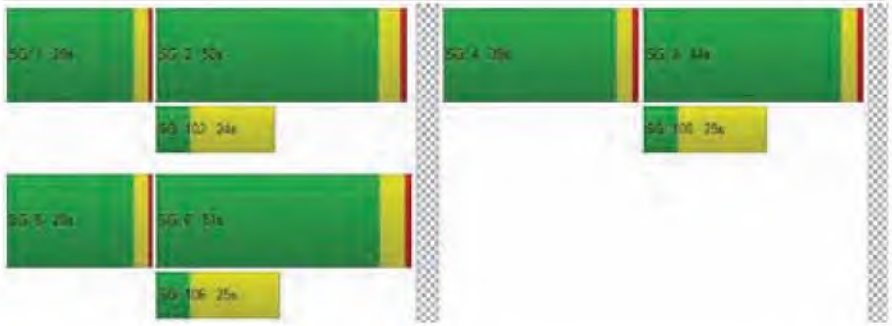
Vehicle Miles Traveled [mph]	187.55	498.99	36.09	17.44	35.72	105.40	92.50	435.88
Stops [stops/h]	82.86	271.54	169.42	73.23	94.41	193.32	185.64	1552.46
Fuel consumption [US gal/h]	8.98	24.92	4.32	1.89	3.07	6.96	6.84	57.18
CO [g/h]	627.68	1741.67	301.74	132.18	214.67	486.73	478.39	3996.82
NOx [g/h]	122.12	338.87	58.71	25.72	41.77	94.70	93.08	777.64
VOC [g/h]	145.47	403.65	69.93	30.63	49.75	112.80	110.87	926.30

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	42.32	42.32	42.32	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.320	2.200	2.402	0.000
Crosswalk LOS	B	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	660	755	847	853
d_b, Bicycle Delay [s]	23.69	20.45	17.52	17.34
l_b,int, Bicycle LOS Score for Intersection	2.362	2.023	2.239	3.609
Bicycle LOS	B	B	B	D

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 22: White Rock Rd/Clarksville Crossing

Control Type:	Signalized	Delay (sec / veh):	24.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.743

Intersection Setup

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	180.00	460.00	100.00	100.00	290.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	0	0	4	4	0	354	3	602	0	0	699	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	82	0	0	37	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	4	4	0	354	3	684	0	0	736	31
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	1	0	113	1	219	0	0	236	10
Total Analysis Volume [veh/h]	0	0	5	5	0	454	4	877	0	0	944	40
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	20	0	0	20	0	20	50	0	20	50	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	5.0	0.0	4.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	5.0	0.0	3.0	5.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	R
C, Cycle Length [s]	64	64	64	64	64	64	64	64	64	64
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	7.00	7.00	5.00	7.00	7.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	5.00	5.00	3.00	5.00	5.00
g_i, Effective Green Time [s]	0	0	20	20	0	21	21	0	21	21
g / C, Green / Cycle	0.01	0.01	0.31	0.31	0.01	0.34	0.34	0.00	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.00	0.29	0.00	0.23	0.23	0.00	0.27	0.03
s, saturation flow rate [veh/h]	1870	1589	1781	1589	1781	1870	1870	1781	3560	1589
c, Capacity [veh/h]	13	11	553	493	10	631	631	0	1183	528
d1, Uniform Delay [s]	0.00	31.54	15.21	21.23	31.60	18.27	18.27	0.00	19.34	14.58
k, delay calibration	0.11	0.11	0.11	0.34	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	26.99	0.01	18.72	24.17	1.39	1.39	0.00	1.28	0.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.46	0.01	0.92	0.40	0.69	0.69	0.00	0.80	0.08
d, Delay for Lane Group [s/veh]	0.00	58.53	15.22	39.95	55.77	19.65	19.65	0.00	20.62	14.64
Lane Group LOS	A	E	B	D	E	B	B	A	C	B
Critical Lane Group	No	Yes	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.00	0.16	0.05	8.48	0.13	5.30	5.30	0.00	5.94	0.37
50th-Percentile Queue Length [ft/ln]	0.00	3.89	1.19	211.98	3.14	132.48	132.48	0.00	148.53	9.37
95th-Percentile Queue Length [veh/ln]	0.00	0.28	0.09	13.25	0.23	9.07	9.07	0.00	9.94	0.67
95th-Percentile Queue Length [ft/ln]	0.00	7.00	2.14	331.37	5.65	226.86	226.86	0.00	248.46	16.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	58.53	15.22	15.22	39.95	55.77	19.65	19.65	0.00	20.62	14.64
Movement LOS	A	A	E	B	B	D	E	B	B	A	C	B
d_A, Approach Delay [s/veh]	58.53			39.68			19.82			20.38		
Approach LOS	E			D			B			C		
d_I, Intersection Delay [s/veh]	24.05											
Intersection LOS	C											
Intersection V/C	0.743											

Emissions

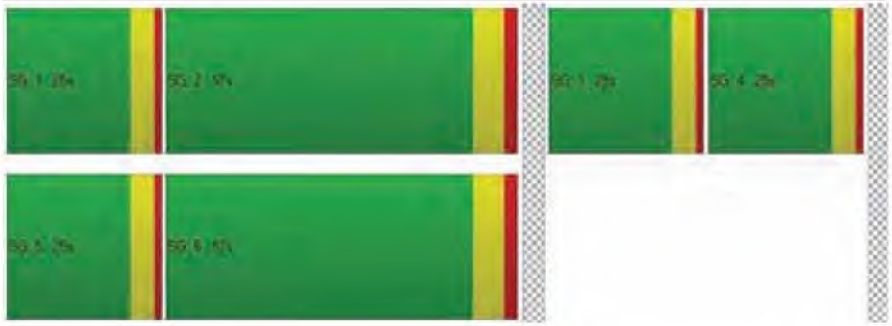
Vehicle Miles Traveled [mph]	0.00	0.25	2.37	215.36	1.80	197.86	197.86	0.00	164.67	6.98
Stops [stops/h]	0.00	8.80	2.70	479.84	7.11	299.87	299.87	0.00	672.40	21.22
Fuel consumption [US gal/h]	0.00	0.12	0.13	15.21	0.16	11.56	11.56	0.00	14.46	0.52
CO [g/h]	0.00	8.28	8.95	1062.99	11.11	807.77	807.77	0.00	1010.50	36.60
NOx [g/h]	0.00	1.61	1.74	206.82	2.16	157.16	157.16	0.00	196.61	7.12
VOC [g/h]	0.00	1.92	2.07	246.36	2.58	187.21	187.21	0.00	234.19	8.48

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	629	629	1572	1572
d_b, Bicycle Delay [s]	14.95	14.95	1.46	1.46
l_b,int, Bicycle LOS Score for Intersection	1.568	2.317	2.286	2.371
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 23: White Rock Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	18.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.494

Intersection Setup

Name	White Rock Rd		White Rock Rd		US 50 EB	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	1	0	1
Entry Pocket Length [ft]	500.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	White Rock Rd		White Rock Rd		US 50 EB	
Base Volume Input [veh/h]	295	315	697	220	156	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	69	13	37	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	12
Total Hourly Volume [veh/h]	364	328	734	220	156	21
Peak Hour Factor	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	110	99	221	66	47	6
Total Analysis Volume [veh/h]	439	395	884	265	188	25
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	21	61	32	0	16	0
Amber [s]	3.7	4.8	4.8	0.0	4.8	0.0
All red [s]	0.5	2.0	2.0	0.0	1.0	0.0
Walk [s]	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.2	4.8	4.8	0.0	3.8	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	39	0	22	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	8	9	9	0	8	0
Vehicle Extension [s]	2.0	1.0	1.0	0.0	2.0	0.0
Minimum Recall	No	Yes	Yes		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80
g_i, Effective Green Time [s]	14	69	52	52	8	8	8
g / C, Green / Cycle	0.15	0.77	0.57	0.57	0.09	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.13	0.11	0.25	0.17	0.05	0.05	0.02
s, saturation flow rate [veh/h]	3459	3560	3560	1589	1781	1781	1589
c, Capacity [veh/h]	526	2744	2036	909	159	159	142
d1, Uniform Delay [s]	37.05	2.66	10.97	9.89	39.41	39.41	37.93
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.35	0.11	0.68	0.81	1.31	1.31	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.14	0.43	0.29	0.59	0.59	0.18
d, Delay for Lane Group [s/veh]	38.40	2.77	11.64	10.71	40.72	40.72	38.15
Lane Group LOS	D	A	B	B	D	D	D
Critical Lane Group	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.70	0.67	4.78	2.69	2.03	2.03	0.51
50th-Percentile Queue Length [ft/ln]	117.58	16.80	119.50	67.18	50.80	50.80	12.85
95th-Percentile Queue Length [veh/ln]	8.26	1.21	8.37	4.84	3.66	3.66	0.93
95th-Percentile Queue Length [ft/ln]	206.50	30.24	209.14	120.92	91.45	91.45	23.13

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.40	2.77	11.64	10.71	40.72	38.15
Movement LOS	D	A	B	B	D	D
d_A, Approach Delay [s/veh]	21.52		11.43		40.42	
Approach LOS	C		B		D	
d_I, Intersection Delay [s/veh]	18.07					
Intersection LOS	B					
Intersection V/C	0.494					

Emissions

Vehicle Miles Traveled [mph]	76.58	68.90	156.65	46.96	5.69	5.69	1.51
Stops [stops/h]	376.27	53.76	382.41	107.49	81.29	81.29	20.56
Fuel consumption [US gal/h]	8.66	3.36	10.66	3.10	1.46	1.46	0.37
CO [g/h]	605.46	234.60	744.89	217.00	102.22	102.22	25.86
NOx [g/h]	117.80	45.64	144.93	42.22	19.89	19.89	5.03
VOC [g/h]	140.32	54.37	172.64	50.29	23.69	23.69	5.99

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1360	716	360
d_b, Bicycle Delay [s]	4.61	18.56	30.26
l_b,int, Bicycle LOS Score for Intersection	2.248	2.508	1.931
Bicycle LOS	B	B	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 24: Silva Valley Pkwy/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	36.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.861

Intersection Setup

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Approach	Northbound				Southbound			Westbound			Northeastbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	550.0	100.0	100.0	100.0	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No					
Crosswalk	No				No			No			No		

Volumes

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Base Volume Input [veh/h]	0	78	393	0	0	223	590	694	0	169	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	13	0	0	4	0	33	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	47	0	0	30	0	0	0
Total Hourly Volume [veh/h]	0	78	406	0	0	227	543	727	0	139	0	0	0
Peak Hour Factor	1.000	0.790	0.790	1.000	1.0000	0.7900	0.7900	0.7900	0.7900	0.7900	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	25	128	0	0	72	172	230	0	44	0	0	0
Total Analysis Volume [veh/h]	0	99	514	0	0	287	687	920	0	176	0	0	0
Presence of On-Street Parking	No			No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	6	0	0	8	0	0	0	0	0
Auxiliary Signal Groups														
Maximum Green [s]	0	20	54	0	0	26	0	0	23	0	0	0	0	0
Amber [s]	0.0	3.7	4.8	0.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	0.5	2.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No					
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
l2, Clearance Lost Time [s]	0.0	2.2	4.8	0.0	0.0	4.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	61	0	0	33	0	0	29	0	0	0	0	0
Lead / Lag	-	Lead	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	8	8	0	0	8	0	0	8	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No	Yes			Yes			No					
Maximum Recall		No	No			No			No					
Pedestrian Recall		No	No			No			No					

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	R	
C, Cycle Length [s]	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80	
g_i, Effective Green Time [s]	7	53	41	41	25	25	25	
g / C, Green / Cycle	0.08	0.58	0.46	0.46	0.28	0.28	0.28	
(v / s)_i Volume / Saturation Flow Rate	0.06	0.14	0.08	0.43	0.26	0.26	0.11	
s, saturation flow rate [veh/h]	1781	3560	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	147	2079	1619	723	492	492	439	
d1, Uniform Delay [s]	40.10	9.11	14.56	23.58	31.79	31.79	26.51	
k, delay calibration	0.04	0.50	0.50	0.50	0.29	0.29	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	2.00	0.28	0.24	23.40	18.82	18.82	0.22	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.67	0.25	0.18	0.95	0.94	0.94	0.40	
d, Delay for Lane Group [s/veh]	42.10	9.39	14.80	46.98	50.61	50.61	26.73	
Lane Group LOS	D	A	B	D	D	D	C	
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	2.18	2.34	1.73	17.69	12.00	12.00	3.04	
50th-Percentile Queue Length [ft/ln]	54.62	58.52	43.24	442.20	300.12	300.12	75.93	
95th-Percentile Queue Length [veh/ln]	3.93	4.21	3.11	24.59	17.69	17.69	5.47	
95th-Percentile Queue Length [ft/ln]	98.32	105.34	77.83	614.63	442.18	442.18	136.68	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.10	42.10	9.39	0.00	0.00	14.80	46.98	50.61	50.61	26.73	0.00	0.00	0.00
Movement LOS	D	D	A			B	D	D	D	C			
d_A, Approach Delay [s/veh]	14.68				37.50			46.77			0.00		
Approach LOS	B				D			D			A		
d_I, Intersection Delay [s/veh]	36.07												
Intersection LOS	D												
Intersection V/C	0.861												

Emissions

Vehicle Miles Traveled [mph]	17.54	91.08	39.24	93.94	15.93	15.93	6.10	
Stops [stops/h]	87.40	187.27	138.37	707.51	480.20	480.20	121.49	
Fuel consumption [US gal/h]	2.05	5.77	3.24	14.34	8.05	8.05	1.88	
CO [g/h]	143.52	403.10	226.79	1002.60	562.40	562.40	131.39	
NOx [g/h]	27.92	78.43	44.12	195.07	109.42	109.42	25.56	
VOC [g/h]	33.26	93.42	52.56	232.36	130.34	130.34	30.45	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1204	582	516	0
d_b, Bicycle Delay [s]	7.12	22.61	24.79	45.00
I_b,int, Bicycle LOS Score for Intersection	2.065	2.402	3.418	4.132
Bicycle LOS	B	B	C	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 25: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Base Volume Input [veh/h]	0	548	295	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	468	154	68	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	18	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1016	449	86	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	254	112	22	0	0
Total Analysis Volume [veh/h]	0	1016	449	86	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	11.24
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		11.24	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 26: Latrobe/Wetsl-Oviatt

Control Type:	Two-way stop	Delay (sec / veh):	15.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.068

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Base Volume Input [veh/h]	0	415	226	38	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	24	56	9	22	3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	439	282	47	26	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	110	71	12	7	1
Total Analysis Volume [veh/h]	0	439	282	47	26	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.07	0.00
d_M, Delay for Movement [s/veh]	7.93	0.00	0.00	0.00	15.05	10.52
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.22	0.22
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	5.47	5.47
d_A, Approach Delay [s/veh]	0.00		0.00		14.58	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.53					
Intersection LOS	C					

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Intersection Level Of Service Report
Intersection 27: Latrobe/S. Shingle

Control Type:	Two-way stop	Delay (sec / veh):	24.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.193

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Base Volume Input [veh/h]	6	238	41	52	127	9	44	72	0	37	72	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	0	23	13	23	10	0	0	0	0	10
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	242	41	75	140	32	54	72	0	37	72	48
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	61	10	19	35	8	14	18	0	9	18	12
Total Analysis Volume [veh/h]	6	242	41	75	140	32	54	72	0	37	72	48
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free			Free			Stop			Stop		
Flared Lane							No			No		
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance							No			No		
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.06	0.00	0.00	0.19	0.19	0.00	0.12	0.19	0.06
d_M, Delay for Movement [s/veh]	7.57	0.00	0.00	7.91	0.00	0.00	24.41	20.86	15.56	21.49	19.11	14.46
Movement LOS	A	A	A	A	A	A	C	C	C	C	C	B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.14	0.14	0.14	1.73	1.73	1.73	1.66	1.66	1.66
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.26	3.39	3.39	3.39	43.13	43.13	43.13	41.55	41.55	41.55
d_A, Approach Delay [s/veh]	0.16			2.40			22.38			18.25		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	7.72											
Intersection LOS	C											

Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	1016	543	39	50
2	986	527	38	49
3	965	516	37	48
4	904	483	35	45
5	803	429	31	40
6	792	424	30	39
7	782	418	30	39
8	711	380	27	35
9	701	375	27	35
10	691	369	27	34
11	599	320	23	30
12	559	299	21	28
13	549	293	21	27
14	406	217	16	20
15	406	217	16	20
16	284	152	11	14
17	163	87	6	8
18	163	87	6	8
19	91	49	4	5
20	51	27	2	3
21	30	16	1	2
22	10	5	0	1
23	10	5	0	1
24	10	5	0	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1559	1	50	No	No	No	No	No	No	No	Yes	No	No
2	1	1513	1	49	No	No	No	No	No	No	No	Yes	No	No
3	1	1481	1	48	No	No	No	No	No	No	No	Yes	No	No
4	1	1387	1	45	No	No	No	No	No	No	No	Yes	No	No
5	1	1232	1	40	No	No	No	No	No	No	No	No	No	No
6	1	1216	1	39	No	No	No	No	No	No	No	No	No	No
7	1	1200	1	39	No	No	No	No	No	No	No	No	No	No
8	1	1091	1	35	No	No	No	No	No	No	No	No	No	No
9	1	1076	1	35	No	No	No	No	No	No	No	No	No	No
10	1	1060	1	34	No	No	No	No	No	No	No	No	No	No
11	1	919	1	30	No	No	No	No	No	No	No	No	No	No
12	1	858	1	28	No	No	No	No	No	No	No	No	No	No
13	1	842	1	27	No	No	No	No	No	No	No	No	No	No
14	1	623	1	20	No	No	No	No	No	No	No	No	No	No
15	1	623	1	20	No	No	No	No	No	No	No	No	No	No
16	1	436	1	14	No	No	No	No	No	No	No	No	No	No
17	1	250	1	8	No	No	No	No	No	No	No	No	No	No
18	1	250	1	8	No	No	No	No	No	No	No	No	No	No
19	1	140	1	5	No	No	No	No	No	No	No	No	No	No
20	1	78	1	3	No	No	No	No	No	No	No	No	No	No
21	1	46	1	2	No	No	No	No	No	No	No	No	No	No
22	1	15	1	1	No	No	No	No	No	No	No	No	No	No
23	1	15	1	1	No	No	No	No	No	No	No	No	No	No
24	1	15	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	4	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	21.5	180.5
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:13	2:30
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	39	50
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1648	1648
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 12: Latrobe Rd/Royal Oaks Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	502	450	173	557
2	487	437	168	540
3	477	428	164	529
4	447	401	154	496
5	397	356	137	440
6	392	351	135	434
7	387	347	133	429
8	351	315	121	390
9	346	311	119	384
10	341	306	118	379
11	296	266	102	329
12	276	248	95	306
13	271	243	93	301
14	201	180	69	223
15	201	180	69	223
16	141	126	48	156
17	80	72	28	89
18	80	72	28	89
19	45	41	16	50
20	25	23	9	28
21	15	14	5	17
22	5	5	2	6
23	5	5	2	6
24	5	5	2	6

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	952	1	557	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	2	924	1	540	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	2	905	1	529	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	2	848	1	496	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
5	2	753	1	440	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
6	2	743	1	434	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
7	2	734	1	429	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
8	2	666	1	390	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
9	2	657	1	384	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
10	2	647	1	379	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
11	2	562	1	329	No	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
12	2	524	1	306	No	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
13	2	514	1	301	No	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
14	2	381	1	223	No	No	No	Yes	No	No	No	No	Yes	No
15	2	381	1	223	No	No	No	Yes	No	No	No	No	Yes	No
16	2	267	1	156	No	No	No	No	No	No	No	No	No	No
17	2	152	1	89	No	No	No	No	No	No	No	No	No	No
18	2	152	1	89	No	No	No	No	No	No	No	No	No	No
19	2	86	1	50	No	No	No	No	No	No	No	No	No	No
20	2	48	1	28	No	No	No	No	No	No	No	No	No	No
21	2	29	1	17	No	No	No	No	No	No	No	No	No	No
22	2	10	1	6	No	No	No	No	No	No	No	No	No	No
23	2	10	1	6	No	No	No	No	No	No	No	No	No	No
24	2	10	1	6	No	No	No	No	No	No	No	No	No	No
Hours Met					10	13	13	15	3	7	10	13	15	13

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.3	1678.4
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:46	259:40
Delay Condition Met	No	Yes
Volume on Minor Street Approach During Same Hour	173	557
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	1682	1682
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	Yes
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 13: Golden Foothill/Robert J Mathews

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	797	220	245
2	773	213	238
3	757	209	233
4	709	196	218
5	630	174	194
6	622	172	191
7	614	169	189
8	558	154	172
9	550	152	169
10	542	150	167
11	470	130	145
12	438	121	135
13	430	119	132
14	319	88	98
15	319	88	98
16	223	62	69
17	128	35	39
18	128	35	39
19	72	20	22
20	40	11	12
21	24	7	7
22	8	2	2
23	8	2	2
24	8	2	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1017	1	245	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
2	1	986	1	238	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
3	1	966	1	233	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
4	1	905	1	218	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
5	1	804	1	194	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
6	1	794	1	191	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
7	1	783	1	189	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
8	1	712	1	172	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
9	1	702	1	169	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
10	1	692	1	167	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
11	1	600	1	145	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
12	1	559	1	135	No	Yes	Yes	Yes	No	No	Yes	Yes	No	No
13	1	549	1	132	No	Yes	Yes	Yes	No	No	Yes	Yes	No	No
14	1	407	1	98	No	No	No	Yes	No	No	No	No	No	No
15	1	407	1	98	No	No	No	Yes	No	No	No	No	No	No
16	1	285	1	69	No	No	No	No	No	No	No	No	No	No
17	1	163	1	39	No	No	No	No	No	No	No	No	No	No
18	1	163	1	39	No	No	No	No	No	No	No	No	No	No
19	1	92	1	22	No	No	No	No	No	No	No	No	No	No
20	1	51	1	12	No	No	No	No	No	No	No	No	No	No
21	1	31	1	7	No	No	No	No	No	No	No	No	No	No
22	1	10	1	2	No	No	No	No	No	No	No	No	No	No
23	1	10	1	2	No	No	No	No	No	No	No	No	No	No
24	1	10	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					10	13	13	15	7	11	13	13	7	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	25.2
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:42
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	245
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1262
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	104	492	310	11
2	101	477	301	11
3	99	467	295	10
4	93	438	276	10
5	82	389	245	9
6	81	384	242	9
7	80	379	239	8
8	73	344	217	8
9	72	339	214	8
10	71	335	211	7
11	61	290	183	6
12	57	271	171	6
13	56	266	167	6
14	42	197	124	4
15	42	197	124	4
16	29	138	87	3
17	17	79	50	2
18	17	79	50	2
19	9	44	28	1
20	5	25	16	1
21	3	15	9	0
22	1	5	3	0
23	1	5	3	0
24	1	5	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	596	1	310	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
2	1	578	1	301	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
3	1	566	1	295	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
4	1	531	1	276	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
5	1	471	1	245	No	Yes	Yes	Yes	No	No	No	Yes	No	No
6	1	465	1	242	No	Yes	Yes	Yes	No	No	No	Yes	No	No
7	1	459	1	239	No	Yes	Yes	Yes	No	No	No	Yes	No	No
8	1	417	1	217	No	Yes	Yes	Yes	No	No	No	No	No	No
9	1	411	1	214	No	Yes	Yes	Yes	No	No	No	No	No	No
10	1	406	1	211	No	Yes	Yes	Yes	No	No	No	No	No	No
11	1	351	1	183	No	No	Yes	Yes	No	No	No	No	No	No
12	1	328	1	171	No	No	No	Yes	No	No	No	No	No	No
13	1	322	1	167	No	No	No	Yes	No	No	No	No	No	No
14	1	239	1	124	No	No	No	No	No	No	No	No	No	No
15	1	239	1	124	No	No	No	No	No	No	No	No	No	No
16	1	167	1	87	No	No	No	No	No	No	No	No	No	No
17	1	96	1	50	No	No	No	No	No	No	No	No	No	No
18	1	96	1	50	No	No	No	No	No	No	No	No	No	No
19	1	53	1	28	No	No	No	No	No	No	No	No	No	No
20	1	30	1	16	No	No	No	No	No	No	No	No	No	No
21	1	18	1	9	No	No	No	No	No	No	No	No	No	No
22	1	6	1	3	No	No	No	No	No	No	No	No	No	No
23	1	6	1	3	No	No	No	No	No	No	No	No	No	No
24	1	6	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					4	10	11	13	0	0	4	7	4	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	18.2	10
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:33	0:01
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	310	11
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	917	917
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	239	79	186
2	232	77	180
3	227	75	177
4	213	70	166
5	189	62	147
6	186	62	145
7	184	61	143
8	167	55	130
9	165	55	128
10	163	54	126
11	141	47	110
12	131	43	102
13	129	43	100
14	96	32	74
15	96	32	74
16	67	22	52
17	38	13	30
18	38	13	30
19	22	7	17
20	12	4	9
21	7	2	6
22	2	1	2
23	2	1	2
24	2	1	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	318	2	186	No	No	No	No	No	No	No	No	No	No
2	2	309	2	180	No	No	No	No	No	No	No	No	No	No
3	2	302	2	177	No	No	No	No	No	No	No	No	No	No
4	2	283	2	166	No	No	No	No	No	No	No	No	No	No
5	2	251	2	147	No	No	No	No	No	No	No	No	No	No
6	2	248	2	145	No	No	No	No	No	No	No	No	No	No
7	2	245	2	143	No	No	No	No	No	No	No	No	No	No
8	2	222	2	130	No	No	No	No	No	No	No	No	No	No
9	2	220	2	128	No	No	No	No	No	No	No	No	No	No
10	2	217	2	126	No	No	No	No	No	No	No	No	No	No
11	2	188	2	110	No	No	No	No	No	No	No	No	No	No
12	2	174	2	102	No	No	No	No	No	No	No	No	No	No
13	2	172	2	100	No	No	No	No	No	No	No	No	No	No
14	2	128	2	74	No	No	No	No	No	No	No	No	No	No
15	2	128	2	74	No	No	No	No	No	No	No	No	No	No
16	2	89	2	52	No	No	No	No	No	No	No	No	No	No
17	2	51	2	30	No	No	No	No	No	No	No	No	No	No
18	2	51	2	30	No	No	No	No	No	No	No	No	No	No
19	2	29	2	17	No	No	No	No	No	No	No	No	No	No
20	2	16	2	9	No	No	No	No	No	No	No	No	No	No
21	2	9	2	6	No	No	No	No	No	No	No	No	No	No
22	2	3	2	2	No	No	No	No	No	No	No	No	No	No
23	2	3	2	2	No	No	No	No	No	No	No	No	No	No
24	2	3	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	10
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:30
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	186
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	504
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 16: Carson Crossing Rd/Calypso Cir.

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	215	156	88
2	209	151	85
3	204	148	84
4	191	139	78
5	170	123	70
6	168	122	69
7	166	120	68
8	151	109	62
9	148	108	61
10	146	106	60
11	127	92	52
12	118	86	48
13	116	84	48
14	86	62	35
15	86	62	35
16	60	44	25
17	34	25	14
18	34	25	14
19	19	14	8
20	11	8	4
21	6	5	3
22	2	2	1
23	2	2	1
24	2	2	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	371	1	88	No	No	No	Yes	No	No	No	No	No	No
2	2	360	1	85	No	No	No	Yes	No	No	No	No	No	No
3	2	352	1	84	No	No	No	Yes	No	No	No	No	No	No
4	2	330	1	78	No	No	No	No	No	No	No	No	No	No
5	2	293	1	70	No	No	No	No	No	No	No	No	No	No
6	2	290	1	69	No	No	No	No	No	No	No	No	No	No
7	2	286	1	68	No	No	No	No	No	No	No	No	No	No
8	2	260	1	62	No	No	No	No	No	No	No	No	No	No
9	2	256	1	61	No	No	No	No	No	No	No	No	No	No
10	2	252	1	60	No	No	No	No	No	No	No	No	No	No
11	2	219	1	52	No	No	No	No	No	No	No	No	No	No
12	2	204	1	48	No	No	No	No	No	No	No	No	No	No
13	2	200	1	48	No	No	No	No	No	No	No	No	No	No
14	2	148	1	35	No	No	No	No	No	No	No	No	No	No
15	2	148	1	35	No	No	No	No	No	No	No	No	No	No
16	2	104	1	25	No	No	No	No	No	No	No	No	No	No
17	2	59	1	14	No	No	No	No	No	No	No	No	No	No
18	2	59	1	14	No	No	No	No	No	No	No	No	No	No
19	2	33	1	8	No	No	No	No	No	No	No	No	No	No
20	2	19	1	4	No	No	No	No	No	No	No	No	No	No
21	2	11	1	3	No	No	No	No	No	No	No	No	No	No
22	2	4	1	1	No	No	No	No	No	No	No	No	No	No
23	2	4	1	1	No	No	No	No	No	No	No	No	No	No
24	2	4	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	3	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	11.2
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:16
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	88
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	459
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 17: Carson Crossing Rd/Four Seasons Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	176	171	36
2	171	166	35
3	167	162	34
4	157	152	32
5	139	135	28
6	137	133	28
7	136	132	28
8	123	120	25
9	121	118	25
10	120	116	24
11	104	101	21
12	97	94	20
13	95	92	19
14	70	68	14
15	70	68	14
16	49	48	10
17	28	27	6
18	28	27	6
19	16	15	3
20	9	9	2
21	5	5	1
22	2	2	0
23	2	2	0
24	2	2	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	347	1	36	No	No	No	No	No	No	No	No	No	No
2	3	337	1	35	No	No	No	No	No	No	No	No	No	No
3	3	329	1	34	No	No	No	No	No	No	No	No	No	No
4	3	309	1	32	No	No	No	No	No	No	No	No	No	No
5	3	274	1	28	No	No	No	No	No	No	No	No	No	No
6	3	270	1	28	No	No	No	No	No	No	No	No	No	No
7	3	268	1	28	No	No	No	No	No	No	No	No	No	No
8	3	243	1	25	No	No	No	No	No	No	No	No	No	No
9	3	239	1	25	No	No	No	No	No	No	No	No	No	No
10	3	236	1	24	No	No	No	No	No	No	No	No	No	No
11	3	205	1	21	No	No	No	No	No	No	No	No	No	No
12	3	191	1	20	No	No	No	No	No	No	No	No	No	No
13	3	187	1	19	No	No	No	No	No	No	No	No	No	No
14	3	138	1	14	No	No	No	No	No	No	No	No	No	No
15	3	138	1	14	No	No	No	No	No	No	No	No	No	No
16	3	97	1	10	No	No	No	No	No	No	No	No	No	No
17	3	55	1	6	No	No	No	No	No	No	No	No	No	No
18	3	55	1	6	No	No	No	No	No	No	No	No	No	No
19	3	31	1	3	No	No	No	No	No	No	No	No	No	No
20	3	18	1	2	No	No	No	No	No	No	No	No	No	No
21	3	10	1	1	No	No	No	No	No	No	No	No	No	No
22	3	4	1	0	No	No	No	No	No	No	No	No	No	No
23	3	4	1	0	No	No	No	No	No	No	No	No	No	No
24	3	4	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	8.5
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:05
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	36
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	383
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 18: White Rock Rd/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	491	349	182	75
2	476	339	177	73
3	466	332	173	71
4	437	311	162	67
5	388	276	144	59
6	383	272	142	59
7	378	269	140	58
8	344	244	127	53
9	339	241	126	52
10	334	237	124	51
11	290	206	107	44
12	270	192	100	41
13	265	188	98	41
14	196	140	73	30
15	196	140	73	30
16	137	98	51	21
17	79	56	29	12
18	79	56	29	12
19	44	31	16	7
20	25	17	9	4
21	15	10	5	2
22	5	3	2	1
23	5	3	2	1
24	5	3	2	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	840	2	182	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
2	2	815	2	177	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
3	2	798	2	173	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
4	2	748	2	162	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
5	2	664	2	144	No	No	Yes	Yes	No	No	Yes	Yes	No	No
6	2	655	2	142	No	No	Yes	Yes	No	No	Yes	Yes	No	No
7	2	647	2	140	No	No	Yes	Yes	No	No	Yes	Yes	No	No
8	2	588	2	127	No	No	No	Yes	No	No	No	Yes	No	No
9	2	580	2	126	No	No	No	Yes	No	No	No	Yes	No	No
10	2	571	2	124	No	No	No	Yes	No	No	No	Yes	No	No
11	2	496	2	107	No	No	No	No	No	No	No	No	No	No
12	2	462	2	100	No	No	No	No	No	No	No	No	No	No
13	2	453	2	98	No	No	No	No	No	No	No	No	No	No
14	2	336	2	73	No	No	No	No	No	No	No	No	No	No
15	2	336	2	73	No	No	No	No	No	No	No	No	No	No
16	2	235	2	51	No	No	No	No	No	No	No	No	No	No
17	2	135	2	29	No	No	No	No	No	No	No	No	No	No
18	2	135	2	29	No	No	No	No	No	No	No	No	No	No
19	2	75	2	16	No	No	No	No	No	No	No	No	No	No
20	2	42	2	9	No	No	No	No	No	No	No	No	No	No
21	2	25	2	5	No	No	No	No	No	No	No	No	No	No
22	2	8	2	2	No	No	No	No	No	No	No	No	No	No
23	2	8	2	2	No	No	No	No	No	No	No	No	No	No
24	2	8	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	10	0	4	7	10	0	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	35.8	22.3
Number of Lanes on Minor Street Approach	2	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:48	0:27
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	182	75
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1097	1097
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 25: New Intersection

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	1016	535	0
2	986	519	0
3	965	508	0
4	904	476	0
5	803	423	0
6	792	417	0
7	782	412	0
8	711	375	0
9	701	369	0
10	691	364	0
11	599	316	0
12	559	294	0
13	549	289	0
14	406	214	0
15	406	214	0
16	284	150	0
17	163	86	0
18	163	86	0
19	91	48	0
20	51	27	0
21	30	16	0
22	10	5	0
23	10	5	0
24	10	5	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1551	1	0	No	No	No	No	No	No	No	No	No	No
2	1	1505	1	0	No	No	No	No	No	No	No	No	No	No
3	1	1473	1	0	No	No	No	No	No	No	No	No	No	No
4	1	1380	1	0	No	No	No	No	No	No	No	No	No	No
5	1	1226	1	0	No	No	No	No	No	No	No	No	No	No
6	1	1209	1	0	No	No	No	No	No	No	No	No	No	No
7	1	1194	1	0	No	No	No	No	No	No	No	No	No	No
8	1	1086	1	0	No	No	No	No	No	No	No	No	No	No
9	1	1070	1	0	No	No	No	No	No	No	No	No	No	No
10	1	1055	1	0	No	No	No	No	No	No	No	No	No	No
11	1	915	1	0	No	No	No	No	No	No	No	No	No	No
12	1	853	1	0	No	No	No	No	No	No	No	No	No	No
13	1	838	1	0	No	No	No	No	No	No	No	No	No	No
14	1	620	1	0	No	No	No	No	No	No	No	No	No	No
15	1	620	1	0	No	No	No	No	No	No	No	No	No	No
16	1	434	1	0	No	No	No	No	No	No	No	No	No	No
17	1	249	1	0	No	No	No	No	No	No	No	No	No	No
18	1	249	1	0	No	No	No	No	No	No	No	No	No	No
19	1	139	1	0	No	No	No	No	No	No	No	No	No	No
20	1	78	1	0	No	No	No	No	No	No	No	No	No	No
21	1	46	1	0	No	No	No	No	No	No	No	No	No	No
22	1	15	1	0	No	No	No	No	No	No	No	No	No	No
23	1	15	1	0	No	No	No	No	No	No	No	No	No	No
24	1	15	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	11.2
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1551
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 26: Latrobe/Wetsl-Oviatt

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	439	329	29
2	426	319	28
3	417	313	28
4	391	293	26
5	347	260	23
6	342	257	23
7	338	253	22
8	307	230	20
9	303	227	20
10	299	224	20
11	259	194	17
12	241	181	16
13	237	178	16
14	176	132	12
15	176	132	12
16	123	92	8
17	70	53	5
18	70	53	5
19	40	30	3
20	22	16	1
21	13	10	1
22	4	3	0
23	4	3	0
24	4	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	768	1	29	No	No	No	No	No	No	No	No	No	No
2	1	745	1	28	No	No	No	No	No	No	No	No	No	No
3	1	730	1	28	No	No	No	No	No	No	No	No	No	No
4	1	684	1	26	No	No	No	No	No	No	No	No	No	No
5	1	607	1	23	No	No	No	No	No	No	No	No	No	No
6	1	599	1	23	No	No	No	No	No	No	No	No	No	No
7	1	591	1	22	No	No	No	No	No	No	No	No	No	No
8	1	537	1	20	No	No	No	No	No	No	No	No	No	No
9	1	530	1	20	No	No	No	No	No	No	No	No	No	No
10	1	523	1	20	No	No	No	No	No	No	No	No	No	No
11	1	453	1	17	No	No	No	No	No	No	No	No	No	No
12	1	422	1	16	No	No	No	No	No	No	No	No	No	No
13	1	415	1	16	No	No	No	No	No	No	No	No	No	No
14	1	308	1	12	No	No	No	No	No	No	No	No	No	No
15	1	308	1	12	No	No	No	No	No	No	No	No	No	No
16	1	215	1	8	No	No	No	No	No	No	No	No	No	No
17	1	123	1	5	No	No	No	No	No	No	No	No	No	No
18	1	123	1	5	No	No	No	No	No	No	No	No	No	No
19	1	70	1	3	No	No	No	No	No	No	No	No	No	No
20	1	38	1	1	No	No	No	No	No	No	No	No	No	No
21	1	23	1	1	No	No	No	No	No	No	No	No	No	No
22	1	7	1	0	No	No	No	No	No	No	No	No	No	No
23	1	7	1	0	No	No	No	No	No	No	No	No	No	No
24	1	7	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.6
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:07
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	29
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	797
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 27: Latrobe/S. Shingle

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

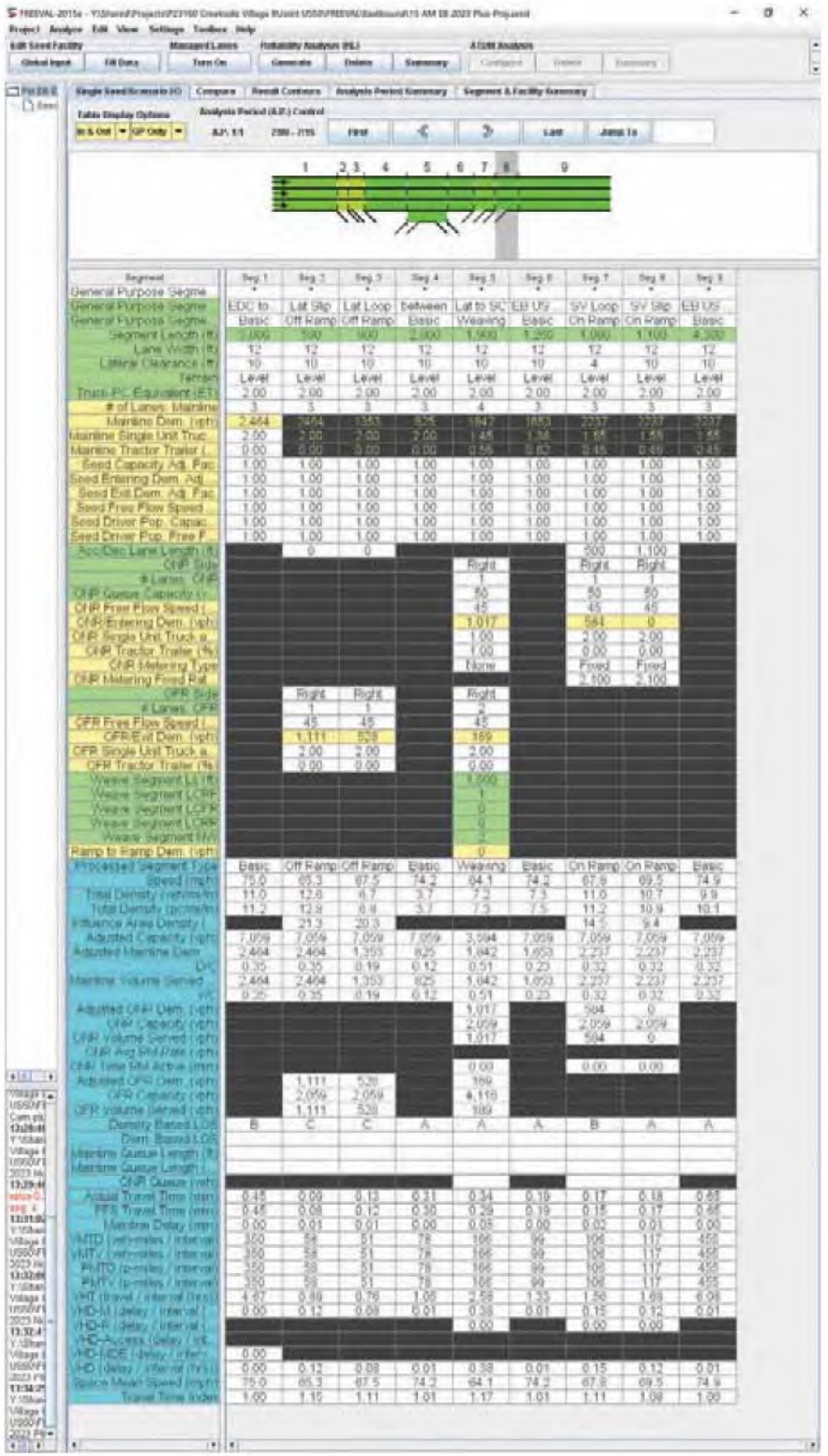
Hour	Major Streets		Minor Streets	
	S	N	E	W
1	289	247	157	126
2	280	240	152	122
3	275	235	149	120
4	257	220	140	112
5	228	195	124	100
6	225	193	122	98
7	223	190	121	97
8	202	173	110	88
9	199	170	108	87
10	197	168	107	86
11	171	146	93	74
12	159	136	86	69
13	156	133	85	68
14	116	99	63	50
15	116	99	63	50
16	81	69	44	35
17	46	40	25	20
18	46	40	25	20
19	26	22	14	11
20	14	12	8	6
21	9	7	5	4
22	3	2	2	1
23	3	2	2	1
24	3	2	2	1

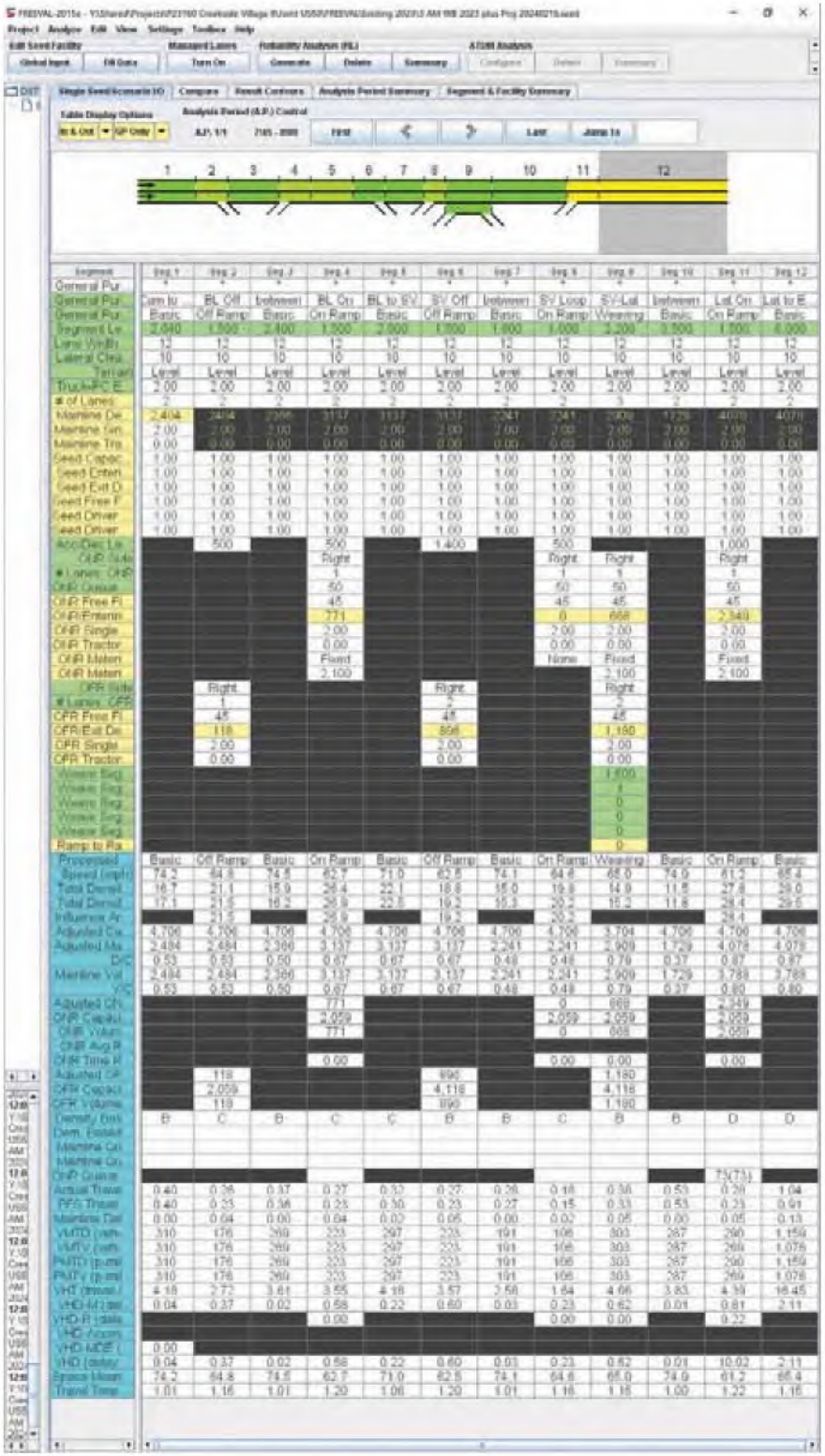
Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	536	1	157	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
2	1	520	1	152	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No
3	1	510	1	149	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
4	1	477	1	140	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
5	1	423	1	124	No	Yes	Yes	Yes	No	No	No	Yes	No	No
6	1	418	1	122	No	Yes	Yes	Yes	No	No	No	No	No	No
7	1	413	1	121	No	Yes	Yes	Yes	No	No	No	No	No	No
8	1	375	1	110	No	No	Yes	Yes	No	No	No	No	No	No
9	1	369	1	108	No	No	Yes	Yes	No	No	No	No	No	No
10	1	365	1	107	No	No	Yes	Yes	No	No	No	No	No	No
11	1	317	1	93	No	No	No	Yes	No	No	No	No	No	No
12	1	295	1	86	No	No	No	Yes	No	No	No	No	No	No
13	1	289	1	85	No	No	No	Yes	No	No	No	No	No	No
14	1	215	1	63	No	No	No	No	No	No	No	No	No	No
15	1	215	1	63	No	No	No	No	No	No	No	No	No	No
16	1	150	1	44	No	No	No	No	No	No	No	No	No	No
17	1	86	1	25	No	No	No	No	No	No	No	No	No	No
18	1	86	1	25	No	No	No	No	No	No	No	No	No	No
19	1	48	1	14	No	No	No	No	No	No	No	No	No	No
20	1	26	1	8	No	No	No	No	No	No	No	No	No	No
21	1	16	1	5	No	No	No	No	No	No	No	No	No	No
22	1	5	1	2	No	No	No	No	No	No	No	No	No	No
23	1	5	1	2	No	No	No	No	No	No	No	No	No	No
24	1	5	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					2	7	10	13	0	0	1	5	4	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	18.2	22.4
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:47	0:47
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	157	126
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	819	819
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	





Existing PM Plus Project

Vistro File: C:\...\PM 918 DU 20240212.vistro
Report File: C:\...\4 2023 PM plus Proj.pdf

Scenario 3 2023 PM, Plus Project
2/14/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	El Dorado Hills Blvd/Serrano Pkwy	Signalized	HCM 7th Edition	NB Thru	0.971	51.7	D
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	NB Left	1.271	119.4	F
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	WB Right	1.036	57.6	E
4	Latrobe Rd/US 50 EB	Signalized	HCM 7th Edition	EB Right	0.947	32.1	C
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	SB Left	0.938	47.4	D
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	WB Left	0.723	59.8	E
7	Latrobe Rd/Golden Foothill Pkwy N	Signalized	HCM 7th Edition	SB Right	0.961	44.0	D
8	Latrobe Rd/Suncast Ln	Signalized	HCM 7th Edition	NB Left	0.834	15.8	B
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	SB Right	1.059	106.6	F
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	SB Thru	1.044	74.5	E
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	EB Left	0.767	212.2	F
12	Latrobe Rd/Royal Oaks Dr	Two-way stop	HCM 7th Edition	EB Left	4.919	1,969.4	F
13	Golden Foothill/Robert J Mathews	Two-way stop	HCM 7th Edition	NB Left	10.524	5,028.9	F
14	Investment Blvd/Robert J Mathews Pkwy	All-way stop	HCM 7th Edition	SB Thru	0.772	21.2	C
15	Golden Foothill Pkwy/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.024	17.8	C
16	Carson Crossing Rd/Calypso Cir.	Two-way stop	HCM 7th Edition	NB Left	0.027	12.9	B
17	Carson Crossing Rd/Four Seasons Dr	All-way stop	HCM 7th Edition	NB Thru	0.178	8.6	A
	White Rock Rd/Carson		HCM 7th				

18	White Rock Rd/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	1.215	193.0	F
19	White Rock Rd/Windfield Way	Signalized	HCM 7th Edition	SB Thru	0.452	29.1	C
20	White Rock Rd/Post St	Signalized	HCM 7th Edition	SB Left	0.545	67.9	E
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 6th Edition	EB Thru	0.962	68.8	E
22	White Rock Rd/Clarksville Crossing	Signalized	HCM 7th Edition	NB Right	0.765	23.9	C
23	White Rock Rd/US 50 EB	Signalized	HCM 7th Edition	EB Left	0.706	32.1	C
24	Silva Valley Pkwy/US 50 WB	Signalized	HCM 7th Edition	NB Left	0.561	20.4	C
25	New Intersection	Two-way stop	HCM 6th Edition	SB Thru	0.010	0.0	A
26	Latrobe/Wetsl-Oviatt	Two-way stop	HCM 7th Edition	EB Left	0.126	17.6	C
27	Latrobe/S. Shingle	Two-way stop	HCM 7th Edition	EB Left	0.134	22.5	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: El Dorado Hills Blvd/Serrano Pkwy

Control Type:	Signalized	Delay (sec / veh):	51.7
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.971

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	260.0	100.0	100.0	100.0	110.00	100.00	100.00	100.00	100.00	100.00	430.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No			No		
Crosswalk	No				Yes			Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Base Volume Input [veh/h]	3	91	1766	401	35	1038	55	36	17	54	339	52	22
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	36	0	0	62	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	17	0	0	16	0	0	7
Total Hourly Volume [veh/h]	3	91	1802	401	35	1100	38	36	17	38	339	52	15
Peak Hour Factor	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	26	518	115	10	316	11	10	5	11	97	15	4
Total Analysis Volume [veh/h]	3	105	2071	461	40	1264	44	41	20	44	390	60	17
Presence of On-Street Parking	No			No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	1	6	0	7	7	0	0	8	0
Auxiliary Signal Groups													
Maximum Green [s]	0	25	40	0	25	40	0	35	35	0	0	35	0
Amber [s]	0.0	3.0	4.7	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	12	0	0	12	0	0	0	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	100.0	245.0	0.0	100.0	100.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	29	46	0	29	46	0	39	39	0	0	39	0
Lead / Lag	-	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	3	6	0	3	3	0	3	3	0	0	3	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	4.0	0.0
Minimum Recall		No	No		No	No			No			No	
Maximum Recall		No	No		No	No			No			No	
Pedestrian Recall		No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C
C, Cycle Length [s]	79	79	79	79	79	79	79	79	79	79
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	40	40	2	36	36	5	5	14	14
g / C, Green / Cycle	0.08	0.51	0.51	0.03	0.46	0.46	0.06	0.06	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.06	0.58	0.29	0.02	0.35	0.35	0.02	0.04	0.13	0.13
s, saturation flow rate [veh/h]	1781	3560	1589	1781	1870	1848	1781	1668	1781	1787
c, Capacity [veh/h]	141	1810	808	51	856	846	105	99	319	320
d1, Uniform Delay [s]	35.53	19.36	13.41	37.99	17.85	17.87	35.67	36.24	30.55	30.55
k, delay calibration	0.04	0.06	0.06	0.04	0.16	0.16	0.04	0.04	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.21	65.92	0.36	9.04	2.22	2.27	0.87	2.65	4.57	4.56
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	1.14	0.57	0.78	0.77	0.77	0.39	0.65	0.73	0.73
d, Delay for Lane Group [s/veh]	38.74	85.28	13.77	47.04	20.07	20.14	36.54	38.89	35.12	35.10
Lane Group LOS	D	F	B	D	C	C	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.03	29.72	4.72	0.85	8.89	8.82	0.77	1.25	4.44	4.46
50th-Percentile Queue Length [ft/ln]	50.70	743.07	118.04	21.27	222.13	220.40	19.17	31.20	111.04	111.39
95th-Percentile Queue Length [veh/ln]	3.65	42.69	8.29	1.53	13.77	13.69	1.38	2.25	7.90	7.92
95th-Percentile Queue Length [ft/ln]	91.26	1067.35	207.13	38.29	344.35	342.14	34.50	56.16	197.45	197.94

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.74	38.74	85.28	13.77	47.04	20.11	20.14	36.54	38.89	38.89	35.11	35.10	35.10
Movement LOS	D	D	F	B	D	C	C	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	70.89				20.91			37.98			35.11		
Approach LOS	E				C			D			D		
d_I, Intersection Delay [s/veh]	51.69												
Intersection LOS	D												
Intersection V/C	0.971												

Emissions

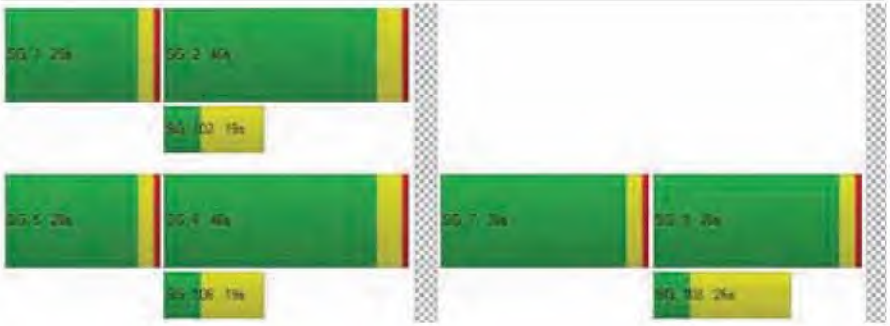
Vehicle Miles Traveled [mph]	25.79	494.62	110.10	5.88	96.64	95.67	1.75	2.73	12.20	12.24
Stops [stops/h]	92.91	2723.38	216.32	38.99	407.07	403.90	35.12	57.18	203.49	204.13
Fuel consumption [US gal/h]	2.89	86.75	7.76	1.07	11.06	10.97	0.57	0.93	3.29	3.30
CO [g/h]	202.06	6064.10	542.11	74.73	773.01	766.71	39.91	65.35	230.12	230.85
NOx [g/h]	39.31	1179.85	105.48	14.54	150.40	149.17	7.77	12.72	44.77	44.91
VOC [g/h]	46.83	1405.41	125.64	17.32	179.15	177.69	9.25	15.15	53.33	53.50

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	29.06	29.06	29.06
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.340	2.068	2.266
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1026	1026	891	891
d_b, Bicycle Delay [s]	9.32	9.32	12.08	12.08
l_b,int, Bicycle LOS Score for Intersection	3.735	2.686	1.759	2.342
Bicycle LOS	D	B	A	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	119.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.271

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	1	0	1	0	0	1
Entry Pocket Length [ft]	230.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	5	442	1616	75	4	164	1068	198	365	41	525	59	107	276
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	19	36	0	0	0	62	0	0	0	31	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	23	0	0	0	59	0	0	167	0	0	83
Total Hourly Volume [veh/h]	5	461	1652	52	4	164	1130	139	365	41	389	59	107	193
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	124	444	14	1	44	304	37	98	11	105	16	29	52
Total Analysis Volume [veh/h]	5	496	1776	56	4	176	1215	149	392	44	418	63	115	208
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	0	3	8	0
Auxiliary Signal Groups														
Maximum Green [s]	0	20	50	0	0	20	50	0	20	20	0	0	20	0
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	18	0	0	0	16	0	0	0	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	0	24	56	0	24	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C
C, Cycle Length [s]	127	127	127	127	127	127	127	127	127	127	127
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	55	55	15	49	49	20	20	20	20	20
g / C, Green / Cycle	0.16	0.43	0.43	0.12	0.39	0.39	0.16	0.16	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.28	0.34	0.34	0.10	0.37	0.37	0.12	0.12	0.26	0.04	0.19
s, saturation flow rate [veh/h]	1781	3560	1841	1781	1870	1800	1781	1798	1589	1781	1679
c, Capacity [veh/h]	280	1530	791	207	727	700	280	283	250	280	264
d1, Uniform Delay [s]	53.57	31.26	31.35	55.20	37.65	37.94	51.42	51.38	53.57	46.80	53.57
k, delay calibration	0.50	0.13	0.36	0.12	0.41	0.42	0.23	0.23	0.50	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	368.75	1.13	5.83	11.24	20.15	23.09	9.37	8.97	319.24	0.15	129.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.79	0.79	0.79	0.87	0.95	0.96	0.78	0.77	1.67	0.22	1.22
d, Delay for Lane Group [s/veh]	422.31	32.39	37.17	66.44	57.80	61.03	60.79	60.35	372.81	46.95	182.84
Lane Group LOS	F	C	D	E	E	E	E	E	F	D	F
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	37.40	15.33	17.02	6.18	23.80	23.88	7.39	7.39	30.15	1.77	17.91
50th-Percentile Queue Length [ft/ln]	935.11	383.20	425.39	154.61	595.02	596.90	184.72	184.69	753.68	44.17	447.72
95th-Percentile Queue Length [veh/ln]	58.32	21.75	23.78	10.26	31.80	31.89	11.85	11.85	47.33	3.18	27.21
95th-Percentile Queue Length [ft/ln]	1458.11	543.71	594.52	256.57	795.04	797.24	296.17	296.13	1183.21	79.50	680.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	422.3	422.3	33.92	37.17	66.44	66.44	59.19	61.03	60.60	60.35	372.81	46.95	182.84	182.84
Movement LOS	F	F	C	D	E	E	E	E	E	E	F	D	F	F
d_A, Approach Delay [s/veh]	117.41				60.21				213.40			160.66		
Approach LOS	F				E				F			F		
d_I, Intersection Delay [s/veh]	119.43													
Intersection LOS	F													
Intersection V/C	1.271													

Emissions

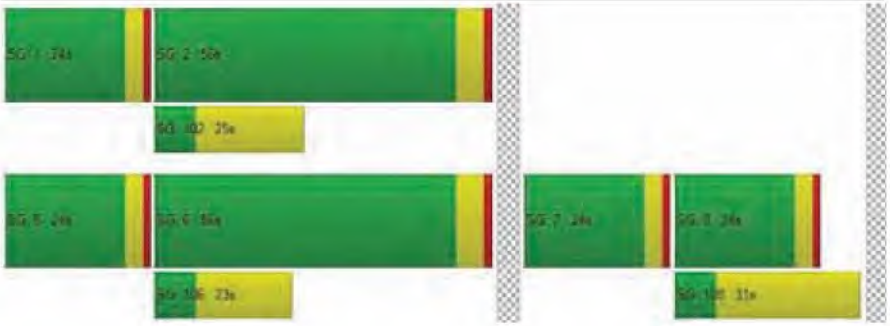
Vehicle Miles Traveled [mph]	94.29	226.83	117.94	42.99	164.94	160.83	13.57	13.62	26.07	3.07	15.75
Stops [stops/h]	1059.21	868.10	481.84	175.13	673.98	676.11	209.23	209.20	853.70	50.03	507.13
Fuel consumption [US gal/h]	59.45	26.51	14.77	6.08	22.16	22.28	4.41	4.40	37.49	1.00	15.47
CO [g/h]	4155.42	1853.18	1032.73	425.32	1548.69	1557.47	307.94	307.53	2620.88	70.23	1081.06
NOx [g/h]	808.49	360.56	200.93	82.75	301.32	303.03	59.91	59.83	509.93	13.66	210.33
VOC [g/h]	963.06	429.49	239.35	98.57	358.92	360.96	71.37	71.27	607.41	16.28	250.55

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	53.04	53.04	53.04
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.543	2.834	2.324
Crosswalk LOS	F	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	791	791	315	315
d_b, Bicycle Delay [s]	23.22	23.22	45.14	45.14
l_b,int, Bicycle LOS Score for Intersection	2.853	2.737	3.244	2.333
Bicycle LOS	C	B	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	57.6
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.036

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	500.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	980	1679	319	0	37	1192	428	208	130	290	236	80	251
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	66	55	10	0	0	93	0	0	0	36	19	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	99	0	0	0	128	0	0	98	0	0	75
Total Hourly Volume [veh/h]	1	1046	1734	230	0	37	1285	300	208	130	228	255	80	176
Peak Hour Factor	1.000	0.840	0.990	0.840	1.000	0.840	0.990	0.840	0.8400	0.8400	0.8400	0.8400	0.8400	0.8400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	311	438	68	0	11	324	89	62	39	68	76	24	52
Total Analysis Volume [veh/h]	1	1245	1752	274	0	44	1298	357	248	155	271	304	95	210
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	136
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	45	62	0	0	14	29	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	50	68	0	0	19	35	28	0	28	0	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	45	73	73	7	34	57	18	18	18	18	18
g / C, Green / Cycle	0.33	0.54	0.54	0.05	0.25	0.42	0.13	0.13	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.36	0.38	0.40	0.02	0.26	0.22	0.11	0.11	0.11	0.11	0.13
s, saturation flow rate [veh/h]	3459	3532	1735	1781	5053	1589	1781	1847	1781	1822	1589
c, Capacity [veh/h]	1155	1901	934	86	1275	668	232	241	241	247	216
d1, Uniform Delay [s]	45.29	23.24	24.25	63.17	50.84	29.48	57.87	57.86	57.15	57.13	58.54
k, delay calibration	0.05	0.50	0.50	0.04	0.50	0.50	0.15	0.15	0.24	0.24	0.37
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	37.48	2.16	5.44	1.76	29.71	3.05	11.47	11.02	13.78	13.24	46.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.08	0.70	0.75	0.51	1.02	0.53	0.85	0.85	0.82	0.82	0.97
d, Delay for Lane Group [s/veh]	82.77	25.40	29.69	64.94	80.55	32.54	69.34	68.88	70.93	70.36	104.89
Lane Group LOS	F	C	C	E	F	C	E	E	E	E	F
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	25.33	16.05	18.38	1.50	17.54	9.01	7.41	7.65	7.54	7.65	9.98
50th-Percentile Queue Length [ft/ln]	633.23	401.35	459.58	37.60	438.43	225.17	185.34	191.29	188.51	191.32	249.49
95th-Percentile Queue Length [veh/ln]	35.32	22.63	25.42	2.71	24.67	13.93	11.88	12.19	12.04	12.19	15.16
95th-Percentile Queue Length [ft/ln]	883.03	565.63	635.38	67.67	616.67	348.21	296.97	304.71	301.09	304.74	379.01

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	82.77	82.77	26.44	29.69	64.94	64.94	80.55	32.54	69.25	68.88	0.00	70.73	70.36	104.89
Movement LOS	F	F	C	C	E	E	F	C	E	E		E	E	F
d_A, Approach Delay [s/veh]	48.16				70.06				44.14			82.45		
Approach LOS	D				E				D			F		
d_I, Intersection Delay [s/veh]	57.60													
Intersection LOS	E													
Intersection V/C	1.036													

Emissions

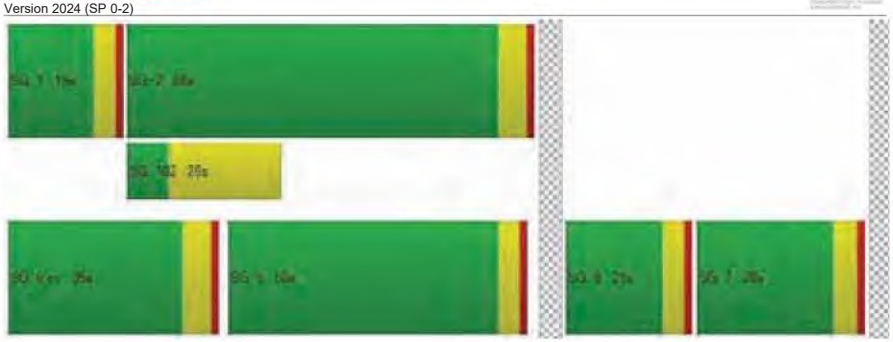
Vehicle Miles Traveled [mph]	213.40	227.50	119.49	8.28	244.28	67.19	9.15	9.49	6.28	6.40	6.68
Stops [stops/h]	1340.96	849.92	486.62	39.81	1392.66	238.41	196.24	202.55	199.59	202.57	264.16
Fuel consumption [US gal/h]	37.18	20.93	11.82	1.36	46.96	7.63	4.25	4.38	4.21	4.27	6.22
CO [g/h]	2598.77	1462.85	826.40	95.08	3282.69	533.39	297.32	306.43	294.43	298.27	434.50
NOx [g/h]	505.63	284.62	160.79	18.50	638.69	103.78	57.85	59.62	57.29	58.03	84.54
VOC [g/h]	602.29	339.03	191.53	22.03	760.80	123.62	68.91	71.02	68.24	69.13	100.70

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	57.44
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.564
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	915	429	337	241
d_b, Bicycle Delay [s]	20.02	41.93	47.03	52.59
l_b,int, Bicycle LOS Score for Intersection	3.413	2.540	2.225	2.124
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Latrobe Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	32.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.947

Intersection Setup

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	200.00	570.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No			No		
Crosswalk	No			No				No			Yes		

Volumes

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Base Volume Input [veh/h]	0	2117	609	1	388	1330	0	0	0	1197	0	0	861
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	131	21	0	0	148	0	0	0	118	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	189	0	0	0	0	0	0	395	0	0	258
Total Hourly Volume [veh/h]	0	2248	441	1	388	1478	0	0	0	920	0	0	603
Peak Hour Factor	1.0000	0.9500	0.8400	1.000	0.840	0.950	1.000	1.0000	1.0000	0.8400	1.0000	1.0000	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	592	131	0	115	389	0	0	0	274	0	0	179
Total Analysis Volume [veh/h]	0	2366	525	1	462	1556	0	0	0	1095	0	0	718
Presence of On-Street Parking	No		No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0				0			0	
v_co, Outbound Pedestrian Volume crossing		0			0				0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0	
Bicycle Volume [bicycles/h]		0			0				0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	26.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	30	0	0	26	34	0	0	0	22	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No				No			
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	4.2	0.0	0.0	2.6	4.2	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	2.5	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Minimum Recall		Yes			No	Yes				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	R	
C, Cycle Length [s]	68	68	68	68	68	
L, Total Lost Time per Cycle [s]	6.20	6.20	4.60	6.20	4.60	
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	4.20	4.20	2.60	4.20	2.60	
g_i, Effective Green Time [s]	38	38	20	35	22	
g / C, Green / Cycle	0.55	0.55	0.29	0.51	0.33	
(v / s)_i Volume / Saturation Flow Rate	0.46	0.33	0.26	0.23	0.39	
s, saturation flow rate [veh/h]	5094	1589	1781	6792	2813	
c, Capacity [veh/h]	2809	876	516	3476	927	
d1, Uniform Delay [s]	12.78	10.22	23.17	10.51	22.80	
k, delay calibration	0.50	0.50	0.17	0.50	0.07	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	3.27	3.02	8.80	0.42	83.35	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.84	0.60	0.90	0.45	1.18	
d, Delay for Lane Group [s/veh]	16.05	13.24	31.97	10.93	106.15	
Lane Group LOS	B	B	C	B	F	
Critical Lane Group	Yes	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	8.06	4.57	7.43	2.96	17.49	
50th-Percentile Queue Length [ft/ln]	201.47	114.28	185.84	73.89	437.21	
95th-Percentile Queue Length [veh/ln]	12.71	8.08	11.90	5.32	26.84	
95th-Percentile Queue Length [ft/ln]	317.86	201.93	297.62	133.01	671.01	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	16.05	13.24	31.97	31.97	10.93	0.00	0.00	0.00	106.15	0.00	0.00	0.00
Movement LOS		B	B	C	C	B				F			
d_A, Approach Delay [s/veh]		15.54			15.76			106.15			0.00		
Approach LOS		B			B			F			A		
d_I, Intersection Delay [s/veh]	32.14												
Intersection LOS	C												
Intersection V/C	0.947												

Emissions

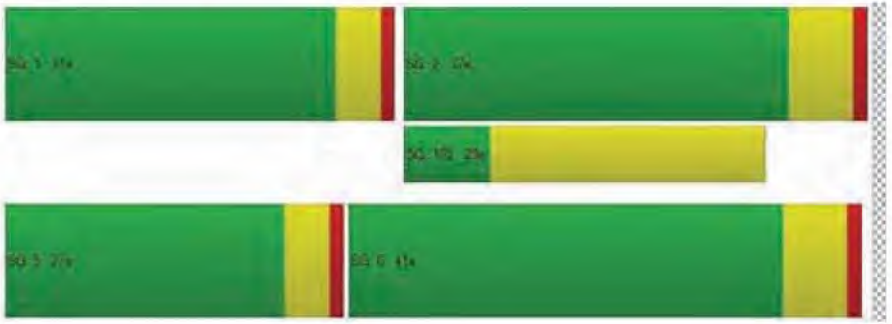
Vehicle Miles Traveled [mph]	342.35	75.97	79.30	266.49	78.36	
Stops [stops/h]	1279.90	242.00	393.53	625.93	1851.70	
Fuel consumption [US gal/h]	35.38	7.03	10.62	20.38	37.11	
CO [g/h]	2472.96	491.19	742.59	1424.52	2593.78	
NOx [g/h]	481.15	95.57	144.48	277.16	504.65	
VOC [g/h]	573.13	113.84	172.10	330.15	601.13	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	23.89
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.273
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	906	1024	659	0
d_b, Bicycle Delay [s]	10.18	8.10	15.29	34.00
l_b,int, Bicycle LOS Score for Intersection	3.254	2.202	1.560	1.560
Bicycle LOS	C	B	A	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	47.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.938

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	24	1820	215	3	532	1803	189	299	33	67	1	91	6	604
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	3	152	12	0	0	266	0	0	0	6	0	22	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	68	0	0	0	57	0	0	22	0	0	0	181
Total Hourly Volume [veh/h]	1	27	1972	159	3	532	2069	132	299	33	51	1	113	6	423
Peak Hour Factor	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.9600	0.9600	0.9600	0.960	0.960	0.960	0.960
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	7	514	41	1	139	539	34	78	9	13	0	29	2	110
Total Analysis Volume [veh/h]	1	28	2054	166	3	554	2155	138	311	34	53	1	118	6	441
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	138
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	0	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	40	0	0	12	65	0	15	20	0	0	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	0.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.0	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	0.0	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	46	0	0	16	71	0	19	24	0	0	19	19	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	0	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	Yes			No	Yes			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	104	104	104	104	104	104	104	104	104	104	104	104
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	2	49	49	12	59	59	12	12	12	15	15	15
g / C, Green / Cycle	0.02	0.47	0.47	0.11	0.57	0.57	0.11	0.11	0.11	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.01	0.40	0.10	0.16	0.42	0.09	0.09	0.02	0.03	0.07	0.14	0.14
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	1870	1589	1781	1596	1589
c, Capacity [veh/h]	77	2417	754	397	2889	901	395	213	181	256	229	228
d1, Uniform Delay [s]	50.38	24.18	16.11	46.26	16.98	10.73	45.07	41.78	42.43	41.08	44.59	44.59
k, delay calibration	0.04	0.04	0.04	0.15	0.04	0.04	0.08	0.08	0.08	0.08	0.41	0.41
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.13	0.34	0.05	185.93	0.15	0.03	2.65	0.26	0.66	0.98	48.25	48.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.38	0.85	0.22	1.40	0.75	0.15	0.79	0.16	0.29	0.47	0.98	0.98
d, Delay for Lane Group [s/veh]	51.51	24.52	16.17	232.19	17.12	10.75	47.72	42.03	43.09	42.06	92.84	92.98
Lane Group LOS	D	C	B	F	B	B	D	D	D	D	F	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.38	14.25	2.30	15.36	12.07	1.47	4.04	0.80	1.28	2.87	8.79	8.76
50th-Percentile Queue Length [ft/ln]	9.61	356.37	57.55	384.06	301.82	36.70	101.05	20.12	32.09	71.68	219.63	218.97
95th-Percentile Queue Length [veh/ln]	0.69	20.45	4.14	24.60	17.77	2.64	7.28	1.45	2.31	5.16	13.65	13.61
95th-Percentile Queue Length [ft/ln]	17.30	511.17	103.60	615.05	444.28	66.05	181.90	36.22	57.76	129.03	341.15	340.31

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	51.51	51.51	24.52	16.17	232.1	232.1	17.12	10.75	47.72	42.03	43.09	42.06	42.06	92.84	92.91
Movement LOS	D	D	C	B	F	F	B	B	D	D	D	D	D	F	F
d_A, Approach Delay [s/veh]	24.25				58.85				46.62			82.22			
Approach LOS	C				E				D			F			
d_I, Intersection Delay [s/veh]	47.39														
Intersection LOS	D														
Intersection V/C	0.938														

Emissions

Vehicle Miles Traveled [mph]	6.47	458.53	37.06	80.60	311.82	19.97	39.67	4.34	6.76	41.77	78.60	78.29
Stops [stops/h]	26.52	1475.14	79.41	1059.84	1249.35	50.63	278.86	27.77	44.27	98.90	303.03	302.12
Fuel consumption [US gal/h]	0.72	37.27	2.51	35.49	27.25	1.40	6.19	0.62	0.99	3.28	9.14	9.11
CO [g/h]	50.12	2605.45	175.48	2480.49	1904.69	98.13	432.92	43.53	69.03	229.56	638.90	636.92
NOx [g/h]	9.75	506.93	34.14	482.61	370.58	19.09	84.23	8.47	13.43	44.66	124.31	123.92
VOC [g/h]	11.62	603.84	40.67	574.88	441.43	22.74	100.33	10.09	16.00	53.20	148.07	147.61

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.76	0.00	41.76	41.76
l_p,int, Pedestrian LOS Score for Intersectio	3.458	0.000	2.597	2.870
Crosswalk LOS	C	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	776	1255	393	297
d_b, Bicycle Delay [s]	19.54	7.24	33.70	37.83
l_b,int, Bicycle LOS Score for Intersection	2.833	2.854	1.906	2.597
Bicycle LOS	C	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	59.8
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.723

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	3	2	0	0	1	2	0	0	0	3	0	0
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	260.0	100.0	100.0	260.0	360.0	100.0	100.0	100.0	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	6	73	1515	362	2	243	1325	392	2	349	336	86	393	164	194
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	167	41	0	0	294	0	0	0	0	0	70	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	121	0	0	0	118	0	0	0	26	0	0	58
Total Hourly Volume [veh/h]	6	73	1682	282	2	243	1619	274	2	349	336	60	463	164	136
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	20	452	76	1	65	435	74	1	94	90	16	124	44	37
Total Analysis Volume [veh/h]	6	78	1809	303	2	261	1741	295	2	375	361	65	498	176	146
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	158
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups															
Maximum Green [s]	0	25	50	0	0	35	50	0	0	25	15	0	15	25	0
Amber [s]	0.0	4.0	4.7	0.0	0.0	4.0	4.7	0.0	0.0	4.5	4.7	0.0	4.5	4.7	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	39	0	0	0	37	0	0	0	48	0	0	50	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	3.7	0.0	0.0	3.0	3.7	0.0	0.0	4.0	3.7	0.0	4.0	3.7	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	30	56	0	0	40	56	0	0	31	21	0	21	31	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	7	0	0	10	7	0	0	10	10	0	10	10	0
Vehicle Extension [s]	0.0	1.5	3.0	0.0	0.0	1.5	3.0	0.0	0.0	1.5	2.0	0.0	1.5	2.0	0.0
Minimum Recall		No	Yes			No	Yes			No	No		No	No	
Maximum Recall		No	No			No	No			No	No		No	No	
Pedestrian Recall		No	No			No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	158	158	158	158	158	158	158	158	158	158	158	158
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	6.00	5.70	5.70	6.00	5.70	5.70
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	4.00	3.70	3.70	4.00	3.70	3.70
g_i, Effective Green Time [s]	10	85	85	14	90	90	19	21	21	15	17	17
g / C, Green / Cycle	0.06	0.54	0.54	0.09	0.57	0.57	0.12	0.13	0.13	0.09	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.05	0.27	0.19	0.08	0.34	0.19	0.11	0.12	0.12	0.14	0.05	0.09
s, saturation flow rate [veh/h]	1781	6792	1589	3459	5094	1589	3459	1870	1772	3459	3560	1589
c, Capacity [veh/h]	111	3672	859	309	2893	903	424	249	236	328	376	168
d1, Uniform Delay [s]	72.94	22.72	20.59	70.89	22.40	18.10	68.27	67.21	67.22	71.50	66.47	69.58
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.47	0.48	0.13	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.97	0.48	1.14	2.55	0.94	0.96	2.61	31.29	32.83	236.65	0.34	5.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.49	0.35	0.85	0.60	0.33	0.89	0.88	0.88	1.52	0.47	0.87
d, Delay for Lane Group [s/veh]	76.91	23.20	21.73	73.44	23.33	19.07	70.88	98.50	100.06	308.15	66.81	74.84
Lane Group LOS	E	C	C	E	C	B	E	F	F	F	E	E
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.50	10.76	6.74	5.29	13.81	5.81	7.69	10.87	10.41	17.47	3.38	6.09
50th-Percentile Queue Length [ft/ln]	87.44	269.12	168.38	132.27	345.34	145.35	192.28	271.68	260.34	436.86	84.62	152.31
95th-Percentile Queue Length [veh/ln]	6.30	16.15	10.99	9.06	19.91	9.77	12.24	16.27	15.71	27.83	6.09	10.14
95th-Percentile Queue Length [ft/ln]	157.38	403.64	274.78	226.58	497.73	244.22	305.99	406.84	392.65	695.67	152.31	253.50

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	76.91	76.91	23.20	21.73	73.44	73.44	23.33	19.07	70.88	70.88	99.12	100.0	308.15	66.81	74.84
Movement LOS	E	E	C	C	E	E	C	B	E	E	F	F	F	E	E
d_A, Approach Delay [s/veh]	25.05				28.52				85.94				214.81		
Approach LOS	C				C				F				F		
d_I, Intersection Delay [s/veh]	59.78														
Intersection LOS	E														
Intersection V/C	0.723														

Emissions

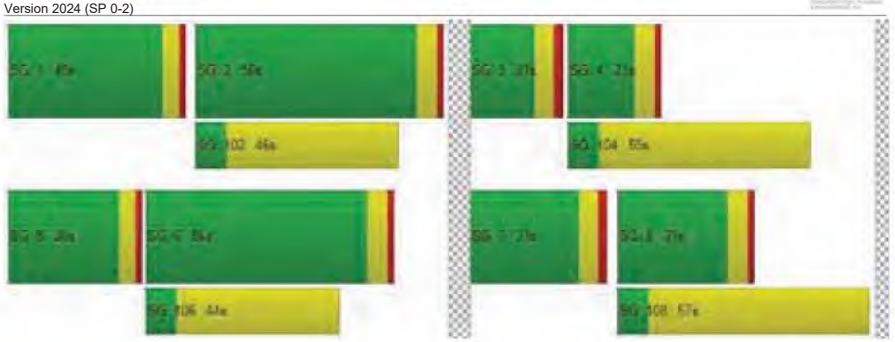
Vehicle Miles Traveled [mph]	33.44	720.14	120.62	58.71	388.65	65.85	94.09	54.55	51.77	52.03	18.39	15.25
Stops [stops/h]	79.69	981.10	153.46	241.10	944.22	132.47	350.49	247.61	237.28	796.29	154.24	138.81
Fuel consumption [US gal/h]	3.13	43.60	7.15	8.94	33.33	5.05	11.25	7.99	7.67	37.76	4.00	3.62
CO [g/h]	218.88	3047.97	500.01	624.92	2329.70	352.93	786.16	558.77	535.80	2639.62	279.72	252.90
NOx [g/h]	42.59	593.02	97.28	121.59	453.28	68.67	152.96	108.72	104.25	513.57	54.42	49.20
VOC [g/h]	50.73	706.40	115.88	144.83	539.93	81.80	182.20	129.50	124.18	611.76	64.83	58.61

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	68.38	68.38	68.38	68.38
l_p,int, Pedestrian LOS Score for Intersectio	3.551	3.864	2.760	2.971
Crosswalk LOS	D	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	637	637	194	320
d_b, Bicycle Delay [s]	36.71	36.71	64.44	55.73
l_b,int, Bicycle LOS Score for Intersection	2.513	2.745	1.934	2.284
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	44.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.961

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	6	1300	21	0	21	1371	285	408	7	15	1	4	9
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	207	0	0	0	364	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	6	0	0	0	86	0	0	5	0	0	3
Total Hourly Volume [veh/h]	1	6	1507	15	0	21	1735	199	408	7	10	1	4	6
Peak Hour Factor	1.000	0.890	0.890	0.870	1.000	0.870	0.890	0.890	0.8900	0.8700	0.8900	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	423	4	0	6	487	56	115	2	3	0	1	2
Total Analysis Volume [veh/h]	1	7	1693	17	0	24	1949	224	458	8	11	1	5	7
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	112
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	12	40	0	0	15	40	0	0	20	0	0	20	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	12	0	0	0	20	0	0	20	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	0	0	18	46	0	0	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	72	72	72	72	72	72	72	72	72
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	40	40	1	40	40	12	12	1
g / C, Green / Cycle	0.01	0.55	0.55	0.02	0.55	0.55	0.17	0.17	0.02
(v / s)_i Volume / Saturation Flow Rate	0.00	0.46	0.46	0.01	0.58	0.60	0.13	0.13	0.01
s, saturation flow rate [veh/h]	1781	1870	1863	1781	1870	1804	1781	1774	1702
c, Capacity [veh/h]	20	1021	1017	30	1032	996	306	305	29
d1, Uniform Delay [s]	35.63	13.78	13.81	35.53	16.25	16.25	28.74	28.74	35.30
k, delay calibration	0.04	0.33	0.33	0.04	0.47	0.49	0.11	0.11	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.90	5.59	5.69	15.93	42.23	56.58	4.35	4.37	3.87
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.41	0.84	0.84	0.80	1.05	1.09	0.78	0.78	0.44
d, Delay for Lane Group [s/veh]	40.52	19.37	19.50	51.46	58.49	72.83	33.09	33.11	39.17
Lane Group LOS	D	B	B	D	F	F	C	C	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.16	11.39	11.41	0.52	23.53	26.67	4.17	4.16	0.25
50th-Percentile Queue Length [ft/ln]	4.09	284.67	285.30	12.91	588.27	666.79	104.32	103.95	6.32
95th-Percentile Queue Length [veh/ln]	0.29	16.92	16.95	0.93	32.80	37.61	7.51	7.48	0.45
95th-Percentile Queue Length [ft/ln]	7.36	423.03	423.80	23.24	819.98	940.33	187.78	187.11	11.37

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.52	40.52	19.43	19.50	51.46	51.46	64.84	72.83	33.10	33.11	33.11	39.17	39.17	39.17
Movement LOS	D	D	B	B	D	D	E	E	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	19.53				65.51				33.10			39.17		
Approach LOS	B				E				C			D		
d_I, Intersection Delay [s/veh]	43.99													
Intersection LOS	D													
Intersection V/C	0.961													

Emissions

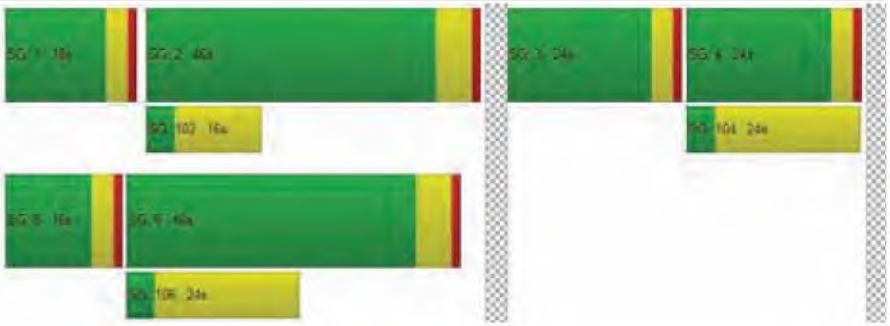
Vehicle Miles Traveled [mph]	2.83	302.77	302.33	9.55	432.52	432.52	57.55	57.32	0.25
Stops [stops/h]	8.13	566.59	567.83	25.70	1170.84	1327.12	207.64	206.89	12.57
Fuel consumption [US gal/h]	0.23	18.97	18.97	1.05	49.15	55.22	5.13	5.11	0.18
CO [g/h]	15.90	1325.85	1326.21	73.27	3435.40	3859.95	358.28	356.95	12.81
NOx [g/h]	3.09	257.96	258.03	14.26	668.40	751.01	69.71	69.45	2.49
VOC [g/h]	3.68	307.28	307.36	16.98	796.19	894.58	83.03	82.73	2.97

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	28.62	0.00	28.62	28.62
l_p,int, Pedestrian LOS Score for Intersectio	3.020	0.000	2.200	1.746
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1106	1106	553	553
d_b, Bicycle Delay [s]	7.23	7.23	18.94	18.94
l_b,int, Bicycle LOS Score for Intersection	2.981	3.423	2.355	1.586
Bicycle LOS	C	C	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Latrobe Rd/Suncast Ln

Control Type:	Signalized	Delay (sec / veh):	15.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.834

Intersection Setup

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Approach	Northbound			Southbound		Eastbound	
Lane Configuration							
Turning Movement	U-turn	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			No		Yes	

Volumes

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Base Volume Input [veh/h]	0	48	1131	1259	129	197	61
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	8	207	364	0	0	13
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	39	0	22
Total Hourly Volume [veh/h]	0	56	1338	1623	90	197	52
Peak Hour Factor	1.0000	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	16	376	456	25	55	15
Total Analysis Volume [veh/h]	0	63	1503	1824	101	221	58
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permissive	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	5	2	6	0	3	0
Auxiliary Signal Groups							
Maximum Green [s]	0	12	40	40	0	20	0
Amber [s]	0.0	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No	No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	46	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-
Minimum Green [s]	0	5	5	5	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall		No	No	No		No	
Maximum Recall		No	No	No		No	
Pedestrian Recall		No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	L	R
C, Cycle Length [s]	66	66	66	66	66	66
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	3	46	39	39	10	10
g / C, Green / Cycle	0.05	0.69	0.58	0.58	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.04	0.42	0.51	0.52	0.12	0.04
s, saturation flow rate [veh/h]	1781	3560	1870	1836	1781	1589
c, Capacity [veh/h]	93	2463	1084	1064	281	251
d1, Uniform Delay [s]	31.00	5.47	12.13	12.37	26.94	24.49
k, delay calibration	0.04	0.15	0.35	0.36	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.19	0.35	7.92	9.40	4.81	0.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.68	0.61	0.89	0.90	0.79	0.23
d, Delay for Lane Group [s/veh]	34.19	5.82	20.05	21.78	31.76	24.96
Lane Group LOS	C	A	C	C	C	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.04	3.77	12.05	12.64	3.57	0.79
50th-Percentile Queue Length [ft/ln]	25.92	94.17	301.33	316.08	89.28	19.87
95th-Percentile Queue Length [veh/ln]	1.87	6.78	17.75	18.47	6.43	1.43
95th-Percentile Queue Length [ft/ln]	46.65	169.51	443.67	461.87	160.71	35.76

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.19	34.19	5.82	20.86	21.78	31.76	24.96
Movement LOS	C	C	A	C	C	C	C
d_A, Approach Delay [s/veh]	6.97			20.91		30.34	
Approach LOS	A			C		C	
d_I, Intersection Delay [s/veh]	15.82						
Intersection LOS	B						
Intersection V/C	0.834						

Emissions

Vehicle Miles Traveled [mph]	43.96	1048.66	340.59	340.59	74.56	19.57
Stops [stops/h]	56.17	408.17	653.02	684.99	193.49	43.05
Fuel consumption [US gal/h]	2.56	47.21	21.56	22.07	5.57	1.34
CO [g/h]	178.81	3299.72	1506.73	1542.76	389.12	93.53
NOx [g/h]	34.79	642.01	293.15	300.17	75.71	18.20
VOC [g/h]	41.44	764.74	349.20	357.55	90.18	21.68

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	25.71	0.00	25.71
l_p,int, Pedestrian LOS Score for Intersectio	2.964	0.000	2.123
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1204	1204	602
d_b, Bicycle Delay [s]	5.26	5.26	16.23
l_b,int, Bicycle LOS Score for Intersection	2.852	3.180	1.560
Bicycle LOS	C	C	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	106.6
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.059

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	98	575	21	249	446	625	494	119	26	13	155	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	61	215	29	0	377	0	0	0	105	44	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	15	0	0	188	0	0	39	0	0	33
Total Hourly Volume [veh/h]	159	790	35	249	823	437	494	119	92	57	155	77
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	217	10	68	226	120	136	33	25	16	43	21
Total Analysis Volume [veh/h]	175	868	38	274	904	480	543	131	101	63	170	85
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	10	23	23	12	25	25	15	15	12	12
g / C, Green / Cycle	0.12	0.28	0.28	0.15	0.31	0.31	0.19	0.19	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.10	0.24	0.24	0.15	0.38	0.40	0.22	0.22	0.13	0.05
s, saturation flow rate [veh/h]	1781	1870	1843	1781	1870	1660	1781	1754	1845	1589
c, Capacity [veh/h]	214	526	518	265	580	515	331	326	278	240
d1, Uniform Delay [s]	34.62	27.55	27.55	34.31	27.81	27.81	32.81	32.81	33.28	30.72
k, delay calibration	0.10	0.22	0.22	0.40	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.05	8.61	8.73	58.11	118.16	149.87	106.03	108.66	2.59	0.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.87	0.87	1.03	1.23	1.30	1.18	1.18	0.84	0.35
d, Delay for Lane Group [s/veh]	41.67	36.15	36.28	92.43	145.97	177.68	138.84	141.47	35.87	31.05
Lane Group LOS	D	D	D	F	F	F	F	F	D	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.68	9.22	9.10	8.95	28.60	29.93	15.99	15.99	4.50	1.47
50th-Percentile Queue Length [ft/ln]	91.97	230.45	227.57	223.76	715.09	748.29	399.71	399.63	112.47	36.74
95th-Percentile Queue Length [veh/ln]	6.62	14.20	14.05	14.07	42.22	45.15	24.38	24.43	7.98	2.65
95th-Percentile Queue Length [ft/ln]	165.55	354.93	351.27	351.68	1055.59	1128.69	609.55	610.76	199.43	66.13

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.67	36.22	36.28	92.43	152.66	177.68	139.59	141.47	141.47	35.87	35.87	31.05
Movement LOS	D	D	D	F	F	F	F	F	F	D	D	C
d_A, Approach Delay [s/veh]	37.10			149.95			140.15			34.58		
Approach LOS	D			F			F			C		
d_I, Intersection Delay [s/veh]	106.56											
Intersection LOS	F											
Intersection V/C	1.059											

Emissions

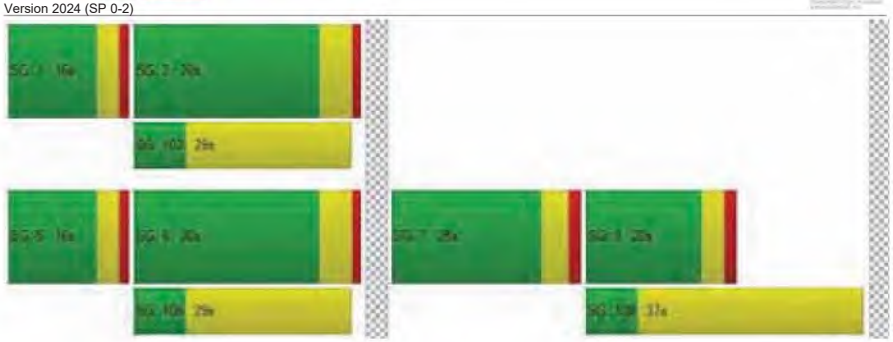
Vehicle Miles Traveled [mph]	101.07	263.53	259.71	191.17	497.72	467.91	29.30	29.00	25.77	9.40
Stops [stops/h]	164.57	412.36	407.20	400.39	1279.54	1338.94	715.22	715.07	201.24	65.74
Fuel consumption [US gal/h]	6.55	16.48	16.26	18.99	61.60	64.77	16.16	16.24	3.87	1.29
CO [g/h]	458.10	1152.23	1136.65	1327.06	4306.05	4527.30	1129.57	1135.38	270.75	89.98
NOx [g/h]	89.13	224.18	221.15	258.20	837.80	880.85	219.77	220.90	52.68	17.51
VOC [g/h]	106.17	267.04	263.43	307.56	997.97	1049.25	261.79	263.13	62.75	20.85

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.99	0.00	29.99	29.99
l_p,int, Pedestrian LOS Score for Intersectio	2.744	0.000	2.583	2.244
Crosswalk LOS	B	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	614	614	385	497
d_b, Bicycle Delay [s]	19.33	19.33	26.23	22.72
l_b,int, Bicycle LOS Score for Intersection	2.464	3.083	2.903	2.139
Bicycle LOS	B	C	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	74.5
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.044

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	115	314	447	38	380	79
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	305	526	0	0	13
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	11	0	28
Total Hourly Volume [veh/h]	123	619	973	27	380	64
Peak Hour Factor	0.9000	0.9000	0.9000	0.7900	0.7900	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	172	270	9	120	18
Total Analysis Volume [veh/h]	137	688	1081	34	481	71
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	164
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	50	50	50	0	50	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	54	56	56	0	54	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	10	64	50	50	31	31
g / C, Green / Cycle	0.09	0.61	0.48	0.48	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.08	0.37	0.58	0.02	0.27	0.04
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1589
c, Capacity [veh/h]	169	1138	890	756	527	471
d1, Uniform Delay [s]	46.64	12.73	27.53	14.75	35.65	27.24
k, delay calibration	0.04	0.30	0.50	0.15	0.14	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.56	1.45	106.96	0.03	8.40	0.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.60	1.21	0.04	0.91	0.15
d, Delay for Lane Group [s/veh]	50.20	14.18	134.49	14.78	44.05	27.39
Lane Group LOS	D	B	F	B	D	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.49	8.50	45.54	0.40	12.86	1.33
50th-Percentile Queue Length [ft/ln]	87.21	212.39	1138.53	9.95	321.50	33.27
95th-Percentile Queue Length [veh/ln]	6.28	13.28	65.02	0.72	18.74	2.40
95th-Percentile Queue Length [ft/ln]	156.99	331.90	1625.46	17.91	468.53	59.89

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.20	14.18	134.49	14.78	44.05	27.39
Movement LOS	D	B	F	B	D	C
d_A, Approach Delay [s/veh]	20.16		130.84		41.91	
Approach LOS	C		F		D	
d_I, Intersection Delay [s/veh]	74.50					
Intersection LOS	E					
Intersection V/C	1.044					

Emissions

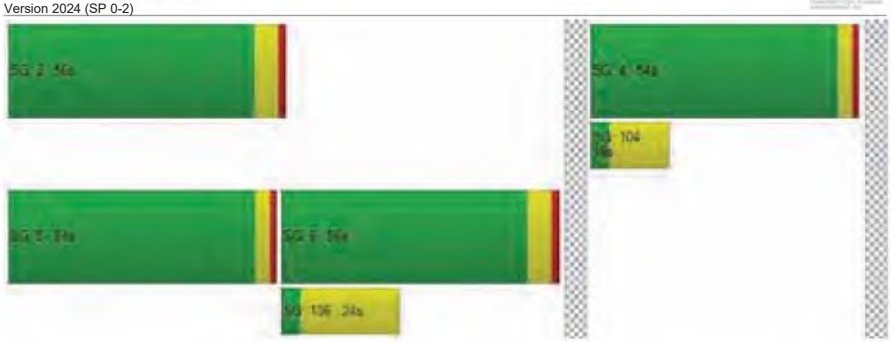
Vehicle Miles Traveled [mph]	16.90	84.89	624.30	19.64	112.97	16.68
Stops [stops/h]	119.64	291.36	1561.84	13.65	441.04	45.64
Fuel consumption [US gal/h]	4.19	10.24	79.48	1.01	11.40	1.33
CO [g/h]	292.67	715.58	5555.33	70.79	796.78	93.27
NOx [g/h]	56.94	139.23	1080.87	13.77	155.02	18.15
VOC [g/h]	67.83	165.84	1287.50	16.41	184.66	21.62

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0		0.0		8.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	44.79		0.00		44.79	
l_p,int, Pedestrian LOS Score for Intersectio	3.145		0.000		2.237	
Crosswalk LOS	C		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	953		953		953	
d_b, Bicycle Delay [s]	14.39		14.39		14.39	
l_b,int, Bicycle LOS Score for Intersection	2.921		3.418		1.560	
Bicycle LOS	C		C		A	

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	212.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.767

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	380	0	25	501	0	0	0	0	0	0	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	284	0	0	487	52	29	0	3	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	664	0	25	988	52	29	0	3	0	0	49
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	180	0	6	268	14	8	0	1	0	0	12
Total Analysis Volume [veh/h]	5	722	0	25	1074	57	32	0	3	0	0	49
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free		Free		Stop		Stop	
Flared Lane					Yes		Yes	
Storage Area [veh]	0		0		1		1	
Two-Stage Gap Acceptance					No		No	
Number of Storage Spaces in Median	0		0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.03	0.01	0.00	0.77	0.00	0.01	0.00	0.00	0.11
d_M, Delay for Movement [s/veh]	10.83	0.00	0.00	9.12	0.00	0.00	212.24	181.87	139.90	80.57	64.39	14.53
Movement LOS	B	A	A	A	A	A	F	F	F	F	F	B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.04	0.04	0.04	3.02	3.02	3.02	0.39	0.39	0.39
95th-Percentile Queue Length [ft/ln]	0.21	0.21	0.21	1.07	1.07	1.07	75.51	75.51	75.51	9.65	9.65	9.65
d_A, Approach Delay [s/veh]	0.07			0.20			206.04			14.53		
Approach LOS	A			A			F			B		
d_I, Intersection Delay [s/veh]	4.17											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Two-way stop	Delay (sec / veh):	1,969.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	4.919

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	311	16	94	407	0	0	0	0	54	0	69
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	53	19	0	0	28	434	270	0	31	0	5	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	37	0	0	0	0	0	37	0	55	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	330	16	94	435	434	307	0	86	54	5	69
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	89	4	25	117	117	83	0	23	15	1	19
Total Analysis Volume [veh/h]	97	355	17	101	468	467	330	0	92	58	5	74
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free		Free		Stop		Stop	
Flared Lane					No		No	
Storage Area [veh]	0		0		0		0	
Two-Stage Gap Acceptance					No		No	
Number of Storage Spaces in Median	0		0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.00	0.00	0.09	0.00	0.00	4.92	0.00	0.21	0.93	0.07	0.11
d_M, Delay for Movement [s/veh]	10.66	0.00	0.00	8.32	0.00	0.00	1969.42	1951.38	1923.97	210.10	201.18	157.56
Movement LOS	B	A	A	A	A	A	F	F	F	F	F	F
95th-Percentile Queue Length [veh/ln]	0.46	0.00	0.00	0.28	0.00	0.00	45.91	45.91	45.91	8.05	8.05	8.05
95th-Percentile Queue Length [ft/ln]	11.38	0.00	0.00	6.96	0.00	0.00	1147.79	1147.79	1147.79	201.30	201.30	201.30
d_A, Approach Delay [s/veh]	2.21			0.81			1959.51			181.39		
Approach LOS	A			A			F			F		
d_I, Intersection Delay [s/veh]	413.58											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Two-way stop	Delay (sec / veh):	5,028.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	10.524

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	101	470	168	48	1	692	185
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	105	0	0	0	61
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	101	470	273	48	1	692	246
Peak Hour Factor	1.0000	0.8800	0.8800	0.8800	0.8800	1.0000	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	29	134	78	14	0	197	70
Total Analysis Volume [veh/h]	0	115	534	310	55	1	786	280
Pedestrian Volume [ped/h]	0			0		0		

Intersection Settings

Priority Scheme	Stop		Free		Free		
Flared Lane	No						
Storage Area [veh]	0		0		0		
Two-Stage Gap Acceptance	No						
Number of Storage Spaces in Median	0		0		0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	10.52	0.76	0.00	0.00	0.01	0.66	0.00
d_M, Delay for Movement [s/veh]	5028.94	5028.94	4704.60	0.00	0.00	29.63	10.38	0.00
Movement LOS	F	F	F	A	A	D	B	A
95th-Percentile Queue Length [veh/ln]	77.09	77.09	77.09	0.00	0.00	2.99	2.99	2.99
95th-Percentile Queue Length [ft/ln]	1927.28	1927.28	1927.28	0.00	0.00	74.85	74.85	74.85
d_A, Approach Delay [s/veh]	4762.07			0.00		7.67		
Approach LOS	F			A		A		
d_I, Intersection Delay [s/veh]	1489.08							
Intersection LOS	F							

Intersection Level Of Service Report
Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Control Type:	All-way stop	Delay (sec / veh):	21.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.772

Intersection Setup

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Base Volume Input [veh/h]	30	195	59	0	25	319	22	16	23	19	211	16	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	13	0	0	0	0	0	0	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	195	59	0	38	319	22	16	23	19	211	16	53
Peak Hour Factor	0.8300	0.8300	0.8300	1.000	0.790	0.830	0.830	0.8300	0.8300	0.8300	0.8300	0.8300	0.7900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	59	18	0	12	96	7	5	7	6	64	5	17
Total Analysis Volume [veh/h]	36	235	71	0	48	384	27	19	28	23	254	19	67
Pedestrian Volume [ped/h]	0			0				0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	582	595	496	550
Degree of Utilization, x	0.59	0.77	0.14	0.62

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.80	7.14	0.49	4.19
95th-Percentile Queue Length [ft]	94.97	178.39	12.20	104.76
Approach Delay [s/veh]	17.64	26.52	11.44	19.57
Approach LOS	C	D	B	C
Intersection Delay [s/veh]	21.19			
Intersection LOS	C			

Intersection Level Of Service Report
Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	17.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.024

Intersection Setup

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00			30.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	No		No			No		

Volumes

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Base Volume Input [veh/h]	6	80	0	143	48	2	109	190
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	105	0	0	0	0	61	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	185	0	143	48	2	170	190
Peak Hour Factor	0.8400	0.8400	1.0000	0.8400	0.8400	1.0000	0.8400	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	55	0	43	14	1	51	57
Total Analysis Volume [veh/h]	7	220	0	170	57	2	202	226
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Priority Scheme	Stop		Free			Free		
Flared Lane								
Storage Area [veh]	0		0			0		
Two-Stage Gap Acceptance	No							
Number of Storage Spaces in Median	0		0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.26	0.00	0.00	0.00	0.00	0.15	0.00
d_M, Delay for Movement [s/veh]	17.79	10.78	9.37	0.00	0.00	11.42	8.18	0.00
Movement LOS	C	B	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.07	1.05	0.00	0.00	0.00	0.54	0.54	0.00
95th-Percentile Queue Length [ft/ln]	1.86	26.15	0.00	0.00	0.00	13.59	13.59	0.00
d_A, Approach Delay [s/veh]	10.99		0.00			3.89		
Approach LOS	B		A			A		
d_I, Intersection Delay [s/veh]	4.72							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 16: Carson Crossing Rd/Calypso Cir.

Control Type:	Two-way stop	Delay (sec / veh):	12.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.027

Intersection Setup

Name			Carson Crossing Rd		Carson Crossing Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	190.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			Carson Crossing Rd		Carson Crossing Rd	
Base Volume Input [veh/h]	12	43	87	36	37	174
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	105	0	0	61
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	43	192	36	37	235
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	12	52	10	10	64
Total Analysis Volume [veh/h]	13	47	209	39	40	255
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.06	0.00	0.00	0.03	0.00
d_M, Delay for Movement [s/veh]	12.88	9.78	0.00	0.00	7.82	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.27	0.27	0.00	0.00	0.09	0.00
95th-Percentile Queue Length [ft/ln]	6.80	6.80	0.00	0.00	2.35	0.00
d_A, Approach Delay [s/veh]	10.46		0.00		1.06	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.56					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 17: Carson Crossing Rd/Four Seasons Dr

Control Type:	All-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.178

Intersection Setup

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	500.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	500.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Base Volume Input [veh/h]	174	0	19	125	0	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	61	0	0	105	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	235	0	19	230	0	3
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	0	5	63	0	1
Total Analysis Volume [veh/h]	255	0	21	250	0	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	716	716	687	760	760	715
Degree of Utilization, x	0.18	0.18	0.03	0.16	0.16	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.64	0.64	0.09	0.59	0.59	0.01
95th-Percentile Queue Length [ft]	16.09	16.09	2.36	14.67	14.67	0.32
Approach Delay [s/veh]	8.81		8.35			8.05
Approach LOS	A		A			A
Intersection Delay [s/veh]	8.57					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	193.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.215

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	138	0	25	7	1	21	5	408	85	66	397	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	61	0	0	0	0	0	0	0	105	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	199	0	25	7	1	21	5	408	190	66	397	11
Peak Hour Factor	0.9700	1.0000	0.9300	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9300	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	0	7	2	0	5	1	105	49	18	102	3
Total Analysis Volume [veh/h]	205	0	27	7	1	22	5	421	196	71	409	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	1.21	0.00	0.05	0.04	0.01	0.03	0.00	0.00	0.00	0.07	0.00	0.00
d_M, Delay for Movement [s/veh]	193.01	23.50	11.79	27.01	26.49	11.51	8.17	0.00	0.00	9.04	0.00	0.00
Movement LOS	F	C	B	D	D	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	11.32	0.15	0.15	0.26	0.26	0.26	0.01	0.00	0.00	0.24	0.00	0.00
95th-Percentile Queue Length [ft/ln]	283.06	3.81	3.81	6.60	6.60	6.60	0.33	0.00	0.00	5.96	0.00	0.00
d_A, Approach Delay [s/veh]	171.92			15.62			0.07			1.31		
Approach LOS	F			C			A			A		
d_I, Intersection Delay [s/veh]	29.84											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 19: White Rock Rd/Windfield Way

Control Type:	Signalized	Delay (sec / veh):	29.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.452

Intersection Setup

Name	Windfield Way						White Rock Rd			White Rock Rd			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00			
Grade [%]	0.00			0.00			0.00			0.00			
Curb Present	No			No			No			No			
Crosswalk	Yes			Yes			Yes			No			

Volumes

Name	Windfield Way						White Rock Rd			White Rock Rd			
Base Volume Input [veh/h]	238	5	239	5	5	5	5	520	71	14	144	468	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	72	0	0	0	0	0	21	0	0	0	0
Total Hourly Volume [veh/h]	238	5	167	5	5	5	5	520	50	14	144	468	5
Peak Hour Factor	0.9400	1.0000	0.9400	1.0000	1.0000	1.0000	1.0000	0.9400	0.9400	1.000	0.940	0.940	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	63	1	44	1	1	1	1	138	13	4	38	124	1
Total Analysis Volume [veh/h]	253	5	178	5	5	5	5	553	53	14	153	498	5
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0		
v_co, Outbound Pedestrian Volume crossing		0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0		
Bicycle Volume [bicycles/h]		0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	73.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi
Signal Group	3	8	0	7	4	0	5	2	0	0	1	6	0
Auxiliary Signal Groups													
Maximum Green [s]	25	25	0	10	10	0	9	19	0	0	44	54	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	2.0	1.0	0.0	0.0	2.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	26	0	0	13	0	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	245.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	15	15	0	15	25	0	0	50	60	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	3	3	0	5	3	0	5	7	0	0	3	7	0
Vehicle Extension [s]	1.0	1.0	0.0	3.0	1.0	0.0	3.0	3.6	0.0	0.0	1.0	3.6	0.0
Minimum Recall	No	No		No	No		No	Yes			No	Yes	
Maximum Recall	No	No		No	No		No	No			No	No	
Pedestrian Recall	No	No		No	No		No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	19	19	1	1	1	65	65	13	78	78
g / C, Green / Cycle	0.16	0.16	0.01	0.01	0.01	0.54	0.54	0.11	0.65	0.65
(v / s)_i Volume / Saturation Flow Rate	0.14	0.11	0.00	0.01	0.00	0.16	0.16	0.09	0.13	0.13
s, saturation flow rate [veh/h]	1781	1596	1781	1718	1781	1870	1813	1781	1870	1863
c, Capacity [veh/h]	279	251	12	13	12	1016	985	195	1208	1203
d1, Uniform Delay [s]	49.73	48.11	59.37	59.46	59.37	14.98	14.99	52.52	8.70	8.70
k, delay calibration	0.14	0.04	0.11	0.04	0.11	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.27	1.52	21.73	31.68	21.99	0.77	0.79	4.19	0.39	0.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.73	0.42	0.79	0.42	0.30	0.30	0.86	0.21	0.21
d, Delay for Lane Group [s/veh]	62.99	49.62	81.09	91.14	81.36	15.75	15.79	56.71	9.09	9.09
Lane Group LOS	E	D	F	F	F	B	B	E	A	A
Critical Lane Group	Yes	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	8.47	5.31	0.22	0.42	0.22	4.75	4.63	5.17	2.73	2.72
50th-Percentile Queue Length [ft/ln]	211.69	132.87	5.59	10.39	5.60	118.63	115.78	129.19	68.14	67.94
95th-Percentile Queue Length [veh/ln]	13.24	9.10	0.40	0.75	0.40	8.32	8.16	8.90	4.91	4.89
95th-Percentile Queue Length [ft/ln]	330.99	227.39	10.06	18.70	10.08	207.94	204.02	222.39	122.66	122.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	62.99	49.62	49.62	81.09	91.14	91.14	81.36	15.76	15.79	56.71	56.71	9.09	9.09
Movement LOS	E	D	D	F	F	F	F	B	B	E	E	A	A
d_A, Approach Delay [s/veh]	57.38			87.79			16.30			20.96			
Approach LOS	E			F			B			C			
d_I, Intersection Delay [s/veh]	29.06												
Intersection LOS	C												
Intersection V/C	0.452												

Emissions

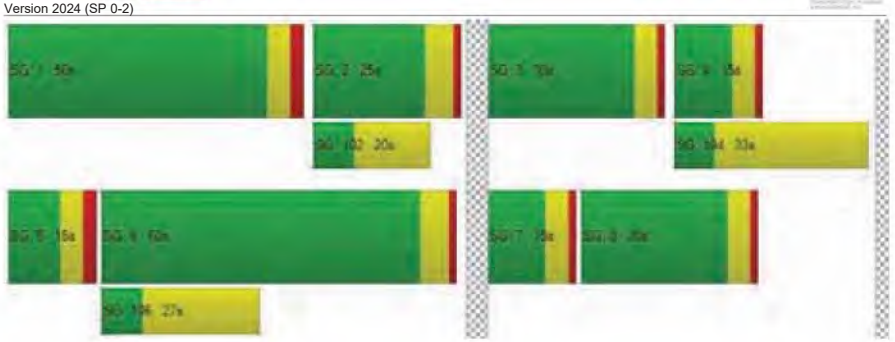
Vehicle Miles Traveled [mph]	97.48	70.51	0.23	0.46	4.21	258.37	251.59	41.68	62.87	62.67
Stops [stops/h]	254.03	159.45	6.71	12.47	6.72	142.36	138.94	155.02	81.77	81.53
Fuel consumption [US gal/h]	8.66	5.63	0.13	0.27	0.29	12.41	12.09	4.50	3.51	3.49
CO [g/h]	605.29	393.64	9.01	19.09	20.49	867.22	844.76	314.50	245.05	244.29
NOx [g/h]	117.77	76.59	1.75	3.71	3.99	168.73	164.36	61.19	47.68	47.53
VOC [g/h]	140.28	91.23	2.09	4.42	4.75	200.99	195.78	72.89	56.79	56.62

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.297	1.964	2.614	0.000
Crosswalk LOS	B	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	417	167	317	900
d_b, Bicycle Delay [s]	37.60	50.42	42.50	18.15
l_b,int, Bicycle LOS Score for Intersection	2.398	1.584	2.081	1.986
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 20: White Rock Rd/Post St

Control Type:	Signalized	Delay (sec / veh):	67.9
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.545

Intersection Setup

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Approach	Northbound			Southbound			Eastbound				Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0	120.00	100.00	400.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00				30.00		
Grade [%]	0.00			0.00			0.00				0.00		
Curb Present	No			No			No				No		
Crosswalk	Yes			Yes			Yes				No		

Volumes

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	50	16	29	186	15	177	3	205	712	21	86	521	178
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	41	0	0	70	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	9	0	0	53	0	0	0	6	0	0	53
Total Hourly Volume [veh/h]	50	16	20	186	15	124	3	205	753	15	86	591	125
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	1.000	0.910	0.860	0.910	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	4	5	51	4	34	1	56	219	4	24	162	34
Total Analysis Volume [veh/h]	55	18	22	204	16	136	3	225	876	16	95	649	137
Presence of On-Street Parking	No		No	No		No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0				0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0				0		
v_co, Outbound Pedestrian Volume crossing	0			0			0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0				0		
Bicycle Volume [bicycles/h]	0			0			0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	55.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups													
Maximum Green [s]	21	62	0	8	48	0	0	14	31	0	16	34	0
Amber [s]	3.5	5.0	0.0	3.5	5.0	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.7	1.0	0.0	1.0	1.0	0.0	0.0	2.0	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	32	0	0	0	21	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.2	4.0	0.0	2.5	4.0	0.0	0.0	3.5	2.5	0.0	3.0	2.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	100.0	0.0	100.0	100.0	0.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	0	13	54	0	0	20	36	0	21	39	0
Lead / Lag	Lead	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	3	7	0	3	7	0	0	3	3	0	3	3	0
Vehicle Extension [s]	1.0	3.6	0.0	1.0	3.6	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No			No	Yes		No	Yes	
Maximum Recall	No	No		No	No			No	No		No	No	
Pedestrian Recall	No	No		No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	5.20	6.00	4.50	6.00	5.50	4.50	4.50	5.00	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.20	4.00	2.50	4.00	3.50	2.50	2.50	3.00	2.50	2.50
g_i, Effective Green Time [s]	6	13	9	16	20	89	89	9	78	78
g / C, Green / Cycle	0.04	0.10	0.06	0.11	0.14	0.64	0.64	0.07	0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.03	0.02	0.11	0.09	0.13	0.25	0.01	0.05	0.22	0.22
s, saturation flow rate [veh/h]	1781	1705	1781	1615	1781	3560	1589	1781	1870	1758
c, Capacity [veh/h]	71	163	108	180	250	2261	1010	117	1041	979
d1, Uniform Delay [s]	66.57	58.62	65.75	61.02	59.30	12.36	9.41	64.56	17.56	17.57
k, delay calibration	0.04	0.13	0.50	0.13	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.44	0.96	431.73	12.47	5.21	0.50	0.03	5.05	1.10	1.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.25	1.89	0.84	0.91	0.39	0.02	0.81	0.39	0.39
d, Delay for Lane Group [s/veh]	73.00	59.59	497.48	73.49	64.51	12.86	9.44	69.61	18.66	18.73
Lane Group LOS	E	E	F	E	E	B	A	E	B	B
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.08	1.37	16.84	5.94	8.35	6.71	0.19	3.52	7.74	7.30
50th-Percentile Queue Length [ft/ln]	52.07	34.17	421.00	148.48	208.63	167.87	4.76	88.04	193.39	182.45
95th-Percentile Queue Length [veh/ln]	3.75	2.46	27.32	9.94	13.08	10.96	0.34	6.34	12.30	11.73
95th-Percentile Queue Length [ft/ln]	93.73	61.50	682.94	248.40	327.07	274.12	8.57	158.46	307.43	293.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	73.00	59.59	59.59	497.48	73.49	73.49	64.51	64.51	12.86	9.44	69.61	18.69	18.73
Movement LOS	E	E	E	F	E	E	E	E	B	A	E	B	B
d_A, Approach Delay [s/veh]	67.35			316.45			23.33				24.19		
Approach LOS	E			F			C				C		
d_I, Intersection Delay [s/veh]	67.90												
Intersection LOS	E												
Intersection V/C	0.545												

Emissions

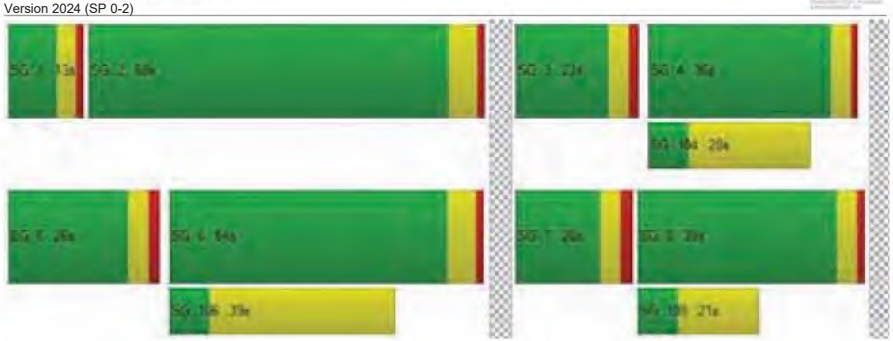
Vehicle Miles Traveled [mph]	2.75	2.00	9.48	7.07	23.82	91.53	1.67	33.26	141.81	133.42
Stops [stops/h]	53.56	35.14	433.03	152.72	214.59	345.34	4.90	90.55	198.92	187.66
Fuel consumption [US gal/h]	1.23	0.76	23.43	3.41	5.16	7.97	0.13	3.22	8.47	7.98
CO [g/h]	85.71	53.23	1637.77	238.19	360.60	557.02	8.85	224.75	592.37	557.92
NOx [g/h]	16.68	10.36	318.65	46.34	70.16	108.38	1.72	43.73	115.25	108.55
VOC [g/h]	19.86	12.34	379.57	55.20	83.57	129.09	2.05	52.09	137.29	129.30

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	59.43	59.43	59.43	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.051	2.310	2.811	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	886	686	450	493
d_b, Bicycle Delay [s]	21.73	30.23	42.04	39.75
l_b,int, Bicycle LOS Score for Intersection	1.731	2.234	2.303	2.330
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	68.8
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.962

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	57	61	268	230	100	36	33	574	121	234	562	158
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	21	0	0	22	12	29	0	36	49	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	87	0	0	17	0	0	36	0	0	47
Total Hourly Volume [veh/h]	57	61	202	230	100	41	45	603	85	270	611	111
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	16	52	59	26	11	12	155	22	70	157	29
Total Analysis Volume [veh/h]	59	63	208	237	103	42	46	622	88	278	630	114
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	0	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	35	0	0	40	0	25	45	0	25	45	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	18	0	0	17	0	0	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	0	0	44	0	29	50	0	29	51	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	0.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	128	128	128	128	128	128	128	128
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	3.50	5.30	3.50	6.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	1.50	3.30	1.50	4.00
g_i, Effective Green Time [s]	24	24	20	20	4	45	22	62
g / C, Green / Cycle	0.19	0.19	0.16	0.16	0.03	0.35	0.17	0.48
(v / s)_i Volume / Saturation Flow Rate	0.03	0.16	0.13	0.08	0.03	0.39	0.16	0.41
s, saturation flow rate [veh/h]	1781	1647	1781	1779	1781	1830	1781	1821
c, Capacity [veh/h]	331	306	280	279	60	644	305	880
d1, Uniform Delay [s]	43.88	50.79	52.43	49.48	61.30	41.47	52.08	28.85
k, delay calibration	0.13	0.18	0.13	0.13	0.04	0.50	0.27	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.32	13.35	8.55	1.86	7.24	67.09	21.66	9.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.18	0.89	0.85	0.52	0.76	1.10	0.91	0.85
d, Delay for Lane Group [s/veh]	44.20	64.14	60.97	51.34	68.54	108.56	73.74	38.63
Lane Group LOS	D	E	E	D	E	F	E	D
Critical Lane Group	No	Yes	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.62	9.57	8.05	4.41	1.60	31.95	10.57	21.80
50th-Percentile Queue Length [ft/ln]	40.43	239.36	201.35	110.29	40.10	798.68	264.36	544.89
95th-Percentile Queue Length [veh/ln]	2.91	14.65	12.71	7.86	2.89	44.07	15.91	29.45
95th-Percentile Queue Length [ft/ln]	72.77	366.22	317.71	196.40	72.18	1101.68	397.69	736.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.20	64.14	64.14	60.97	51.34	51.34	68.54	108.56	108.56	73.74	38.63	38.63
Movement LOS	D	E	E	E	D	D	E	F	F	E	D	D
d_A, Approach Delay [s/veh]	60.57			57.32			106.13			48.18		
Approach LOS	E			E			F			D		
d_I, Intersection Delay [s/veh]	68.82											
Intersection LOS	E											
Intersection V/C	0.962											

Emissions

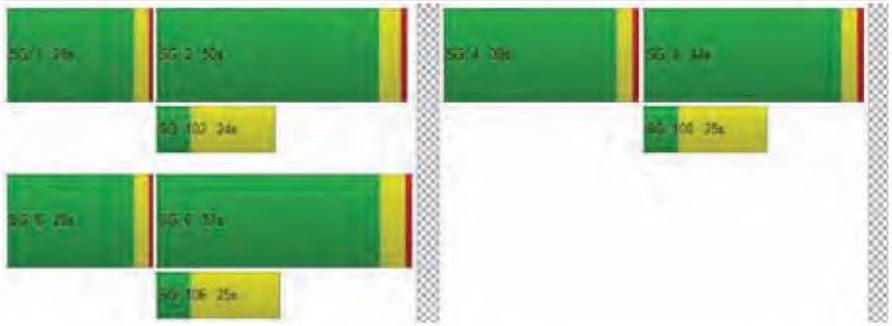
Vehicle Miles Traveled [mph]	101.52	466.29	48.05	29.40	16.11	248.61	125.44	335.71
Stops [stops/h]	45.58	269.85	227.00	124.33	45.21	900.42	298.04	614.29
Fuel consumption [US gal/h]	4.96	24.22	6.17	3.41	1.55	30.89	10.98	23.06
CO [g/h]	346.82	1693.20	431.45	238.49	108.65	2159.34	767.61	1612.06
NOx [g/h]	67.48	329.44	83.95	46.40	21.14	420.13	149.35	313.65
VOC [g/h]	80.38	392.42	99.99	55.27	25.18	500.45	177.90	373.61

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	53.34	53.34	53.34	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.380	2.199	2.509	0.000
Crosswalk LOS	B	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	545	623	700	705
d_b, Bicycle Delay [s]	33.81	30.27	26.99	26.79
l_b,int, Bicycle LOS Score for Intersection	2.248	2.218	2.866	3.323
Bicycle LOS	B	B	C	C

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 22: White Rock Rd/Clarksville Crossing

Control Type:	Signalized	Delay (sec / veh):	23.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.765

Intersection Setup

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	180.00	460.00	100.00	100.00	290.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	0	0	2	80	0	334	8	1064	0	0	620	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	49	0	0	85	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	2	80	0	334	8	1113	0	0	705	2
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.9600	0.7800	0.7800	0.9600	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	26	0	107	3	290	0	0	184	1
Total Analysis Volume [veh/h]	0	0	3	103	0	428	10	1159	0	0	734	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	20	0	0	20	0	20	50	0	20	50	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	5.0	0.0	4.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	5.0	0.0	3.0	5.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	R
C, Cycle Length [s]	66	66	66	66	66	66	66	66	66	66
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	7.00	7.00	5.00	7.00	7.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	5.00	5.00	3.00	5.00	5.00
g_i, Effective Green Time [s]	0	0	20	20	1	25	25	0	24	24
g / C, Green / Cycle	0.00	0.00	0.29	0.29	0.01	0.37	0.37	0.00	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.06	0.27	0.01	0.31	0.31	0.00	0.21	0.00
s, saturation flow rate [veh/h]	1870	1589	1781	1589	1781	1870	1870	1781	3560	1589
c, Capacity [veh/h]	8	7	524	468	23	694	694	0	1275	569
d1, Uniform Delay [s]	0.00	33.09	17.60	22.69	32.64	19.10	19.10	0.00	17.29	13.75
k, delay calibration	0.11	0.11	0.11	0.33	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	39.60	0.18	18.27	12.23	2.74	2.74	0.00	0.41	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.44	0.20	0.91	0.43	0.84	0.84	0.00	0.58	0.01
d, Delay for Lane Group [s/veh]	0.00	72.69	17.78	40.97	44.86	21.85	21.85	0.00	17.70	13.75
Lane Group LOS	A	E	B	D	D	C	C	A	B	B
Critical Lane Group	No	Yes	No	Yes	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.00	0.12	1.14	8.32	0.23	7.86	7.86	0.00	4.22	0.03
50th-Percentile Queue Length [ft/ln]	0.00	3.02	28.38	207.93	5.82	196.60	196.60	0.00	105.52	0.69
95th-Percentile Queue Length [veh/ln]	0.00	0.22	2.04	13.05	0.42	12.46	12.46	0.00	7.59	0.05
95th-Percentile Queue Length [ft/ln]	0.00	5.44	51.09	326.17	10.48	311.57	311.57	0.00	189.75	1.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	72.69	17.78	17.78	40.97	44.86	21.85	21.85	0.00	17.70	13.75
Movement LOS	A	A	E	B	B	D	D	C	C	A	B	B
d_A, Approach Delay [s/veh]		72.69			36.47			22.04			17.69	
Approach LOS		E			D			C			B	
d_I, Intersection Delay [s/veh]	23.93											
Intersection LOS	C											
Intersection V/C	0.765											

Emissions

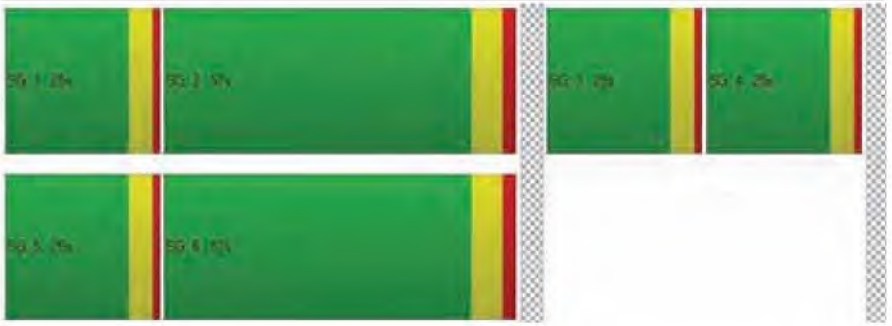
Vehicle Miles Traveled [mph]	0.00	0.15	48.86	203.03	4.51	261.48	261.48	0.00	128.04	0.52
Stops [stops/h]	0.00	6.55	61.51	450.58	12.61	426.03	426.03	0.00	457.31	1.49
Fuel consumption [US gal/h]	0.00	0.09	2.72	14.42	0.35	15.69	15.69	0.00	10.44	0.04
CO [g/h]	0.00	6.06	190.41	1007.64	24.24	1097.05	1097.05	0.00	729.90	2.67
NOx [g/h]	0.00	1.18	37.05	196.05	4.72	213.45	213.45	0.00	142.01	0.52
VOC [g/h]	0.00	1.41	44.13	233.53	5.62	254.25	254.25	0.00	169.16	0.62

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	602	602	1505	1505
d_b, Bicycle Delay [s]	16.24	16.24	2.04	2.04
l_b,int, Bicycle LOS Score for Intersection	1.565	2.436	2.524	2.168
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 23: White Rock Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	32.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.706

Intersection Setup

Name	White Rock Rd		White Rock Rd		US 50 EB	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	1	0	1
Entry Pocket Length [ft]	500.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	White Rock Rd		White Rock Rd		US 50 EB	
Base Volume Input [veh/h]	623	523	587	200	511	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	41	8	85	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	12
Total Hourly Volume [veh/h]	664	531	672	200	511	44
Peak Hour Factor	0.8300	0.9100	0.9100	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	200	146	185	60	154	13
Total Analysis Volume [veh/h]	800	584	738	241	616	53
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	21	61	32	0	16	0
Amber [s]	3.7	4.8	4.8	0.0	4.8	0.0
All red [s]	0.5	2.0	2.0	0.0	1.0	0.0
Walk [s]	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.2	4.8	4.8	0.0	3.8	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	39	0	22	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	8	9	9	0	8	0
Vehicle Extension [s]	2.0	1.0	1.0	0.0	2.0	0.0
Minimum Recall	No	Yes	Yes		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80
g_i, Effective Green Time [s]	22	61	35	35	16	16	16
g / C, Green / Cycle	0.24	0.68	0.39	0.39	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.23	0.16	0.21	0.15	0.17	0.17	0.03
s, saturation flow rate [veh/h]	3459	3560	3560	1589	1781	1781	1589
c, Capacity [veh/h]	838	2421	1393	622	321	321	286
d1, Uniform Delay [s]	33.62	5.51	21.05	19.67	36.59	36.59	31.30
k, delay calibration	0.04	0.50	0.50	0.50	0.30	0.30	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.16	0.24	1.45	1.82	30.10	30.10	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.95	0.24	0.53	0.39	0.96	0.96	0.19
d, Delay for Lane Group [s/veh]	36.78	5.75	22.49	21.49	66.69	66.69	31.42
Lane Group LOS	D	A	C	C	E	E	C
Critical Lane Group	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	8.73	1.87	6.02	3.82	9.24	9.24	0.97
50th-Percentile Queue Length [ft/ln]	218.13	46.66	150.58	95.48	231.02	231.02	24.37
95th-Percentile Queue Length [veh/ln]	13.57	3.36	10.05	6.87	14.23	14.23	1.75
95th-Percentile Queue Length [ft/ln]	339.23	83.98	251.20	171.87	355.66	355.66	43.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.78	5.75	22.49	21.49	66.69	31.42
Movement LOS	D	A	C	C	E	C
d_A, Approach Delay [s/veh]	23.68		22.25		63.90	
Approach LOS	C		C		E	
d_I, Intersection Delay [s/veh]	32.09					
Intersection LOS	C					
Intersection V/C	0.706					

Emissions

Vehicle Miles Traveled [mph]	139.55	101.87	130.78	42.71	18.65	18.65	3.21
Stops [stops/h]	698.00	149.31	481.85	152.77	369.64	369.64	39.00
Fuel consumption [US gal/h]	15.59	5.70	11.42	3.66	6.99	6.99	0.69
CO [g/h]	1089.63	398.57	798.54	255.55	488.57	488.57	47.98
NOx [g/h]	212.00	77.55	155.37	49.72	95.06	95.06	9.34
VOC [g/h]	252.53	92.37	185.07	59.23	113.23	113.23	11.12

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1360	716	360
d_b, Bicycle Delay [s]	4.61	18.56	30.26
l_b,int, Bicycle LOS Score for Intersection	2.701	2.367	2.683
Bicycle LOS	B	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 24: Silva Valley Pkwy/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	20.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.561

Intersection Setup

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Approach	Northbound				Southbound			Westbound			Northeastbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	550.0	100.0	100.0	100.0	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No					
Crosswalk	No				No			No			No		

Volumes

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Base Volume Input [veh/h]	1	152	881	0	0	381	207	405	1	198	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	8	0	0	13	0	72	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	47	0	0	30	0	0	0
Total Hourly Volume [veh/h]	1	152	889	0	0	394	160	477	1	168	0	0	0
Peak Hour Factor	1.000	0.790	0.790	1.000	1.0000	0.7900	0.7900	0.7900	0.7900	0.7900	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	48	281	0	0	125	51	151	0	53	0	0	0
Total Analysis Volume [veh/h]	1	192	1125	0	0	499	203	604	1	213	0	0	0
Presence of On-Street Parking	No			No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	6	0	0	8	0	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	20	54	0	0	26	0	0	23	0	0	0	0
Amber [s]	0.0	3.7	4.8	0.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0
All red [s]	0.0	0.5	2.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	4.8	0.0	0.0	4.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	61	0	0	33	0	0	29	0	0	0	0
Lead / Lag	-	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	8	8	0	0	8	0	0	8	0	0	0	0
Vehicle Extension [s]	0.0	2.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No	Yes			Yes			No				
Maximum Recall		No	No			No			No				
Pedestrian Recall		No	No			No			No				

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	R	
C, Cycle Length [s]	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80	
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80	
g_i, Effective Green Time [s]	12	60	44	44	17	17	17	
g / C, Green / Cycle	0.13	0.67	0.49	0.49	0.19	0.19	0.19	
(v / s)_i Volume / Saturation Flow Rate	0.11	0.32	0.14	0.13	0.17	0.17	0.13	
s, saturation flow rate [veh/h]	1781	3560	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	231	2381	1754	783	341	341	304	
d1, Uniform Delay [s]	38.24	7.22	13.48	13.29	35.46	35.46	33.99	
k, delay calibration	0.04	0.50	0.50	0.50	0.05	0.05	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	3.07	0.68	0.41	0.80	3.81	3.80	1.10	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.84	0.47	0.28	0.26	0.89	0.89	0.70	
d, Delay for Lane Group [s/veh]	41.30	7.89	13.89	14.09	39.27	39.26	35.09	
Lane Group LOS	D	A	B	B	D	D	D	
Critical Lane Group	No	Yes	No	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	4.28	4.66	2.94	2.45	6.68	6.68	4.36	
50th-Percentile Queue Length [ft/ln]	107.12	116.44	73.49	61.32	166.96	166.96	108.94	
95th-Percentile Queue Length [veh/ln]	7.68	8.20	5.29	4.41	10.92	10.92	7.78	
95th-Percentile Queue Length [ft/ln]	191.99	204.92	132.28	110.37	272.91	272.91	194.53	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.30	41.30	7.89	0.00	0.00	13.89	14.09	39.26	39.26	35.09	0.00	0.00	0.00
Movement LOS	D	D	A			B	B	D	D	D			
d_A, Approach Delay [s/veh]	12.78				13.94			38.18			0.00		
Approach LOS	B				B			D			A		
d_I, Intersection Delay [s/veh]	20.39												
Intersection LOS	C												
Intersection V/C	0.561												

Emissions

Vehicle Miles Traveled [mph]	34.20	199.36	68.23	27.76	10.48	10.48	7.38
Stops [stops/h]	171.39	372.61	235.17	98.11	267.13	267.13	174.31
Fuel consumption [US gal/h]	3.98	12.07	5.52	2.27	4.32	4.32	2.79
CO [g/h]	277.99	843.88	385.73	158.45	302.26	302.25	194.86
NOx [g/h]	54.09	164.19	75.05	30.83	58.81	58.81	37.91
VOC [g/h]	64.43	195.58	89.40	36.72	70.05	70.05	45.16

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1204	582	516	0
d_b, Bicycle Delay [s]	7.12	22.61	24.79	45.00
l_b,int, Bicycle LOS Score for Intersection	2.646	2.178	2.959	4.132
Bicycle LOS	B	B	C	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 25: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Base Volume Input [veh/h]	0	380	501	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	289	462	28	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	55	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	669	963	83	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	167	241	21	0	0
Total Analysis Volume [veh/h]	0	669	963	83	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	17.27
Movement LOS		A	A	A		C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		17.27	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 26: Latrobe/Wetsl-Oviatt

Control Type:	Two-way stop	Delay (sec / veh):	17.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.126

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Base Volume Input [veh/h]	0	300	441	20	27	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	58	34	25	14	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	358	475	45	41	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	90	119	11	10	1
Total Analysis Volume [veh/h]	3	358	475	45	41	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					Yes	
Storage Area [veh]	0		0		1	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.13	0.00
d_M, Delay for Movement [s/veh]	8.44	0.00	0.00	0.00	17.62	12.81
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.43	0.43
95th-Percentile Queue Length [ft/ln]	0.13	0.13	0.00	0.00	10.73	10.73
d_A, Approach Delay [s/veh]	0.07		0.00		17.39	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.84					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 27: Latrobe/S. Shingle

Control Type:	Two-way stop	Delay (sec / veh):	22.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.134

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Base Volume Input [veh/h]	0	185	66	43	288	31	10	32	2	44	13	79
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	13	0	14	8	14	24	0	0	0	0	24
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	198	66	57	296	45	34	32	2	44	13	103
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	51	17	15	76	12	9	8	1	11	3	27
Total Analysis Volume [veh/h]	0	204	68	59	305	46	35	33	2	45	13	106
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free		Free		Stop		Stop	
Flared Lane					No		No	
Storage Area [veh]	0		0		0		0	
Two-Stage Gap Acceptance					No		No	
Number of Storage Spaces in Median	0		0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.05	0.00	0.00	0.13	0.10	0.00	0.15	0.04	0.13
d_M, Delay for Movement [s/veh]	7.98	0.00	0.00	7.86	0.00	0.00	22.49	19.46	13.74	20.24	18.88	12.77
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.10	0.10	0.10	0.90	0.90	0.90	1.37	1.37	1.37
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.61	2.61	2.61	22.41	22.41	22.41	34.25	34.25	34.25
d_A, Approach Delay [s/veh]	0.00			1.13			20.81			15.30		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	4.84											
Intersection LOS	C											

Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	669	1065	49	32
2	649	1033	48	31
3	636	1012	47	30
4	595	948	44	28
5	529	841	39	25
6	522	831	38	25
7	515	820	38	25
8	468	746	34	22
9	462	735	34	22
10	455	724	33	22
11	395	628	29	19
12	368	586	27	18
13	361	575	26	17
14	268	426	20	13
15	268	426	20	13
16	187	298	14	9
17	107	170	8	5
18	107	170	8	5
19	60	96	4	3
20	33	53	2	2
21	20	32	1	1
22	7	11	0	0
23	7	11	0	0
24	7	11	0	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1734	1	49	No	No	No	No	No	No	No	Yes	No	No
2	1	1682	1	48	No	No	No	No	No	No	No	Yes	No	No
3	1	1648	1	47	No	No	No	No	No	No	No	Yes	No	No
4	1	1543	1	44	No	No	No	No	No	No	No	Yes	No	No
5	1	1370	1	39	No	No	No	No	No	No	No	No	No	No
6	1	1353	1	38	No	No	No	No	No	No	No	No	No	No
7	1	1335	1	38	No	No	No	No	No	No	No	No	No	No
8	1	1214	1	34	No	No	No	No	No	No	No	No	No	No
9	1	1197	1	34	No	No	No	No	No	No	No	No	No	No
10	1	1179	1	33	No	No	No	No	No	No	No	No	No	No
11	1	1023	1	29	No	No	No	No	No	No	No	No	No	No
12	1	954	1	27	No	No	No	No	No	No	No	No	No	No
13	1	936	1	26	No	No	No	No	No	No	No	No	No	No
14	1	694	1	20	No	No	No	No	No	No	No	No	No	No
15	1	694	1	20	No	No	No	No	No	No	No	No	No	No
16	1	485	1	14	No	No	No	No	No	No	No	No	No	No
17	1	277	1	8	No	No	No	No	No	No	No	No	No	No
18	1	277	1	8	No	No	No	No	No	No	No	No	No	No
19	1	156	1	4	No	No	No	No	No	No	No	No	No	No
20	1	86	1	2	No	No	No	No	No	No	No	No	No	No
21	1	52	1	1	No	No	No	No	No	No	No	No	No	No
22	1	18	1	0	No	No	No	No	No	No	No	No	No	No
23	1	18	1	0	No	No	No	No	No	No	No	No	No	No
24	1	18	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	4	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.5	206
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:11	1:49
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	49	32
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1815	1815
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 12: Latrobe Rd/Royal Oaks Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	436	963	128	393
2	423	934	124	381
3	414	915	122	373
4	388	857	114	350
5	344	761	101	310
6	340	751	100	307
7	336	742	99	303
8	305	674	90	275
9	301	664	88	271
10	296	655	87	267
11	257	568	76	232
12	240	530	70	216
13	235	520	69	212
14	174	385	51	157
15	174	385	51	157
16	122	270	36	110
17	70	154	20	63
18	70	154	20	63
19	39	87	12	35
20	22	48	6	20
21	13	29	4	12
22	4	10	1	4
23	4	10	1	4
24	4	10	1	4

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1399	1	393	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	2	1357	1	381	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	2	1329	1	373	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	2	1245	1	350	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	2	1105	1	310	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	2	1091	1	307	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	2	1078	1	303	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	2	979	1	275	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	2	965	1	271	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	2	951	1	267	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	2	825	1	232	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
12	2	770	1	216	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
13	2	755	1	212	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
14	2	559	1	157	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
15	2	559	1	157	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
16	2	392	1	110	No	No	No	Yes	No	No	No	No	No	No
17	2	224	1	63	No	No	No	No	No	No	No	No	No	No
18	2	224	1	63	No	No	No	No	No	No	No	No	No	No
19	2	126	1	35	No	No	No	No	No	No	No	No	No	No
20	2	70	1	20	No	No	No	No	No	No	No	No	No	No
21	2	42	1	12	No	No	No	No	No	No	No	No	No	No
22	2	14	1	4	No	No	No	No	No	No	No	No	No	No
23	2	14	1	4	No	No	No	No	No	No	No	No	No	No
24	2	14	1	4	No	No	No	No	No	No	No	No	No	No
Hours Met					13	15	15	16	10	13	13	15	15	13

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	181.4	1959.5
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	6:26	213:54
Delay Condition Met	Yes	Yes
Volume on Minor Street Approach During Same Hour	128	393
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	1920	1920
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	Yes	Yes
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 13: Golden Foothill/Robert J Mathews

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	939	321	571
2	911	311	554
3	892	305	542
4	836	286	508
5	742	254	451
6	732	250	445
7	723	247	440
8	657	225	400
9	648	221	394
10	639	218	388
11	554	189	337
12	516	177	314
13	507	173	308
14	376	128	228
15	376	128	228
16	263	90	160
17	150	51	91
18	150	51	91
19	85	29	51
20	47	16	29
21	28	10	17
22	9	3	6
23	9	3	6
24	9	3	6

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1260	1	571	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1222	1	554	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1197	1	542	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1122	1	508	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	996	1	451	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	982	1	445	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1	970	1	440	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	1	882	1	400	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	1	869	1	394	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	1	857	1	388	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	1	743	1	337	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
12	1	693	1	314	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
13	1	680	1	308	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
14	1	504	1	228	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
15	1	504	1	228	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
16	1	353	1	160	No	No	Yes	Yes	No	No	No	No	No	No
17	1	201	1	91	No	No	No	No	No	No	No	No	No	No
18	1	201	1	91	No	No	No	No	No	No	No	No	No	No
19	1	114	1	51	No	No	No	No	No	No	No	No	No	No
20	1	63	1	29	No	No	No	No	No	No	No	No	No	No
21	1	38	1	17	No	No	No	No	No	No	No	No	No	No
22	1	12	1	6	No	No	No	No	No	No	No	No	No	No
23	1	12	1	6	No	No	No	No	No	No	No	No	No	No
24	1	12	1	6	No	No	No	No	No	No	No	No	No	No
Hours Met					15	15	16	16	10	13	13	15	13	10

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	4762.1
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	755:19
Delay Condition Met	Yes
Volume on Minor Street Approach During Same Hour	571
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1831
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	Yes
Warrant Met for Intersection	**Yes**

Signal Warrants Report For Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	284	379	280	58
2	275	368	272	56
3	270	360	266	55
4	253	337	249	52
5	224	299	221	46
6	222	296	218	45
7	219	292	216	45
8	199	265	196	41
9	196	262	193	40
10	193	258	190	39
11	168	224	165	34
12	156	208	154	32
13	153	205	151	31
14	114	152	112	23
15	114	152	112	23
16	80	106	78	16
17	45	61	45	9
18	45	61	45	9
19	26	34	25	5
20	14	19	14	3
21	9	11	8	2
22	3	4	3	1
23	3	4	3	1
24	3	4	3	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	663	1	280	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
2	1	643	1	272	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
3	1	630	1	266	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
4	1	590	1	249	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
5	1	523	1	221	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
6	1	518	1	218	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
7	1	511	1	216	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
8	1	464	1	196	No	Yes	Yes	Yes	No	No	No	Yes	No	No
9	1	458	1	193	No	Yes	Yes	Yes	No	No	No	Yes	No	No
10	1	451	1	190	No	Yes	Yes	Yes	No	No	No	Yes	No	No
11	1	392	1	165	No	No	Yes	Yes	No	No	No	No	No	No
12	1	364	1	154	No	No	Yes	Yes	No	No	No	No	No	No
13	1	358	1	151	No	No	Yes	Yes	No	No	No	No	No	No
14	1	266	1	112	No	No	No	No	No	No	No	No	No	No
15	1	266	1	112	No	No	No	No	No	No	No	No	No	No
16	1	186	1	78	No	No	No	No	No	No	No	No	No	No
17	1	106	1	45	No	No	No	No	No	No	No	No	No	No
18	1	106	1	45	No	No	No	No	No	No	No	No	No	No
19	1	60	1	25	No	No	No	No	No	No	No	No	No	No
20	1	33	1	14	No	No	No	No	No	No	No	No	No	No
21	1	20	1	8	No	No	No	No	No	No	No	No	No	No
22	1	7	1	3	No	No	No	No	No	No	No	No	No	No
23	1	7	1	3	No	No	No	No	No	No	No	No	No	No
24	1	7	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					7	10	13	13	0	3	4	10	4	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	19.6	11.4
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:31	0:11
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	280	58
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1001	1001
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	362	191	191
2	351	185	185
3	344	181	181
4	322	170	170
5	286	151	151
6	282	149	149
7	279	147	147
8	253	134	134
9	250	132	132
10	246	130	130
11	214	113	113
12	199	105	105
13	195	103	103
14	145	76	76
15	145	76	76
16	101	53	53
17	58	31	31
18	58	31	31
19	33	17	17
20	18	10	10
21	11	6	6
22	4	2	2
23	4	2	2
24	4	2	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	553	2	191	No	Yes	Yes	Yes	No	No	No	Yes	No	No
2	2	536	2	185	No	Yes	Yes	Yes	No	No	No	Yes	No	No
3	2	525	2	181	No	Yes	Yes	Yes	No	No	No	Yes	No	No
4	2	492	2	170	No	Yes	Yes	Yes	No	No	No	No	No	No
5	2	437	2	151	No	No	Yes	Yes	No	No	No	No	No	No
6	2	431	2	149	No	No	Yes	Yes	No	No	No	No	No	No
7	2	426	2	147	No	No	Yes	Yes	No	No	No	No	No	No
8	2	387	2	134	No	No	No	Yes	No	No	No	No	No	No
9	2	382	2	132	No	No	No	Yes	No	No	No	No	No	No
10	2	376	2	130	No	No	No	Yes	No	No	No	No	No	No
11	2	327	2	113	No	No	No	No	No	No	No	No	No	No
12	2	304	2	105	No	No	No	No	No	No	No	No	No	No
13	2	298	2	103	No	No	No	No	No	No	No	No	No	No
14	2	221	2	76	No	No	No	No	No	No	No	No	No	No
15	2	221	2	76	No	No	No	No	No	No	No	No	No	No
16	2	154	2	53	No	No	No	No	No	No	No	No	No	No
17	2	89	2	31	No	No	No	No	No	No	No	No	No	No
18	2	89	2	31	No	No	No	No	No	No	No	No	No	No
19	2	50	2	17	No	No	No	No	No	No	No	No	No	No
20	2	28	2	10	No	No	No	No	No	No	No	No	No	No
21	2	17	2	6	No	No	No	No	No	No	No	No	No	No
22	2	6	2	2	No	No	No	No	No	No	No	No	No	No
23	2	6	2	2	No	No	No	No	No	No	No	No	No	No
24	2	6	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	10	0	0	0	3	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	11
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:34
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	191
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	744
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 16: Carson Crossing Rd/Calypso Cir.

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	272	228	55
2	264	221	53
3	258	217	52
4	242	203	49
5	215	180	43
6	212	178	43
7	209	176	42
8	190	160	39
9	188	157	38
10	185	155	37
11	160	135	32
12	150	125	30
13	147	123	30
14	109	91	22
15	109	91	22
16	76	64	15
17	44	36	9
18	44	36	9
19	24	21	5
20	14	11	3
21	8	7	2
22	3	2	1
23	3	2	1
24	3	2	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	500	1	55	No	No	No	No	No	No	No	No	No	No
2	2	485	1	53	No	No	No	No	No	No	No	No	No	No
3	2	475	1	52	No	No	No	No	No	No	No	No	No	No
4	2	445	1	49	No	No	No	No	No	No	No	No	No	No
5	2	395	1	43	No	No	No	No	No	No	No	No	No	No
6	2	390	1	43	No	No	No	No	No	No	No	No	No	No
7	2	385	1	42	No	No	No	No	No	No	No	No	No	No
8	2	350	1	39	No	No	No	No	No	No	No	No	No	No
9	2	345	1	38	No	No	No	No	No	No	No	No	No	No
10	2	340	1	37	No	No	No	No	No	No	No	No	No	No
11	2	295	1	32	No	No	No	No	No	No	No	No	No	No
12	2	275	1	30	No	No	No	No	No	No	No	No	No	No
13	2	270	1	30	No	No	No	No	No	No	No	No	No	No
14	2	200	1	22	No	No	No	No	No	No	No	No	No	No
15	2	200	1	22	No	No	No	No	No	No	No	No	No	No
16	2	140	1	15	No	No	No	No	No	No	No	No	No	No
17	2	80	1	9	No	No	No	No	No	No	No	No	No	No
18	2	80	1	9	No	No	No	No	No	No	No	No	No	No
19	2	45	1	5	No	No	No	No	No	No	No	No	No	No
20	2	25	1	3	No	No	No	No	No	No	No	No	No	No
21	2	15	1	2	No	No	No	No	No	No	No	No	No	No
22	2	5	1	1	No	No	No	No	No	No	No	No	No	No
23	2	5	1	1	No	No	No	No	No	No	No	No	No	No
24	2	5	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	10.5
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:09
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	55
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	555
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 17: Carson Crossing Rd/Four Seasons Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	235	249	3
2	228	242	3
3	223	237	3
4	209	222	3
5	186	197	2
6	183	194	2
7	181	192	2
8	165	174	2
9	162	172	2
10	160	169	2
11	139	147	2
12	129	137	2
13	127	134	2
14	94	100	1
15	94	100	1
16	66	70	1
17	38	40	0
18	38	40	0
19	21	22	0
20	12	12	0
21	7	7	0
22	2	2	0
23	2	2	0
24	2	2	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	484	1	3	No	No	No	No	No	No	No	No	No	No
2	3	470	1	3	No	No	No	No	No	No	No	No	No	No
3	3	460	1	3	No	No	No	No	No	No	No	No	No	No
4	3	431	1	3	No	No	No	No	No	No	No	No	No	No
5	3	383	1	2	No	No	No	No	No	No	No	No	No	No
6	3	377	1	2	No	No	No	No	No	No	No	No	No	No
7	3	373	1	2	No	No	No	No	No	No	No	No	No	No
8	3	339	1	2	No	No	No	No	No	No	No	No	No	No
9	3	334	1	2	No	No	No	No	No	No	No	No	No	No
10	3	329	1	2	No	No	No	No	No	No	No	No	No	No
11	3	286	1	2	No	No	No	No	No	No	No	No	No	No
12	3	266	1	2	No	No	No	No	No	No	No	No	No	No
13	3	261	1	2	No	No	No	No	No	No	No	No	No	No
14	3	194	1	1	No	No	No	No	No	No	No	No	No	No
15	3	194	1	1	No	No	No	No	No	No	No	No	No	No
16	3	136	1	1	No	No	No	No	No	No	No	No	No	No
17	3	78	1	0	No	No	No	No	No	No	No	No	No	No
18	3	78	1	0	No	No	No	No	No	No	No	No	No	No
19	3	43	1	0	No	No	No	No	No	No	No	No	No	No
20	3	24	1	0	No	No	No	No	No	No	No	No	No	No
21	3	14	1	0	No	No	No	No	No	No	No	No	No	No
22	3	4	1	0	No	No	No	No	No	No	No	No	No	No
23	3	4	1	0	No	No	No	No	No	No	No	No	No	No
24	3	4	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	8.1
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	3
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	487
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 18: White Rock Rd/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	474	603	224	29
2	460	585	217	28
3	450	573	213	28
4	422	537	199	26
5	374	476	177	23
6	370	470	175	23
7	365	464	172	22
8	332	422	157	20
9	327	416	155	20
10	322	410	152	20
11	280	356	132	17
12	261	332	123	16
13	256	326	121	16
14	190	241	90	12
15	190	241	90	12
16	133	169	63	8
17	76	96	36	5
18	76	96	36	5
19	43	54	20	3
20	24	30	11	1
21	14	18	7	1
22	5	6	2	0
23	5	6	2	0
24	5	6	2	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1077	2	224	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
2	2	1045	2	217	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
3	2	1023	2	213	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
4	2	959	2	199	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
5	2	850	2	177	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
6	2	840	2	175	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
7	2	829	2	172	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
8	2	754	2	157	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No
9	2	743	2	155	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No
10	2	732	2	152	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No
11	2	636	2	132	No	No	No	Yes	No	No	Yes	Yes	No	No
12	2	593	2	123	No	No	No	Yes	No	No	No	Yes	No	No
13	2	582	2	121	No	No	No	Yes	No	No	No	Yes	No	No
14	2	431	2	90	No	No	No	No	No	No	No	No	No	No
15	2	431	2	90	No	No	No	No	No	No	No	No	No	No
16	2	302	2	63	No	No	No	No	No	No	No	No	No	No
17	2	172	2	36	No	No	No	No	No	No	No	No	No	No
18	2	172	2	36	No	No	No	No	No	No	No	No	No	No
19	2	97	2	20	No	No	No	No	No	No	No	No	No	No
20	2	54	2	11	No	No	No	No	No	No	No	No	No	No
21	2	32	2	7	No	No	No	No	No	No	No	No	No	No
22	2	11	2	2	No	No	No	No	No	No	No	No	No	No
23	2	11	2	2	No	No	No	No	No	No	No	No	No	No
24	2	11	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					3	7	10	13	4	10	11	13	3	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	171.9	15.6
Number of Lanes on Minor Street Approach	2	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	10:41	0:07
Delay Condition Met	Yes	No
Volume on Minor Street Approach During Same Hour	224	29
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1330	1330
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	Yes	No
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 25: New Intersection

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	669	1046	0
2	649	1015	0
3	636	994	0
4	595	931	0
5	529	826	0
6	522	816	0
7	515	805	0
8	468	732	0
9	462	722	0
10	455	711	0
11	395	617	0
12	368	575	0
13	361	565	0
14	268	418	0
15	268	418	0
16	187	293	0
17	107	167	0
18	107	167	0
19	60	94	0
20	33	52	0
21	20	31	0
22	7	10	0
23	7	10	0
24	7	10	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1715	1	0	No	No	No	No	No	No	No	No	No	No
2	1	1664	1	0	No	No	No	No	No	No	No	No	No	No
3	1	1630	1	0	No	No	No	No	No	No	No	No	No	No
4	1	1526	1	0	No	No	No	No	No	No	No	No	No	No
5	1	1355	1	0	No	No	No	No	No	No	No	No	No	No
6	1	1338	1	0	No	No	No	No	No	No	No	No	No	No
7	1	1320	1	0	No	No	No	No	No	No	No	No	No	No
8	1	1200	1	0	No	No	No	No	No	No	No	No	No	No
9	1	1184	1	0	No	No	No	No	No	No	No	No	No	No
10	1	1166	1	0	No	No	No	No	No	No	No	No	No	No
11	1	1012	1	0	No	No	No	No	No	No	No	No	No	No
12	1	943	1	0	No	No	No	No	No	No	No	No	No	No
13	1	926	1	0	No	No	No	No	No	No	No	No	No	No
14	1	686	1	0	No	No	No	No	No	No	No	No	No	No
15	1	686	1	0	No	No	No	No	No	No	No	No	No	No
16	1	480	1	0	No	No	No	No	No	No	No	No	No	No
17	1	274	1	0	No	No	No	No	No	No	No	No	No	No
18	1	274	1	0	No	No	No	No	No	No	No	No	No	No
19	1	154	1	0	No	No	No	No	No	No	No	No	No	No
20	1	85	1	0	No	No	No	No	No	No	No	No	No	No
21	1	51	1	0	No	No	No	No	No	No	No	No	No	No
22	1	17	1	0	No	No	No	No	No	No	No	No	No	No
23	1	17	1	0	No	No	No	No	No	No	No	No	No	No
24	1	17	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	17.3
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1715
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 26: Latrobe/Wetsl-Oviatt

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	361	520	43
2	350	504	42
3	343	494	41
4	321	463	38
5	285	411	34
6	282	406	34
7	278	400	33
8	253	364	30
9	249	359	30
10	245	354	29
11	213	307	25
12	199	286	24
13	195	281	23
14	144	208	17
15	144	208	17
16	101	146	12
17	58	83	7
18	58	83	7
19	32	47	4
20	18	26	2
21	11	16	1
22	4	5	0
23	4	5	0
24	4	5	0

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Version 2024 (SP 0-2)

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	881	1	43	No	No	No	No	No	No	No	Yes	No	No
2	1	854	1	42	No	No	No	No	No	No	No	Yes	No	No
3	1	837	1	41	No	No	No	No	No	No	No	No	No	No
4	1	784	1	38	No	No	No	No	No	No	No	No	No	No
5	1	696	1	34	No	No	No	No	No	No	No	No	No	No
6	1	688	1	34	No	No	No	No	No	No	No	No	No	No
7	1	678	1	33	No	No	No	No	No	No	No	No	No	No
8	1	617	1	30	No	No	No	No	No	No	No	No	No	No
9	1	608	1	30	No	No	No	No	No	No	No	No	No	No
10	1	599	1	29	No	No	No	No	No	No	No	No	No	No
11	1	520	1	25	No	No	No	No	No	No	No	No	No	No
12	1	485	1	24	No	No	No	No	No	No	No	No	No	No
13	1	476	1	23	No	No	No	No	No	No	No	No	No	No
14	1	352	1	17	No	No	No	No	No	No	No	No	No	No
15	1	352	1	17	No	No	No	No	No	No	No	No	No	No
16	1	247	1	12	No	No	No	No	No	No	No	No	No	No
17	1	141	1	7	No	No	No	No	No	No	No	No	No	No
18	1	141	1	7	No	No	No	No	No	No	No	No	No	No
19	1	79	1	4	No	No	No	No	No	No	No	No	No	No
20	1	44	1	2	No	No	No	No	No	No	No	No	No	No
21	1	27	1	1	No	No	No	No	No	No	No	No	No	No
22	1	9	1	0	No	No	No	No	No	No	No	No	No	No
23	1	9	1	0	No	No	No	No	No	No	No	No	No	No
24	1	9	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	2	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	17.4
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:12
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	43
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	924
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 27: Latrobe/S. Shingle

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

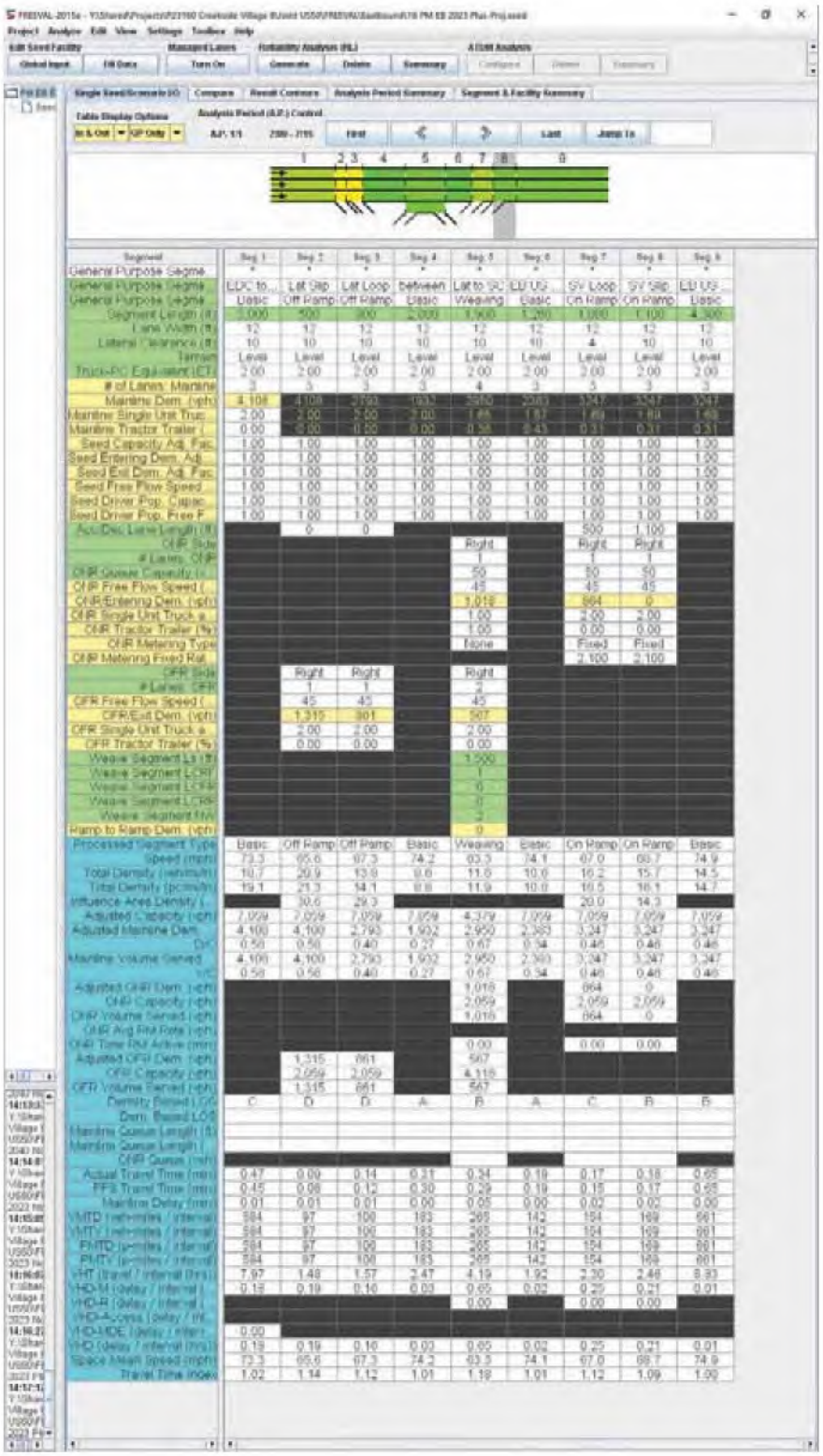
Hour	Major Streets		Minor Streets	
	S	N	E	W
1	264	398	160	68
2	256	386	155	66
3	251	378	152	65
4	235	354	142	61
5	209	314	126	54
6	206	310	125	53
7	203	306	123	52
8	185	279	112	48
9	182	275	110	47
10	180	271	109	46
11	156	235	94	40
12	145	219	88	37
13	143	215	86	37
14	106	159	64	27
15	106	159	64	27
16	74	111	45	19
17	42	64	26	11
18	42	64	26	11
19	24	36	14	6
20	13	20	8	3
21	8	12	5	2
22	3	4	2	1
23	3	4	2	1
24	3	4	2	1

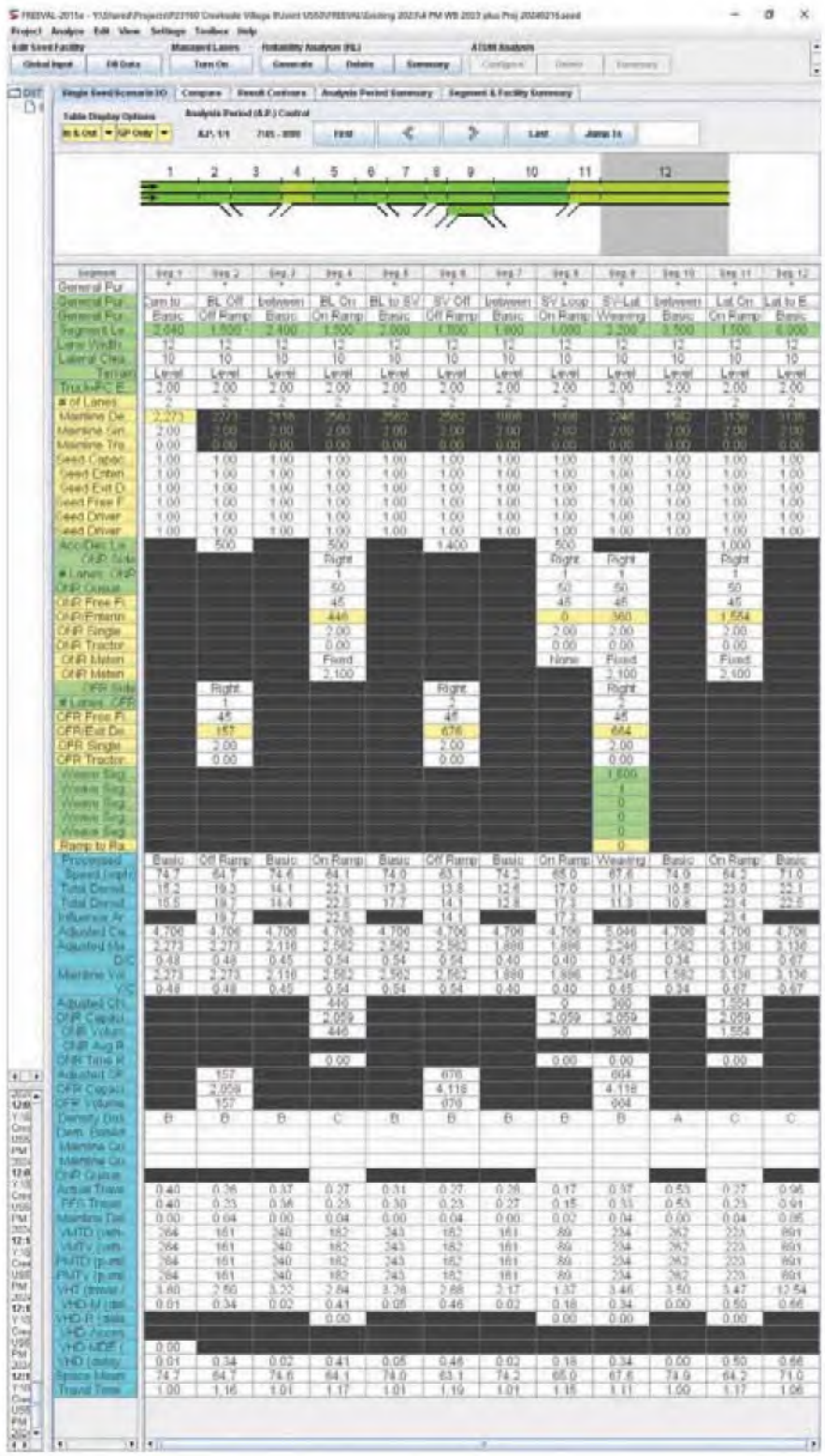
Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	662	1	160	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
2	1	642	1	155	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
3	1	629	1	152	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
4	1	589	1	142	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
5	1	523	1	126	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
6	1	516	1	125	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
7	1	509	1	123	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
8	1	464	1	112	No	No	Yes	Yes	No	No	No	Yes	No	No
9	1	457	1	110	No	No	Yes	Yes	No	No	No	Yes	No	No
10	1	451	1	109	No	No	Yes	Yes	No	No	No	Yes	No	No
11	1	391	1	94	No	No	No	Yes	No	No	No	No	No	No
12	1	364	1	88	No	No	No	Yes	No	No	No	No	No	No
13	1	358	1	86	No	No	No	Yes	No	No	No	No	No	No
14	1	265	1	64	No	No	No	No	No	No	No	No	No	No
15	1	265	1	64	No	No	No	No	No	No	No	No	No	No
16	1	185	1	45	No	No	No	No	No	No	No	No	No	No
17	1	106	1	26	No	No	No	No	No	No	No	No	No	No
18	1	106	1	26	No	No	No	No	No	No	No	No	No	No
19	1	60	1	14	No	No	No	No	No	No	No	No	No	No
20	1	33	1	8	No	No	No	No	No	No	No	No	No	No
21	1	20	1	5	No	No	No	No	No	No	No	No	No	No
22	1	7	1	2	No	No	No	No	No	No	No	No	No	No
23	1	7	1	2	No	No	No	No	No	No	No	No	No	No
24	1	7	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					3	7	10	13	0	3	4	10	7	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	15.3	20.8
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:40	0:23
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	160	68
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	890	890
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	





Existing AM plus abated Project

Vistro File: C:\...\AM 918 DU 20240212 - ABATED.vistro Scenario 3 Abated 2023 AM, + Project
Report File: C:\...\5 2023 AM plus abated Proj.pdf 2/14/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	EB Right	1.278	134.0	F
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	NB Left	0.946	89.7	F
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	WB Right	0.836	23.4	C
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	NB Left	0.660	32.9	C
8	Latrobe Rd/Suncast Ln	Signalized	HCM 7th Edition	NB Left	0.745	9.2	A
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	NB Right	0.869	45.3	D
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	NB Left	0.972	11.0	B
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	EB Left	0.323	38.7	E
12	Latrobe Rd/Royal Oaks Dr	Signalized	HCM 6th Edition	SB Left	0.737	19.4	B
13	Golden Foothill/Robert J Mathews	Roundabout	HCM 6th Edition	EB Thru		6.4	A
18	White Rock Rd/Carson Crossing Rd	Signalized	HCM 6th Edition	EB Left	0.598	14.5	B
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 7th Edition	WB Thru	0.884	44.4	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	134.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.278

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	230.0	100.0	100.0	100.0	100.0	100.0	100.0	300.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	1	348	988	150	1	148	1611	391	132	61	682	11	13	84
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	30	59	0	0	0	26	0	0	0	14	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	45	0	0	0	117	0	0	209	0	0	25
Total Hourly Volume [veh/h]	1	378	1047	105	1	148	1637	274	132	61	487	11	13	59
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	102	281	28	0	40	440	74	35	16	131	3	3	16
Total Analysis Volume [veh/h]	1	406	1126	113	1	159	1760	295	142	66	524	12	14	63
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	0	3	8	0
Auxiliary Signal Groups														
Maximum Green [s]	0	26	50	0	0	20	44	0	20	20	0	0	20	0
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	18	0	0	0	16	0	0	0	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	0.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	0.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	30	56	0	0	24	50	0	24	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	26	58	58	12	44	44	20	20	20	7	7
g / C, Green / Cycle	0.23	0.50	0.50	0.11	0.38	0.38	0.17	0.17	0.17	0.06	0.06
(v / s)_i Volume / Saturation Flow Rate	0.23	0.23	0.23	0.09	0.49	0.19	0.06	0.06	0.33	0.01	0.05
s, saturation flow rate [veh/h]	1781	3560	1784	1781	3560	1589	1781	1836	1589	1781	1634
c, Capacity [veh/h]	403	1792	898	190	1365	609	310	320	277	110	101
d1, Uniform Delay [s]	44.39	18.42	18.42	50.34	35.39	26.79	41.53	41.51	47.39	50.87	53.03
k, delay calibration	0.44	0.13	0.13	0.04	0.20	0.13	0.04	0.04	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	44.34	0.22	0.45	3.90	132.57	0.72	0.23	0.22	414.69	0.16	4.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.01	0.46	0.46	0.84	1.29	0.48	0.33	0.33	1.89	0.11	0.76
d, Delay for Lane Group [s/veh]	88.73	18.64	18.87	54.25	167.96	27.52	41.76	41.73	462.08	51.03	57.49
Lane Group LOS	F	B	B	D	F	C	D	D	F	D	E
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	15.96	6.63	6.71	4.59	42.93	5.95	2.58	2.63	39.76	0.33	2.31
50th-Percentile Queue Length [ft/ln]	399.11	165.74	167.64	114.66	1073.18	148.66	64.40	65.84	994.08	8.29	57.73
95th-Percentile Queue Length [veh/ln]	22.63	10.85	10.95	8.10	62.96	9.95	4.64	4.74	62.66	0.60	4.16
95th-Percentile Queue Length [ft/ln]	565.82	271.30	273.81	202.46	1574.08	248.64	115.92	118.51	1566.60	14.92	103.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	88.73	88.73	18.70	18.87	54.25	54.25	167.9	27.52	41.76	41.73	462.08	51.03	57.49	57.49
Movement LOS	F	F	B	B	D	D	F	C	D	D	F	D	E	E
d_A, Approach Delay [s/veh]	36.03				141.04				342.64			56.62		
Approach LOS	D				F				F			E		
d_I, Intersection Delay [s/veh]	134.04													
Intersection LOS	F													
Intersection V/C	1.278													

Emissions

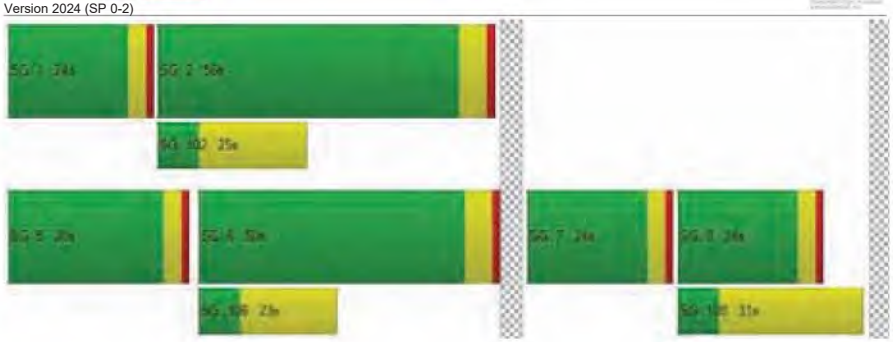
Vehicle Miles Traveled [mph]	76.60	155.30	77.87	38.20	420.22	70.43	6.41	6.56	32.68	0.59	3.75
Stops [stops/h]	500.97	416.07	210.42	143.92	2694.15	186.60	80.84	82.64	1247.78	10.40	72.47
Fuel consumption [US gal/h]	16.20	13.63	6.87	4.87	108.05	6.39	1.58	1.62	57.50	0.21	1.46
CO [g/h]	1132.56	952.54	480.53	340.06	7552.42	446.40	110.74	113.22	4019.33	14.41	101.75
NOx [g/h]	220.35	185.33	93.49	66.16	1469.43	86.85	21.55	22.03	782.01	2.80	19.80
VOC [g/h]	262.48	220.76	111.37	78.81	1750.35	103.46	25.66	26.24	931.52	3.34	23.58

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	46.89	46.89	46.89
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.542	2.872	2.149
Crosswalk LOS	F	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	877	772	349	349
d_b, Bicycle Delay [s]	18.09	21.61	39.10	39.10
l_b,int, Bicycle LOS Score for Intersection	2.489	3.352	3.112	1.748
Bicycle LOS	B	C	C	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	89.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.946

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	500.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1181	1173	138	3	49	1285	968	256	92	816	146	92	55
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	108	89	18	0	0	40	0	0	0	16	8	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	47	0	0	0	290	0	0	250	0	0	17
Total Hourly Volume [veh/h]	1	1289	1262	109	3	49	1325	678	256	92	582	154	92	38
Peak Hour Factor	1.000	0.840	0.840	0.840	1.000	0.840	0.840	0.840	0.8400	0.8400	0.8400	0.8400	0.8400	0.8400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	384	376	32	1	15	394	202	76	27	173	46	27	11
Total Analysis Volume [veh/h]	1	1535	1502	130	3	58	1577	807	305	110	693	183	110	45
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	134
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	37	62	0	0	14	39	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	45	76	0	0	19	50	20	0	20	0	0	20	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Cycle Length [s]	135	135	135	135	135	135	135	135	135	135	135
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	40	77	77	7	44	69	19	19	11	11	11
g / C, Green / Cycle	0.30	0.57	0.57	0.05	0.33	0.51	0.14	0.14	0.08	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.44	0.30	0.31	0.03	0.31	0.51	0.12	0.12	0.06	0.06	0.06
s, saturation flow rate [veh/h]	3459	3560	1797	1781	5094	1589	1781	1826	1781	1814	1746
c, Capacity [veh/h]	1035	2044	1032	96	1674	811	256	263	141	144	139
d1, Uniform Delay [s]	33.83	1.31	1.32	62.59	44.07	32.90	55.92	55.91	61.07	61.03	61.10
k, delay calibration	0.22	0.50	0.50	0.04	0.50	0.50	0.18	0.18	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	220.16	0.96	2.07	2.62	11.99	30.45	9.20	8.95	3.84	3.64	4.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.48	0.52	0.54	0.64	0.94	1.00	0.80	0.80	0.80	0.79	0.80
d, Delay for Lane Group [s/veh]	253.99	2.27	3.38	65.22	56.05	63.35	65.11	64.87	64.90	64.68	65.17
Lane Group LOS	F	A	A	E	E	E	E	E	E	E	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	46.09	1.01	1.37	2.09	18.33	31.12	7.42	7.58	3.96	3.99	3.92
50th-Percentile Queue Length [ft/ln]	1152.28	25.29	34.22	52.16	458.20	778.00	185.41	189.60	98.94	99.79	98.02
95th-Percentile Queue Length [veh/ln]	70.20	1.82	2.46	3.76	25.35	40.27	11.88	12.10	7.12	7.19	7.06
95th-Percentile Queue Length [ft/ln]	1754.89	45.53	61.60	93.89	633.73	1006.72	297.06	302.51	178.10	179.63	176.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	253.9	253.9	2.59	3.38	65.22	65.22	56.05	63.35	65.03	64.87	0.00	64.82	64.97	65.17
Movement LOS	F	F	A	A	E	E	E	E	E	E		E	E	E
d_A, Approach Delay [s/veh]	124.51				58.69				27.05			64.91		
Approach LOS	F				E				C			E		
d_I, Intersection Delay [s/veh]	89.72													
Intersection LOS	F													
Intersection V/C	0.946													

Emissions

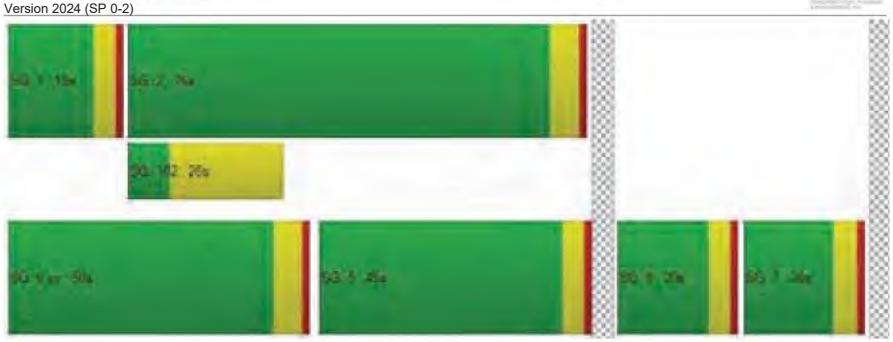
Vehicle Miles Traveled [mph]	263.07	183.26	96.25	11.48	296.78	151.87	9.48	9.72	3.58	3.62	3.54
Stops [stops/h]	2458.20	53.96	36.51	55.64	1466.24	829.86	197.77	202.24	105.54	106.45	104.56
Fuel consumption [US gal/h]	103.78	8.34	4.55	1.89	46.39	25.93	4.20	4.29	2.22	2.24	2.20
CO [g/h]	7254.53	582.77	318.11	132.45	3242.71	1812.24	293.44	299.86	155.11	156.32	153.80
NOx [g/h]	1411.47	113.39	61.89	25.77	630.91	352.60	57.09	58.34	30.18	30.41	29.92
VOC [g/h]	1681.31	135.06	73.72	30.70	751.53	420.00	68.01	69.50	35.95	36.23	35.64

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	56.95
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.345
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1040	655	221	228
d_b, Bicycle Delay [s]	15.55	30.54	53.42	52.98
l_b,int, Bicycle LOS Score for Intersection	3.327	3.032	2.244	1.852
Bicycle LOS	C	C	B	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	23.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.836

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	61	1808	235	4	440	1970	372	140	8	20	1	70	30	476
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	249	21	0	0	117	0	0	0	3	0	10	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	77	0	0	0	112	0	0	7	0	0	0	143
Total Hourly Volume [veh/h]	1	67	2057	179	4	440	2087	260	140	8	16	1	80	30	333
Peak Hour Factor	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.9800	0.9800	0.9800	0.980	0.980	0.980	0.980
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	17	525	46	1	112	532	66	36	2	4	0	20	8	85
Total Analysis Volume [veh/h]	1	68	2099	183	4	449	2130	265	143	8	16	1	82	31	340
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	123
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	5	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	50	0	15	15	50	0	15	20	0	0	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	3.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.5	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	1.5	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	245.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	19	19	56	0	19	24	0	0	19	19	0
Lead / Lag	-	Lead	-	-	Lead	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	4	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	No			No	No			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	98	98	98	98	98	98	98	98	98	98	98	98
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	3	48	48	15	59	59	6	6	6	13	13	13
g / C, Green / Cycle	0.03	0.49	0.49	0.15	0.60	0.60	0.06	0.06	0.06	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.02	0.41	0.12	0.13	0.42	0.17	0.04	0.00	0.01	0.05	0.12	0.12
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	1870	1589	1781	1630	1589
c, Capacity [veh/h]	121	2481	774	518	3066	957	220	119	101	243	222	217
d1, Uniform Delay [s]	46.63	21.96	14.59	40.81	13.37	9.33	44.89	43.22	43.47	38.39	41.37	41.37
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.08	0.08	0.08	0.08	0.24	0.24
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.56	0.32	0.06	1.87	0.11	0.06	2.39	0.17	0.54	0.62	16.78	17.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.85	0.24	0.87	0.69	0.28	0.65	0.07	0.16	0.34	0.84	0.85
d, Delay for Lane Group [s/veh]	48.19	22.28	14.65	42.68	13.48	9.39	47.28	43.39	44.00	39.01	58.16	58.52
Lane Group LOS	D	C	B	D	B	A	D	D	D	D	E	E
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.85	13.25	2.30	5.41	9.72	2.54	1.76	0.19	0.38	1.84	5.41	5.30
50th-Percentile Queue Length [ft/ln]	21.24	331.18	57.55	135.35	243.09	63.54	43.98	4.68	9.51	45.93	135.37	132.58
95th-Percentile Queue Length [veh/ln]	1.53	19.22	4.14	9.23	14.84	4.57	3.17	0.34	0.68	3.31	9.23	9.08
95th-Percentile Queue Length [ft/ln]	38.22	480.41	103.58	230.75	370.94	114.37	79.16	8.43	17.12	82.67	230.78	227.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.19	48.19	22.28	14.65	42.68	42.68	13.48	9.39	47.28	43.39	44.00	39.01	39.01	58.16	58.36
Movement LOS	D	D	C	B	D	D	B	A	D	D	D	D	D	E	E
d_A, Approach Delay [s/veh]	22.45				17.74				46.78			54.81			
Approach LOS	C				B				D			D			
d_I, Intersection Delay [s/veh]	23.37														
Intersection LOS	C														
Intersection V/C	0.836														

Emissions

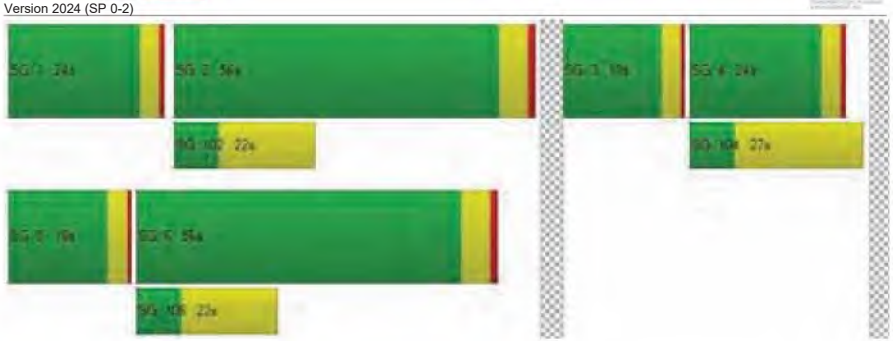
Vehicle Miles Traveled [mph]	15.40	468.45	40.84	65.55	308.20	38.34	18.24	1.02	2.04	29.13	65.92	64.29
Stops [stops/h]	62.42	1460.21	84.58	397.85	1071.81	93.38	129.27	6.89	13.98	67.50	198.95	194.85
Fuel consumption [US gal/h]	1.66	36.87	2.69	8.83	24.45	2.60	2.84	0.15	0.30	2.23	6.04	5.90
CO [g/h]	115.71	2577.23	188.33	617.26	1709.13	181.81	198.57	10.53	21.28	155.95	421.87	412.74
NOx [g/h]	22.51	501.43	36.64	120.10	332.53	35.37	38.63	2.05	4.14	30.34	82.08	80.30
VOC [g/h]	26.82	597.30	43.65	143.06	396.11	42.14	46.02	2.44	4.93	36.14	97.77	95.66

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	38.61	0.00	38.61	38.61
l_p,int, Pedestrian LOS Score for Intersectio	3.468	0.000	2.572	2.763
Crosswalk LOS	C	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1031	1031	418	316
d_b, Bicycle Delay [s]	11.50	11.50	30.63	34.72
l_b,int, Bicycle LOS Score for Intersection	2.894	2.941	1.703	2.409
Bicycle LOS	C	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	32.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.660

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	3	2	0	0	1	2	0	0	0	3	0	0
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	260.0	100.0	100.0	260.0	360.0	100.0	100.0	100.0	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	2	84	1607	388	1	92	1561	407	2	310	108	60	298	227	187
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	276	68	0	0	130	0	0	0	0	0	30	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	137	0	0	0	122	0	0	0	18	0	0	56
Total Hourly Volume [veh/h]	2	84	1883	319	1	92	1691	285	2	310	108	42	328	227	131
Peak Hour Factor	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	0.9400	0.9400	0.9400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	22	501	85	0	24	450	76	1	82	29	11	87	60	35
Total Analysis Volume [veh/h]	2	89	2003	339	1	98	1799	303	2	330	115	45	349	241	139
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	157
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups															
Maximum Green [s]	0	15	45	0	0	25	45	0	0	30	25	0	20	35	0
Amber [s]	0.0	4.0	4.7	0.0	0.0	4.0	4.7	0.0	0.0	4.5	4.7	0.0	4.5	4.7	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	39	0	0	0	37	0	0	0	48	0	0	50	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	3.7	0.0	0.0	3.0	3.7	0.0	0.0	4.0	3.7	0.0	4.0	3.7	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	19	51	0	0	29	51	0	0	36	31	0	26	41	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	7	0	0	10	7	0	0	10	10	0	10	10	0
Vehicle Extension [s]	0.0	1.5	3.0	0.0	0.0	1.5	3.0	0.0	0.0	1.5	2.0	0.0	1.5	2.0	0.0
Minimum Recall		No	Yes			No	Yes			No	No		No	No	
Maximum Recall		No	No			No	No			No	No		No	No	
Pedestrian Recall		No	No			No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	157	157	157	157	157	157	157	157	157	157	157	157
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	6.00	5.70	5.70	6.00	5.70	5.70
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	4.00	3.70	3.70	4.00	3.70	3.70
g_i, Effective Green Time [s]	10	91	91	10	91	91	17	16	16	18	16	16
g / C, Green / Cycle	0.06	0.58	0.58	0.06	0.58	0.58	0.11	0.10	0.10	0.11	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.05	0.30	0.22	0.03	0.36	0.19	0.10	0.04	0.05	0.10	0.07	0.09
s, saturation flow rate [veh/h]	1767	6737	1577	3431	5053	1577	3431	1855	1682	3431	3532	1577
c, Capacity [veh/h]	111	3915	916	217	2939	917	379	184	167	391	362	162
d1, Uniform Delay [s]	72.72	19.60	17.55	70.94	21.33	17.01	68.78	66.69	66.76	68.62	67.85	69.33
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.63	0.48	1.15	0.56	0.96	0.97	2.58	0.64	0.74	2.91	0.79	5.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.51	0.37	0.46	0.61	0.33	0.88	0.45	0.46	0.89	0.67	0.86
d, Delay for Lane Group [s/veh]	78.35	20.08	18.70	71.50	22.29	17.97	71.35	67.33	67.50	71.53	68.63	74.37
Lane Group LOS	E	C	B	E	C	B	E	E	E	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.82	11.08	6.93	1.92	13.92	5.75	6.74	3.20	2.97	7.10	4.73	5.75
50th-Percentile Queue Length [ft/ln]	95.46	277.06	173.23	47.95	348.03	143.69	168.40	79.91	74.31	177.62	118.21	143.84
95th-Percentile Queue Length [veh/ln]	6.87	16.54	11.25	3.45	20.04	9.68	10.99	5.75	5.35	11.48	8.29	9.69
95th-Percentile Queue Length [ft/ln]	171.83	413.55	281.16	86.30	501.00	241.99	274.81	143.85	133.76	286.91	207.37	242.19

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	78.35	78.35	20.08	18.70	71.50	71.50	22.29	17.97	71.35	71.35	67.38	67.50	71.53	68.63	74.37
Movement LOS	E	E	C	B	E	E	C	B	E	E	E	E	E	E	E
d_A, Approach Delay [s/veh]	22.07				23.91				70.07				71.11		
Approach LOS	C				C				E				E		
d_I, Intersection Delay [s/veh]	32.90														
Intersection LOS	C														
Intersection V/C	0.660														

Emissions

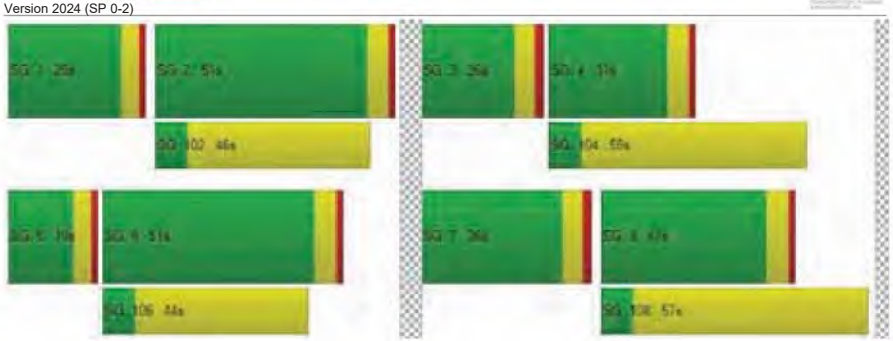
Vehicle Miles Traveled [mph]	36.23	797.46	134.97	22.09	401.50	67.62	82.74	20.68	19.19	36.59	25.27	14.57
Stops [stops/h]	87.56	1016.47	158.89	87.95	957.62	131.80	308.91	73.30	68.16	325.83	216.85	131.93
Fuel consumption [US gal/h]	3.43	46.63	7.72	3.29	33.83	5.06	9.93	2.39	2.22	8.39	5.60	3.43
CO [g/h]	239.46	3259.44	539.88	230.05	2364.74	354.02	694.30	167.31	155.46	586.17	391.70	239.92
NOx [g/h]	46.59	634.17	105.04	44.76	460.09	68.88	135.09	32.55	30.25	114.05	76.21	46.68
VOC [g/h]	55.50	755.41	125.12	53.32	548.05	82.05	160.91	38.78	36.03	135.85	90.78	55.60

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	67.89	67.89	67.89	67.89
l_p,int, Pedestrian LOS Score for Intersectio	3.588	3.876	2.710	2.905
Crosswalk LOS	D	D	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	577	577	322	450
d_b, Bicycle Delay [s]	39.74	39.74	55.24	47.17
l_b,int, Bicycle LOS Score for Intersection	2.619	2.783	1.708	2.207
Bicycle LOS	B	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Latrobe Rd/Suncast Ln

Control Type:	Signalized	Delay (sec / veh):	9.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.745

Intersection Setup

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Approach	Northbound			Southbound		Eastbound	
Lane Configuration							
Turning Movement	U-turn	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			No		Yes	

Volumes

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Base Volume Input [veh/h]	1	60	1194	1152	301	134	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	13	345	160	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	90	0	3
Total Hourly Volume [veh/h]	1	73	1539	1312	211	134	6
Peak Hour Factor	1.0000	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	21	442	377	61	39	2
Total Analysis Volume [veh/h]	1	84	1769	1508	243	154	7
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permissive	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	5	2	6	0	3	0
Auxiliary Signal Groups							
Maximum Green [s]	0	12	40	40	0	20	0
Amber [s]	0.0	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No	No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	46	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-
Minimum Green [s]	0	5	5	5	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall		No	No	No		No	
Maximum Recall		No	No	No		No	
Pedestrian Recall		No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	L	C
C, Cycle Length [s]	56	56	56	56	56	56
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	4	41	33	33	5	5
g / C, Green / Cycle	0.07	0.74	0.60	0.60	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.05	0.50	0.47	0.49	0.05	0.05
s, saturation flow rate [veh/h]	1781	3560	1870	1783	1781	1762
c, Capacity [veh/h]	118	2627	1122	1070	147	146
d1, Uniform Delay [s]	25.51	3.80	8.38	8.76	24.55	24.56
k, delay calibration	0.04	0.15	0.22	0.24	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.12	0.43	2.43	3.47	3.16	3.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.72	0.67	0.78	0.82	0.55	0.55
d, Delay for Lane Group [s/veh]	28.63	4.24	10.81	12.23	27.71	27.78
Lane Group LOS	C	A	B	B	C	C
Critical Lane Group	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.13	2.21	6.19	6.71	1.08	1.08
50th-Percentile Queue Length [ft/ln]	28.32	55.37	154.74	167.72	27.10	27.00
95th-Percentile Queue Length [veh/ln]	2.04	3.99	10.27	10.96	1.95	1.94
95th-Percentile Queue Length [ft/ln]	50.97	99.67	256.74	273.92	48.79	48.60

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.63	28.63	4.24	11.40	12.23	27.74	27.78
Movement LOS	C	C	A	B	B	C	C
d_A, Approach Delay [s/veh]	5.36			11.52		27.75	
Approach LOS	A			B		C	
d_I, Intersection Delay [s/veh]	9.18						
Intersection LOS	A						
Intersection V/C	0.745						

Emissions

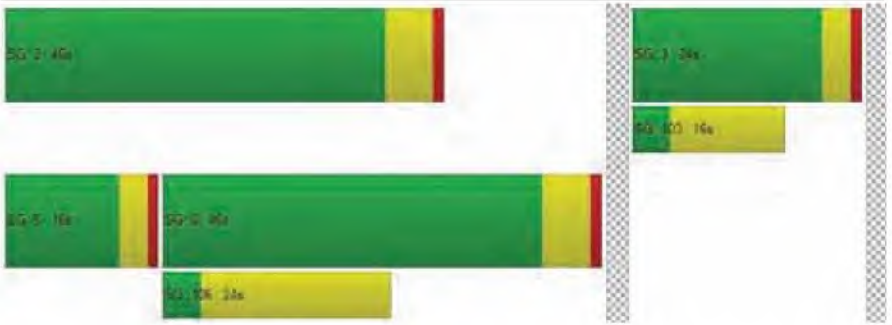
Vehicle Miles Traveled [mph]	59.31	1234.25	309.81	309.81	27.24	27.08
Stops [stops/h]	73.31	286.68	400.55	434.17	70.16	69.89
Fuel consumption [US gal/h]	3.34	53.92	16.89	17.33	1.96	1.95
CO [g/h]	233.58	3768.96	1180.79	1211.47	137.31	136.64
NOx [g/h]	45.45	733.30	229.74	235.71	26.72	26.58
VOC [g/h]	54.13	873.49	273.66	280.77	31.82	31.67

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	20.39	0.00	20.39
l_p,int, Pedestrian LOS Score for Intersectio	2.936	0.000	2.112
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1438	1438	719
d_b, Bicycle Delay [s]	2.20	2.20	11.41
l_b,int, Bicycle LOS Score for Intersection	3.088	3.078	1.830
Bicycle LOS	C	C	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	45.3
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.869

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	41	605	21	209	386	563	314	41	5	136	94	335
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	99	358	42	0	164	0	0	0	47	19	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	19	0	0	169	0	0	16	0	0	101
Total Hourly Volume [veh/h]	140	963	44	209	550	394	314	41	36	155	94	234
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	271	12	59	154	111	88	12	10	44	26	66
Total Analysis Volume [veh/h]	157	1082	49	235	618	443	353	46	40	174	106	263
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	26	25	0	26	25	0	0	30	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	30	30	0	0	35	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Cycle Length [s]	82	82	82	82	82	82	82	82	82	82
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	9	25	25	13	29	29	10	10	15	15
g / C, Green / Cycle	0.11	0.31	0.31	0.15	0.35	0.35	0.13	0.13	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.09	0.30	0.30	0.13	0.30	0.31	0.10	0.05	0.16	0.16
s, saturation flow rate [veh/h]	1781	1870	1842	1781	1870	1615	3459	1728	1806	1589
c, Capacity [veh/h]	194	570	562	275	655	566	442	221	332	292
d1, Uniform Delay [s]	35.67	28.47	28.49	33.76	24.81	24.97	34.74	32.82	32.51	32.52
k, delay calibration	0.04	0.39	0.39	0.04	0.39	0.40	0.04	0.04	0.10	0.10
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.00	32.97	33.66	2.95	11.31	14.29	1.28	0.42	6.78	7.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	1.00	1.00	0.85	0.86	0.88	0.80	0.39	0.87	0.87
d, Delay for Lane Group [s/veh]	38.67	61.43	62.15	36.71	36.11	39.26	36.02	33.24	39.29	40.26
Lane Group LOS	D	E	F	D	D	D	D	C	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.15	15.78	15.67	4.34	10.75	9.92	3.41	1.56	6.01	5.37
50th-Percentile Queue Length [ft/ln]	78.79	394.38	391.70	108.51	268.73	247.96	85.22	38.97	150.21	134.36
95th-Percentile Queue Length [veh/ln]	5.67	22.29	22.16	7.76	16.13	15.08	6.14	2.81	10.03	9.18
95th-Percentile Queue Length [ft/ln]	141.83	557.23	553.99	193.93	403.15	377.09	153.40	70.15	250.71	229.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.67	61.77	62.15	36.71	36.38	39.26	36.02	33.24	33.24	39.29	39.29	40.26
Movement LOS	D	E	E	D	D	D	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	58.97			37.43			35.47			39.74		
Approach LOS	E			D			D			D		
d_I, Intersection Delay [s/veh]	45.32											
Intersection LOS	D											
Intersection V/C	0.869											

Emissions

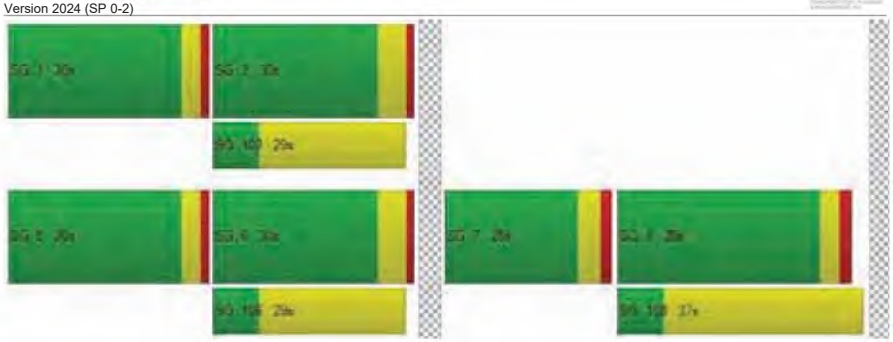
Vehicle Miles Traveled [mph]	90.67	328.82	324.35	163.96	394.40	345.87	26.56	6.47	31.92	28.14
Stops [stops/h]	138.72	694.33	689.61	191.03	473.11	436.55	300.08	68.61	264.45	236.54
Fuel consumption [US gal/h]	5.73	24.49	24.26	10.79	26.14	23.64	5.34	1.23	5.08	4.55
CO [g/h]	400.84	1711.87	1696.11	754.13	1826.86	1652.37	373.15	85.78	355.28	317.99
NOx [g/h]	77.99	333.07	330.00	146.73	355.44	321.49	72.60	16.69	69.12	61.87
VOC [g/h]	92.90	396.74	393.09	174.78	423.39	382.95	86.48	19.88	82.34	73.70

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	30.64	0.00	30.64	30.64
l_p,int, Pedestrian LOS Score for Intersectio	2.742	0.000	2.473	2.401
Crosswalk LOS	B	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	604	604	746	489
d_b, Bicycle Delay [s]	19.93	19.93	16.08	23.34
l_b,int, Bicycle LOS Score for Intersection	2.638	2.768	2.310	2.622
Bicycle LOS	B	C	B	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	11.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.972

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	122	465	254	273	202	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	498	230	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	135	963	484	273	202	59
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	268	134	76	56	16
Total Analysis Volume [veh/h]	150	1070	538	303	224	66
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	16	54	34	0	56	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	14	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	20	60	40	0	60	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C
C, Cycle Length [s]	37	37	37	37	37	37
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	4	22	14	14	5	5
g / C, Green / Cycle	0.11	0.60	0.38	0.38	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.08	0.57	0.29	0.19	0.08	0.08
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1686
c, Capacity [veh/h]	194	1121	715	608	233	220
d1, Uniform Delay [s]	16.07	6.95	9.91	8.73	15.27	15.28
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.49	2.42	0.61	0.23	1.08	1.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.95	0.75	0.50	0.64	0.64
d, Delay for Lane Group [s/veh]	18.55	9.37	10.52	8.96	16.35	16.45
Lane Group LOS	B	A	B	A	B	B
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.97	1.00	1.87	0.91	1.05	1.01
50th-Percentile Queue Length [ft/ln]	24.36	24.89	46.84	22.71	26.18	25.14
95th-Percentile Queue Length [veh/ln]	1.75	1.79	3.37	1.64	1.89	1.81
95th-Percentile Queue Length [ft/ln]	43.84	44.80	84.31	40.88	47.13	45.25

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.55	9.37	10.52	8.96	16.38	16.45
Movement LOS	B	A	B	A	B	B
d_A, Approach Delay [s/veh]	10.50		9.96		16.39	
Approach LOS	B		A		B	
d_I, Intersection Delay [s/veh]	11.03					
Intersection LOS	B					
Intersection V/C	0.972					

Emissions

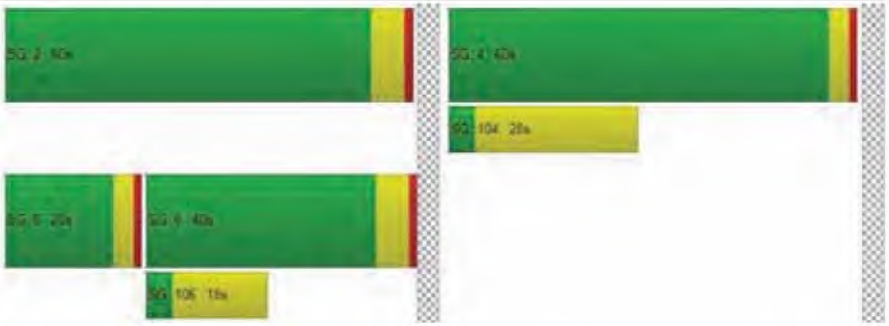
Vehicle Miles Traveled [mph]	18.51	132.03	310.71	174.99	34.84	33.27
Stops [stops/h]	94.91	96.99	182.53	88.51	102.04	97.96
Fuel consumption [US gal/h]	2.95	8.26	14.94	8.05	2.49	2.38
CO [g/h]	206.09	577.29	1044.03	562.71	174.17	166.70
NOx [g/h]	40.10	112.32	203.13	109.48	33.89	32.43
VOC [g/h]	47.76	133.79	241.96	130.41	40.37	38.63

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	11.34	0.00	11.34
l_p,int, Pedestrian LOS Score for Intersectio	2.982	0.000	2.136
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	2923	1840	3031
d_b, Bicycle Delay [s]	3.93	0.12	4.91
l_b,int, Bicycle LOS Score for Intersection	3.573	2.947	2.038
Bicycle LOS	D	C	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	38.7
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.323

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	548	0	14	295	0	0	0	0	0	0	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	466	0	0	218	16	45	0	5	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	1014	0	14	513	16	45	0	5	0	0	39
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	276	0	4	139	4	12	0	1	0	0	10
Total Analysis Volume [veh/h]	2	1102	0	14	558	17	49	0	5	0	0	39
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free		Free		Stop		Stop	
Flared Lane					Yes		Yes	
Storage Area [veh]	0		0		1		1	
Two-Stage Gap Acceptance					Yes		No	
Number of Storage Spaces in Median	0		0		1		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.02	0.01	0.00	0.32	0.00	0.01	0.00	0.00	0.15
d_M, Delay for Movement [s/veh]	8.61	0.00	0.00	10.81	0.00	0.00	38.65	33.37	21.82	58.94	48.09	21.47
Movement LOS	A	A	A	B	A	A	E	D	C	F	E	C
95th-Percentile Queue Length [veh/ln]	0.01	0.00	0.00	0.07	0.00	0.00	1.31	1.31	1.31	0.53	0.53	0.53
95th-Percentile Queue Length [ft/ln]	0.15	0.00	0.00	1.69	0.00	0.00	32.73	32.73	32.73	13.14	13.14	13.14
d_A, Approach Delay [s/veh]	0.02			0.26			37.09			21.47		
Approach LOS	A			A			E			C		
d_I, Intersection Delay [s/veh]	1.68											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Signalized	Delay (sec / veh):	19.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.737

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	200.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	387	32	41	254	0	0	0	0	10	0	161
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	22	24	0	0	14	141	445	6	51	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	37	0	0	0	0	0	37	0	18	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	10	0	0	42	0	0	21	0	0	48
Total Hourly Volume [veh/h]	59	411	22	41	268	99	482	6	48	10	2	113
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	110	6	11	72	27	130	2	13	3	1	30
Total Analysis Volume [veh/h]	63	442	24	44	288	106	518	6	52	11	2	122
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	11	0	0	18	0	0	14	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	9	9	0	9	9	0	0	9	0	0	9	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	C
C, Cycle Length [s]	51	51	51	51	51	51	51	51	51
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	16	2	15	15	11	11	11	6
g / C, Green / Cycle	0.06	0.32	0.05	0.30	0.30	0.21	0.21	0.21	0.12
(v / s)_i Volume / Saturation Flow Rate	0.04	0.28	0.03	0.17	0.07	0.16	0.16	0.04	0.09
s, saturation flow rate [veh/h]	1603	1668	1603	1683	1431	1603	1605	1431	1446
c, Capacity [veh/h]	93	528	74	512	435	336	337	300	167
d1, Uniform Delay [s]	23.65	16.62	23.98	14.98	13.41	19.12	19.12	16.60	22.10
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.13	2.00	2.87	0.36	0.11	1.49	1.49	0.10	3.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.67	0.88	0.60	0.56	0.24	0.78	0.78	0.17	0.81
d, Delay for Lane Group [s/veh]	26.77	18.61	26.85	15.34	13.51	20.61	20.61	16.70	25.56
Lane Group LOS	C	B	C	B	B	C	C	B	C
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.69	3.96	0.49	2.09	0.68	2.74	2.75	0.46	1.60
50th-Percentile Queue Length [ft/ln]	17.33	99.12	12.22	52.15	17.08	68.61	68.67	11.44	39.98
95th-Percentile Queue Length [veh/ln]	1.25	7.14	0.88	3.75	1.23	4.94	4.94	0.82	2.88
95th-Percentile Queue Length [ft/ln]	31.19	178.42	22.00	93.87	30.75	123.49	123.61	20.59	71.97

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.77	18.61	18.61	26.85	15.34	13.51	20.61	20.61	16.70	25.56	25.56	25.56
Movement LOS	C	B	B	C	B	B	C	C	B	C	C	C
d_A, Approach Delay [s/veh]	19.59			16.05			20.26			25.56		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	19.37											
Intersection LOS	B											
Intersection V/C	0.737											

Emissions

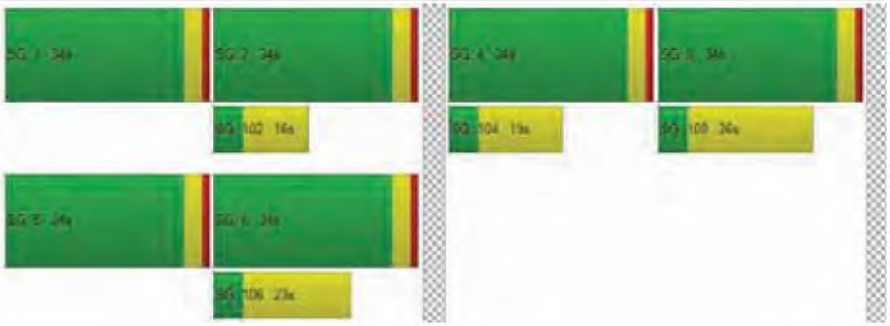
Vehicle Miles Traveled [mph]	21.37	158.07	4.46	29.20	10.75	17.38	17.40	3.45	113.97
Stops [stops/h]	48.88	279.66	34.48	147.13	48.19	193.56	193.75	32.27	112.80
Fuel consumption [US gal/h]	1.97	12.25	1.03	4.61	1.55	2.88	2.89	0.50	6.02
CO [g/h]	137.43	856.10	72.00	322.14	108.07	201.56	201.76	34.75	420.60
NOx [g/h]	26.74	166.57	14.01	62.68	21.03	39.22	39.25	6.76	81.83
VOC [g/h]	31.85	198.41	16.69	74.66	25.05	46.71	46.76	8.05	97.48

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	17.31	17.31	17.31	17.31
l_p,int, Pedestrian LOS Score for Intersectio	2.469	2.907	2.330	1.885
Crosswalk LOS	B	C	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1176	1176	1176	1176
d_b, Bicycle Delay [s]	4.34	4.34	4.34	4.34
l_b,int, Bicycle LOS Score for Intersection	2.449	2.352	2.545	1.862
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Roundabout	Delay (sec / veh):	6.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	150.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	13	232	128	45	0	546	152
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	47	0	0	0	99
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	13	232	175	45	0	546	251
Peak Hour Factor	1.0000	0.9060	0.9060	0.9060	0.9060	1.0000	0.9060	0.9060
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	64	48	12	0	151	69
Total Analysis Volume [veh/h]	0	14	256	193	50	0	603	277
Pedestrian Volume [ped/h]	0			0		0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1		1		
Circulating Flow Rate [veh/h]	197			615		14		
Exiting Flow Rate [veh/h]	666			297		458		
Demand Flow Rate [veh/h]	0	13	232	175	45	0	546	251
Adjusted Demand Flow Rate [veh/h]	0	14	256	193	50	0	603	277

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1380.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00102	0.00091	0.00091
HV Adjustment Factor	0.98	0.98	0.98	0.98	0.98
Entry Flow Rate [veh/h]	15	262	248	616	283
Capacity of Entry and Bypass Lanes [veh/h]	1188	1188	737	1402	1402
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1164	1164	723	1375	1375
X, volume / capacity	0.01	0.22	0.34	0.44	0.20

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.04	0.84	1.48	2.29	0.75
95th-Percentile Queue Length [ft]	0.91	20.99	37.09	57.28	18.83
Approach Delay [s/veh]	4.97		9.17	6.04	
Approach LOS	A		A	A	
Intersection Delay [s/veh]	6.38				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Signalized	Delay (sec / veh):	14.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.598

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	65	0	18	66	1	8	4	227	71	37	439	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	99	0	0	0	0	0	0	0	47	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	164	0	18	66	1	8	4	227	118	37	439	15
Peak Hour Factor	0.9700	1.0000	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	0	5	17	0	2	1	59	30	10	113	4
Total Analysis Volume [veh/h]	169	0	19	68	1	8	4	234	122	38	453	15
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	24	0	0	11	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	9	0	0	9	0	9	9	0	9	9	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	L	C	L	C
C, Cycle Length [s]	35	35	35	35	35	35	35
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	5	3	0	10	2	11
g / C, Green / Cycle	0.14	0.14	0.08	0.01	0.28	0.04	0.32
(v / s)_i Volume / Saturation Flow Rate	0.09	0.01	0.04	0.00	0.20	0.02	0.25
s, saturation flow rate [veh/h]	1781	1589	1760	1781	1763	1781	1859
c, Capacity [veh/h]	246	220	135	10	500	81	601
d1, Uniform Delay [s]	14.38	13.18	15.63	17.38	11.28	16.33	10.74
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.36	0.17	3.75	22.89	1.90	4.23	2.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.69	0.09	0.57	0.39	0.71	0.47	0.78
d, Delay for Lane Group [s/veh]	17.75	13.34	19.38	40.27	13.18	20.57	12.98
Lane Group LOS	B	B	B	D	B	C	B
Critical Lane Group	Yes	No	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.25	0.12	0.63	0.09	2.08	0.34	2.68
50th-Percentile Queue Length [ft/ln]	31.32	2.89	15.73	2.29	51.96	8.56	66.98
95th-Percentile Queue Length [veh/ln]	2.25	0.21	1.13	0.17	3.74	0.62	4.82
95th-Percentile Queue Length [ft/ln]	56.37	5.20	28.32	4.13	93.52	15.40	120.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	17.75	17.75	13.34	19.38	19.38	19.38	40.27	13.18	13.18	20.57	12.98	12.98
Movement LOS	B	B	B	B	B	B	D	B	B	C	B	B
d_A, Approach Delay [s/veh]	17.30			19.38			13.48			13.55		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	14.55											
Intersection LOS	B											
Intersection V/C	0.598											

Emissions

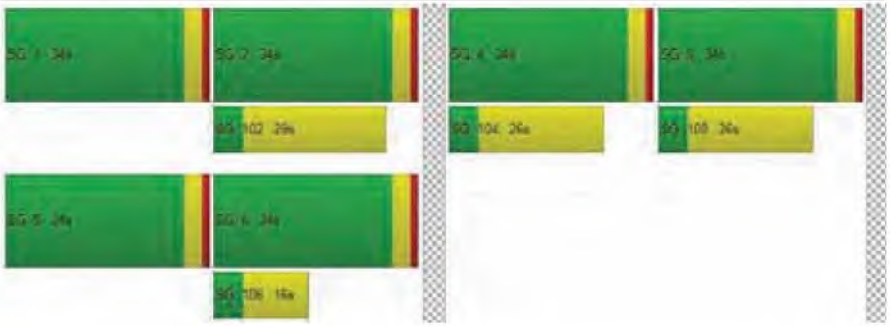
Vehicle Miles Traveled [mph]	50.17	5.64	1.72	0.57	50.97	31.98	393.84
Stops [stops/h]	129.25	11.92	64.92	9.46	214.40	35.30	276.39
Fuel consumption [US gal/h]	3.39	0.35	0.73	0.11	4.24	1.67	18.98
CO [g/h]	236.95	24.44	51.24	7.59	296.23	116.77	1326.41
NOx [g/h]	46.10	4.76	9.97	1.48	57.63	22.72	258.07
VOC [g/h]	54.92	5.66	11.87	1.76	68.65	27.06	307.41

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	9.61	9.61	9.61	9.61
l_p,int, Pedestrian LOS Score for Intersectio	2.164	1.710	2.210	2.157
Crosswalk LOS	B	A	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1719	1719	1719	1719
d_b, Bicycle Delay [s]	0.34	0.34	0.34	0.34
l_b,int, Bicycle LOS Score for Intersection	1.870	1.687	2.154	2.395
Bicycle LOS	A	A	B	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	44.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.884

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	375.00	100.00	150.00	400.00	100.00	220.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	95	50	256	155	36	46	68	194	30	162	653	238
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	34	0	0	10	21	47	0	16	20	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	87	0	0	17	0	0	9	0	0	71
Total Hourly Volume [veh/h]	95	50	203	155	36	39	89	241	21	178	673	167
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	14	58	45	10	11	26	69	6	51	193	48
Total Analysis Volume [veh/h]	109	57	233	178	41	45	102	277	24	205	774	192
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	0	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	35	0	0	40	0	25	45	0	25	44	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	0	0	44	0	29	50	0	29	50	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	0.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	R
C, Cycle Length [s]	104	104	104	104	104	104	104	104	104	104
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	3.50	5.30	5.30	3.50	6.00	6.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	1.50	3.30	3.30	1.50	4.00	4.00
g_i, Effective Green Time [s]	21	21	13	13	8	38	38	14	44	44
g / C, Green / Cycle	0.21	0.21	0.13	0.13	0.07	0.37	0.37	0.13	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.06	0.18	0.10	0.05	0.06	0.15	0.02	0.12	0.41	0.12
s, saturation flow rate [veh/h]	1781	1638	1781	1712	1781	1870	1589	1781	1870	1589
c, Capacity [veh/h]	366	337	226	217	131	688	585	240	790	671
d1, Uniform Delay [s]	35.01	39.94	44.12	41.82	47.46	24.45	21.14	44.09	29.66	19.77
k, delay calibration	0.13	0.13	0.13	0.13	0.04	0.11	0.11	0.04	0.43	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.56	7.90	7.40	1.46	3.81	0.38	0.03	3.39	25.15	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.30	0.86	0.79	0.40	0.78	0.40	0.04	0.86	0.98	0.29
d, Delay for Lane Group [s/veh]	35.57	47.84	51.53	43.27	51.26	24.83	21.17	47.48	54.82	20.07
Lane Group LOS	D	D	D	D	D	C	C	D	D	C
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.39	7.81	4.88	2.11	2.72	5.06	0.38	5.35	23.71	3.06
50th-Percentile Queue Length [ft/ln]	59.69	195.33	122.10	52.79	68.08	126.62	9.47	133.78	592.86	76.62
95th-Percentile Queue Length [veh/ln]	4.30	12.40	8.51	3.80	4.90	8.76	0.68	9.14	31.70	5.52
95th-Percentile Queue Length [ft/ln]	107.44	309.94	212.71	95.01	122.55	218.89	17.04	228.62	792.52	137.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.57	47.84	47.84	51.53	43.27	43.27	51.26	24.83	21.17	47.48	54.82	20.07
Movement LOS	D	D	D	D	D	D	D	C	C	D	D	C
d_A, Approach Delay [s/veh]	44.49			48.84			31.30			47.83		
Approach LOS	D			D			C			D		
d_I, Intersection Delay [s/veh]	44.38											
Intersection LOS	D											
Intersection V/C	0.884											

Emissions

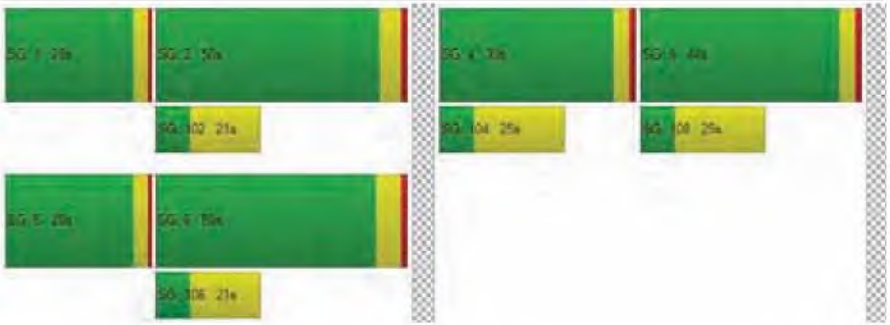
Vehicle Miles Traveled [mph]	187.55	498.99	36.09	17.44	35.72	96.99	8.40	92.50	349.25	86.63
Stops [stops/h]	82.66	270.49	169.08	73.10	94.28	175.34	13.11	185.25	820.98	106.10
Fuel consumption [US gal/h]	8.97	24.86	4.29	1.88	3.06	6.36	0.52	6.81	27.55	4.94
CO [g/h]	626.75	1737.65	299.59	131.33	213.56	444.64	36.47	476.15	1925.49	345.09
NOx [g/h]	121.94	338.08	58.29	25.55	41.55	86.51	7.10	92.64	374.63	67.14
VOC [g/h]	145.25	402.72	69.43	30.44	49.49	103.05	8.45	110.35	446.25	79.98

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.58	41.58	41.58	41.58
l_p,int, Pedestrian LOS Score for Intersectio	2.319	2.200	2.481	2.731
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	669	765	860	846
d_b, Bicycle Delay [s]	23.02	19.81	16.90	17.30
l_b,int, Bicycle LOS Score for Intersection	2.362	2.023	2.239	3.609
Bicycle LOS	B	B	B	D

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	1016	543	39	50
2	986	527	38	49
3	965	516	37	48
4	904	483	35	45
5	803	429	31	40
6	792	424	30	39
7	782	418	30	39
8	711	380	27	35
9	701	375	27	35
10	691	369	27	34
11	599	320	23	30
12	559	299	21	28
13	549	293	21	27
14	406	217	16	20
15	406	217	16	20
16	284	152	11	14
17	163	87	6	8
18	163	87	6	8
19	91	49	4	5
20	51	27	2	3
21	30	16	1	2
22	10	5	0	1
23	10	5	0	1
24	10	5	0	1

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1559	1	50	No	No	No	No	No	No	No	Yes	No	No
2	2	1513	1	49	No	No	No	No	No	No	No	Yes	No	No
3	2	1481	1	48	No	No	No	No	No	No	No	Yes	No	No
4	2	1387	1	45	No	No	No	No	No	No	No	Yes	No	No
5	2	1232	1	40	No	No	No	No	No	No	No	No	No	No
6	2	1216	1	39	No	No	No	No	No	No	No	No	No	No
7	2	1200	1	39	No	No	No	No	No	No	No	No	No	No
8	2	1091	1	35	No	No	No	No	No	No	No	No	No	No
9	2	1076	1	35	No	No	No	No	No	No	No	No	No	No
10	2	1060	1	34	No	No	No	No	No	No	No	No	No	No
11	2	919	1	30	No	No	No	No	No	No	No	No	No	No
12	2	858	1	28	No	No	No	No	No	No	No	No	No	No
13	2	842	1	27	No	No	No	No	No	No	No	No	No	No
14	2	623	1	20	No	No	No	No	No	No	No	No	No	No
15	2	623	1	20	No	No	No	No	No	No	No	No	No	No
16	2	436	1	14	No	No	No	No	No	No	No	No	No	No
17	2	250	1	8	No	No	No	No	No	No	No	No	No	No
18	2	250	1	8	No	No	No	No	No	No	No	No	No	No
19	2	140	1	5	No	No	No	No	No	No	No	No	No	No
20	2	78	1	3	No	No	No	No	No	No	No	No	No	No
21	2	46	1	2	No	No	No	No	No	No	No	No	No	No
22	2	15	1	1	No	No	No	No	No	No	No	No	No	No
23	2	15	1	1	No	No	No	No	No	No	No	No	No	No
24	2	15	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	4	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	21.5	37.1
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:13	0:30
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	39	50
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1648	1648
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Existing PM plus abated Project

Vistro File: C:\...\PM 918 DU 20240212 - ABATED.vistro Scenario 3 Abated 2023 PM, Plus Project
Report File: C:\...\6 2023 PM plus abated Proj.pdf 2/14/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	EB Right	1.232	99.5	F
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	WB Right	1.036	57.6	E
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	WB Right	0.940	37.5	D
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	NB Left	0.722	43.3	D
8	Latrobe Rd/Suncast Ln	Signalized	HCM 7th Edition	NB Left	0.795	12.8	B
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	SB Right	0.975	75.7	E
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	SB Thru	0.990	50.2	D
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	EB Left	0.219	35.9	E
12	Latrobe Rd/Royal Oaks Dr	Signalized	HCM 6th Edition	WB Left	0.634	17.9	B
13	Golden Foothill/Robert J Mathews	Roundabout	HCM 6th Edition	EB Thru		10.6	B
18	White Rock Rd/Carson Crossing Rd	Signalized	HCM 6th Edition	EB Left	0.668	15.0	B
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 6th Edition	WB Left	0.902	50.3	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	99.5
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.232

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	230.0	100.0	100.0	100.0	100.0	100.0	100.0	300.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	5	442	1616	75	4	164	1068	198	365	41	525	59	107	276
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	19	36	0	0	0	62	0	0	0	31	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	23	0	0	0	59	0	0	167	0	0	83
Total Hourly Volume [veh/h]	5	461	1652	52	4	164	1130	139	365	41	389	59	107	193
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	124	444	14	1	44	304	37	98	11	105	16	29	52
Total Analysis Volume [veh/h]	5	496	1776	56	4	176	1215	149	392	44	418	63	115	208
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	0	3	8	0
Auxiliary Signal Groups														
Maximum Green [s]	0	26	50	0	0	20	44	0	20	20	0	0	20	0
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	18	0	0	0	16	0	0	0	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	0.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	0.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	30	56	0	0	24	50	0	24	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Cycle Length [s]	128	128	128	128	128	128	128	128	128	128	128
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	26	55	55	15	44	44	20	20	20	20	20
g / C, Green / Cycle	0.20	0.43	0.43	0.12	0.34	0.34	0.16	0.16	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.28	0.34	0.34	0.10	0.34	0.09	0.12	0.12	0.26	0.04	0.19
s, saturation flow rate [veh/h]	1781	3560	1841	1781	3560	1589	1781	1798	1589	1781	1679
c, Capacity [veh/h]	363	1538	795	207	1227	548	279	282	249	279	263
d1, Uniform Delay [s]	50.85	31.15	31.24	55.48	41.64	30.27	51.74	51.70	53.85	47.08	53.85
k, delay calibration	0.50	0.13	0.36	0.12	0.13	0.13	0.23	0.23	0.50	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	188.16	1.09	5.71	11.60	11.08	0.32	9.68	9.27	322.54	0.15	131.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.38	0.78	0.79	0.87	0.99	0.27	0.78	0.78	1.68	0.23	1.23
d, Delay for Lane Group [s/veh]	239.01	32.24	36.95	67.07	52.72	30.59	61.42	60.96	376.39	47.23	185.32
Lane Group LOS	F	C	D	E	D	C	E	E	F	D	F
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	30.19	15.33	17.01	6.23	20.04	3.29	7.45	7.45	30.28	1.78	18.03
50th-Percentile Queue Length [ft/ln]	754.78	383.30	425.16	155.82	501.02	82.13	186.22	186.18	757.07	44.43	450.83
95th-Percentile Queue Length [veh/ln]	45.64	21.75	23.77	10.33	27.38	5.91	11.92	11.92	47.55	3.20	27.42
95th-Percentile Queue Length [ft/ln]	1141.08	543.84	594.24	258.19	684.57	147.83	298.12	298.07	1188.79	79.97	685.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	239.0	239.0	33.76	36.95	67.07	67.07	52.72	30.59	61.22	60.96	376.39	47.23	185.32	185.32
Movement LOS	F	F	C	D	E	E	D	C	E	E	F	D	F	F
d_A, Approach Delay [s/veh]	77.91				52.25				215.47			162.78		
Approach LOS	E				D				F			F		
d_I, Intersection Delay [s/veh]	99.53													
Intersection LOS	F													
Intersection V/C	1.232													

Emissions

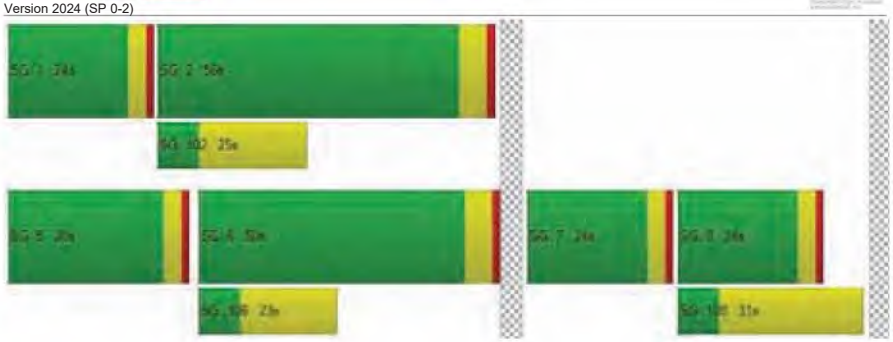
Vehicle Miles Traveled [mph]	94.29	226.83	117.94	42.99	290.18	35.59	13.57	13.62	26.07	3.07	15.75
Stops [stops/h]	851.12	864.45	479.43	175.71	1129.94	92.61	209.99	209.95	853.71	50.10	508.38
Fuel consumption [US gal/h]	38.18	26.43	14.72	6.11	37.03	3.30	4.44	4.43	37.80	1.01	15.64
CO [g/h]	2668.58	1847.60	1028.62	427.43	2588.33	230.58	310.16	309.71	2642.18	70.51	1092.94
NOx [g/h]	519.21	359.48	200.13	83.16	503.60	44.86	60.35	60.26	514.07	13.72	212.65
VOC [g/h]	618.47	428.20	238.39	99.06	599.87	53.44	71.88	71.78	612.35	16.34	253.30

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0		11.0		11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00	53.32		53.32		53.32	
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.543		2.834		2.325	
Crosswalk LOS	F	D		C		B	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	788	694		313		313	
d_b, Bicycle Delay [s]	23.46	27.23		45.42		45.42	
l_b,int, Bicycle LOS Score for Intersection	2.853	2.737		3.244		2.333	
Bicycle LOS	C	B		C		B	

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	57.6
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.036

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	500.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	980	1679	319	0	37	1192	428	208	130	290	236	80	251
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	66	55	10	0	0	93	0	0	0	36	19	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	99	0	0	0	128	0	0	98	0	0	75
Total Hourly Volume [veh/h]	1	1046	1734	230	0	37	1285	300	208	130	228	255	80	176
Peak Hour Factor	1.000	0.840	0.990	0.840	1.000	0.840	0.990	0.840	0.8400	0.8400	0.8400	0.8400	0.8400	0.8400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	311	438	68	0	11	324	89	62	39	68	76	24	52
Total Analysis Volume [veh/h]	1	1245	1752	274	0	44	1298	357	248	155	271	304	95	210
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	136
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	45	62	0	0	14	29	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	50	68	0	0	19	35	28	0	28	0	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	45	73	73	7	34	57	18	18	18	18	18
g / C, Green / Cycle	0.33	0.54	0.54	0.05	0.25	0.42	0.13	0.13	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.36	0.38	0.40	0.02	0.26	0.22	0.11	0.11	0.11	0.11	0.13
s, saturation flow rate [veh/h]	3459	3532	1735	1781	5053	1589	1781	1847	1781	1822	1589
c, Capacity [veh/h]	1155	1901	934	86	1275	668	232	241	241	247	216
d1, Uniform Delay [s]	45.29	23.24	24.25	63.17	50.84	29.48	57.87	57.86	57.15	57.13	58.54
k, delay calibration	0.05	0.50	0.50	0.04	0.50	0.50	0.15	0.15	0.24	0.24	0.37
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	37.48	2.16	5.44	1.76	29.71	3.05	11.47	11.02	13.78	13.24	46.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.08	0.70	0.75	0.51	1.02	0.53	0.85	0.85	0.82	0.82	0.97
d, Delay for Lane Group [s/veh]	82.77	25.40	29.69	64.94	80.55	32.54	69.34	68.88	70.93	70.36	104.89
Lane Group LOS	F	C	C	E	F	C	E	E	E	E	F
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	25.33	16.05	18.38	1.50	17.54	9.01	7.41	7.65	7.54	7.65	9.98
50th-Percentile Queue Length [ft/ln]	633.23	401.35	459.58	37.60	438.43	225.17	185.34	191.29	188.51	191.32	249.49
95th-Percentile Queue Length [veh/ln]	35.32	22.63	25.42	2.71	24.67	13.93	11.88	12.19	12.04	12.19	15.16
95th-Percentile Queue Length [ft/ln]	883.03	565.63	635.38	67.67	616.67	348.21	296.97	304.71	301.09	304.74	379.01

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	82.77	82.77	26.44	29.69	64.94	64.94	80.55	32.54	69.25	68.88	0.00	70.73	70.36	104.89
Movement LOS	F	F	C	C	E	E	F	C	E	E		E	E	F
d_A, Approach Delay [s/veh]	48.16				70.06				44.14			82.45		
Approach LOS	D				E				D			F		
d_I, Intersection Delay [s/veh]	57.60													
Intersection LOS	E													
Intersection V/C	1.036													

Emissions

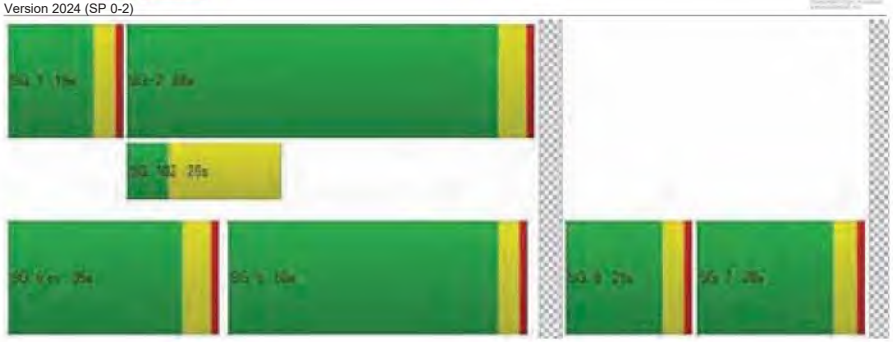
Vehicle Miles Traveled [mph]	213.40	227.50	119.49	8.28	244.28	67.19	9.15	9.49	6.28	6.40	6.68
Stops [stops/h]	1340.96	849.92	486.62	39.81	1392.66	238.41	196.24	202.55	199.59	202.57	264.16
Fuel consumption [US gal/h]	37.18	20.93	11.82	1.36	46.96	7.63	4.25	4.38	4.21	4.27	6.22
CO [g/h]	2598.77	1462.85	826.40	95.08	3282.69	533.39	297.32	306.43	294.43	298.27	434.50
NOx [g/h]	505.63	284.62	160.79	18.50	638.69	103.78	57.85	59.62	57.29	58.03	84.54
VOC [g/h]	602.29	339.03	191.53	22.03	760.80	123.62	68.91	71.02	68.24	69.13	100.70

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	57.44
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.564
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	915	429	337	241
d_b, Bicycle Delay [s]	20.02	41.93	47.03	52.59
l_b,int, Bicycle LOS Score for Intersection	3.413	2.540	2.225	2.124
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	37.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.940

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	160.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	24	1820	215	3	532	1803	189	299	33	67	1	91	6	604
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	3	152	12	0	0	266	0	0	0	6	0	22	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	68	0	0	0	57	0	0	22	0	0	0	181
Total Hourly Volume [veh/h]	1	27	1972	159	3	532	2069	132	299	33	51	1	113	6	423
Peak Hour Factor	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.9600	0.9600	0.9600	0.960	0.960	0.960	0.960
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	7	514	41	1	139	539	34	78	9	13	0	29	2	110
Total Analysis Volume [veh/h]	1	28	2054	166	3	554	2155	138	311	34	53	1	118	6	441
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	138
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	0	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	40	0	0	20	60	0	20	20	0	0	20	20	0
Amber [s]	0.0	3.0	4.5	0.0	0.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.0	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	0.0	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	46	0	0	24	66	0	24	24	0	0	24	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	0	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	Yes			No	Yes			No				Yes	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	103	103	103	103	103	103	103	103	103	103	103	103
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	2	40	40	19	56	56	12	12	12	17	17	17
g / C, Green / Cycle	0.02	0.39	0.39	0.18	0.55	0.55	0.11	0.11	0.11	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.01	0.40	0.10	0.16	0.42	0.09	0.09	0.02	0.03	0.07	0.14	0.14
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	1870	1589	1781	1596	1589
c, Capacity [veh/h]	77	1972	615	625	2778	867	396	214	182	290	260	259
d1, Uniform Delay [s]	49.87	31.71	21.70	41.39	18.53	11.71	44.56	41.31	41.96	38.85	42.17	42.17
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.08	0.08	0.08	0.08	0.23	0.23
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.11	20.46	0.09	1.82	0.18	0.03	2.58	0.25	0.65	0.69	15.65	15.71
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.37	1.04	0.27	0.89	0.78	0.16	0.78	0.16	0.29	0.41	0.86	0.86
d, Delay for Lane Group [s/veh]	50.98	52.17	21.79	43.21	18.71	11.74	47.14	41.56	42.60	39.54	57.82	57.88
Lane Group LOS	D	F	C	D	B	B	D	D	D	D	E	E
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.38	19.46	2.73	7.00	12.66	1.54	3.99	0.79	1.27	2.75	6.63	6.61
50th-Percentile Queue Length [ft/ln]	9.49	486.62	68.35	175.04	316.58	38.47	99.71	19.87	31.68	68.75	165.84	165.31
95th-Percentile Queue Length [veh/ln]	0.68	27.47	4.92	11.34	18.50	2.77	7.18	1.43	2.28	4.95	10.86	10.83
95th-Percentile Queue Length [ft/ln]	17.09	686.77	123.03	283.53	462.48	69.25	179.47	35.76	57.02	123.75	271.44	270.73

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.98	50.98	52.17	21.79	43.21	43.21	18.71	11.74	47.14	41.56	42.60	39.54	39.54	57.82	57.85
Movement LOS	D	D	F	C	D	D	B	B	D	D	D	D	D	E	E
d_A, Approach Delay [s/veh]	49.91				23.16				46.06			54.00			
Approach LOS	D				C				D			D			
d_I, Intersection Delay [s/veh]	37.46														
Intersection LOS	D														
Intersection V/C	0.940														

Emissions

Vehicle Miles Traveled [mph]	6.47	458.53	37.06	80.60	311.82	19.97	39.67	4.34	6.76	41.77	78.60	78.29
Stops [stops/h]	26.49	2036.63	95.35	488.40	1324.95	53.67	278.20	27.71	44.19	95.91	231.37	230.61
Fuel consumption [US gal/h]	0.71	51.93	2.79	10.91	28.36	1.45	6.15	0.62	0.98	3.21	7.15	7.12
CO [g/h]	49.89	3630.04	194.91	762.86	1982.45	101.23	430.12	43.28	68.63	224.15	499.68	497.98
NOx [g/h]	9.71	706.27	37.92	148.42	385.71	19.70	83.69	8.42	13.35	43.61	97.22	96.89
VOC [g/h]	11.56	841.30	45.17	176.80	459.45	23.46	99.69	10.03	15.91	51.95	115.81	115.41

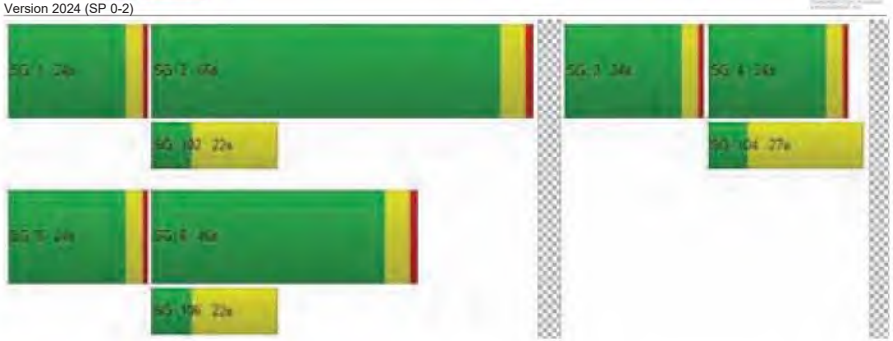
Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.20	0.00	41.20	41.20
l_p,int, Pedestrian LOS Score for Intersectio	3.458	0.000	2.596	2.870
Crosswalk LOS	C	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	785	1172	397	397
d_b, Bicycle Delay [s]	19.06	8.84	33.15	33.15
l_b,int, Bicycle LOS Score for Intersection	2.833	2.854	1.906	2.597
Bicycle LOS	C	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Version 2024 (SP 0-2)



Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	43.3
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.722

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	3	2	0	0	1	2	0	0	0	3	0	0
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	260.0	100.0	100.0	260.0	360.0	100.0	100.0	100.0	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	6	73	1515	362	2	243	1325	392	2	349	336	86	393	164	194
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	167	41	0	0	294	0	0	0	0	0	70	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	121	0	0	0	118	0	0	0	26	0	0	58
Total Hourly Volume [veh/h]	6	73	1682	282	2	243	1619	274	2	349	336	60	463	164	136
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	20	452	76	1	65	435	74	1	94	90	16	124	44	37
Total Analysis Volume [veh/h]	6	78	1809	303	2	261	1741	295	2	375	361	65	498	176	146
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	160
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	50	0	0	20	50	0	0	23	31	0	36	44	0
Amber [s]	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0	0.0	5.0	5.0	0.0	5.0	5.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	39	0	0	0	37	0	0	0	48	0	0	50	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	4.0	0.0	0.0	3.0	4.0	0.0	0.0	4.5	4.0	0.0	4.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	56	0	0	25	56	0	0	29	37	0	42	50	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	7	0	0	10	7	0	0	10	10	0	10	10	0
Vehicle Extension [s]	0.0	1.5	3.0	0.0	0.0	1.5	3.0	0.0	0.0	1.5	2.0	0.0	1.5	2.0	0.0
Minimum Recall		No	Yes			No	Yes			No	No		No	No	
Maximum Recall		No	No			No	No			No	No		No	No	
Pedestrian Recall		No	No			No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	160	160	160	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	5.00	6.00	6.00	5.00	6.00	6.00	6.50	6.00	6.00	6.50	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	4.00	4.00	3.00	4.00	4.00	4.50	4.00	4.00	4.50	4.00	4.00
g_i, Effective Green Time [s]	10	76	76	14	81	81	19	21	21	25	27	27
g / C, Green / Cycle	0.06	0.48	0.48	0.09	0.50	0.50	0.12	0.13	0.13	0.16	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.05	0.27	0.19	0.08	0.34	0.19	0.11	0.12	0.12	0.14	0.05	0.09
s, saturation flow rate [veh/h]	1781	6792	1589	3459	5094	1589	3459	1870	1772	3459	3560	1589
c, Capacity [veh/h]	110	3233	757	307	2563	800	419	245	232	544	596	266
d1, Uniform Delay [s]	73.95	29.94	27.14	71.92	30.00	24.25	69.34	68.40	68.42	66.35	58.36	61.09
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.16	0.70	1.58	2.72	1.47	1.31	2.89	4.45	4.74	2.65	0.10	0.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.56	0.40	0.86	0.68	0.37	0.90	0.89	0.89	0.91	0.30	0.55
d, Delay for Lane Group [s/veh]	78.11	30.64	28.72	74.64	31.48	25.56	72.23	72.86	73.16	69.00	58.46	61.75
Lane Group LOS	E	C	C	E	C	C	E	E	E	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.55	12.73	7.97	5.37	16.66	6.99	7.82	9.15	8.70	10.26	3.17	5.54
50th-Percentile Queue Length [ft/ln]	88.76	318.21	199.15	134.35	416.47	174.78	195.53	228.71	217.57	256.39	79.21	138.40
95th-Percentile Queue Length [veh/ln]	6.39	18.58	12.59	9.18	23.35	11.33	12.41	14.11	13.54	15.51	5.70	9.39
95th-Percentile Queue Length [ft/ln]	159.77	464.48	314.86	229.39	583.81	283.19	310.19	352.72	338.52	387.69	142.57	234.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	78.11	78.11	30.64	28.72	74.64	74.64	31.48	25.56	72.23	72.23	72.97	73.16	69.00	58.46	61.75
Movement LOS	E	E	C	C	E	E	C	C	E	E	E	E	E	E	E
d_A, Approach Delay [s/veh]	32.19				35.65				72.64				65.45		
Approach LOS	C				D				E				E		
d_I, Intersection Delay [s/veh]	43.26														
Intersection LOS	D														
Intersection V/C	0.722														

Emissions

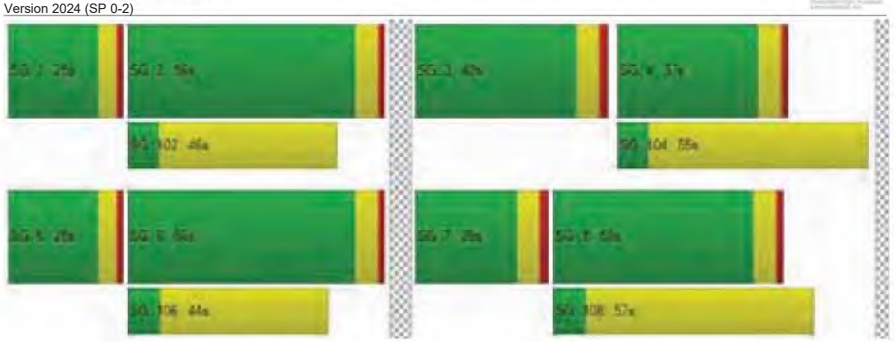
Vehicle Miles Traveled [mph]	33.44	720.14	120.62	58.71	388.65	65.85	94.09	54.55	51.77	52.03	18.39	15.25
Stops [stops/h]	79.88	1145.54	179.23	241.83	1124.46	157.30	351.95	205.84	195.81	461.50	142.57	124.56
Fuel consumption [US gal/h]	3.15	47.25	7.73	9.01	38.45	5.75	11.36	6.62	6.30	11.68	3.64	3.15
CO [g/h]	220.39	3303.06	540.07	630.04	2687.95	401.75	793.93	462.92	440.43	816.67	254.32	220.22
NOx [g/h]	42.88	642.65	105.08	122.58	522.98	78.17	154.47	90.07	85.69	158.89	49.48	42.85
VOC [g/h]	51.08	765.52	125.17	146.02	622.96	93.11	184.00	107.29	102.07	189.27	58.94	51.04

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	69.38	69.38	69.38	69.38
l_p,int, Pedestrian LOS Score for Intersectio	3.552	3.864	2.760	2.972
Crosswalk LOS	D	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	625	625	388	550
d_b, Bicycle Delay [s]	37.81	37.81	52.00	42.05
l_b,int, Bicycle LOS Score for Intersection	2.513	2.745	1.934	2.284
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Latrobe Rd/Suncast Ln

Control Type:	Signalized	Delay (sec / veh):	12.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.795

Intersection Setup

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Approach	Northbound			Southbound		Eastbound	
Lane Configuration							
Turning Movement	U-turn	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			No		Yes	

Volumes

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Base Volume Input [veh/h]	0	48	1131	1259	129	197	61
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	8	207	364	0	0	13
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	39	0	22
Total Hourly Volume [veh/h]	0	56	1338	1623	90	197	52
Peak Hour Factor	1.0000	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	16	376	456	25	55	15
Total Analysis Volume [veh/h]	0	63	1503	1824	101	221	58
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permissive	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	5	2	6	0	3	0
Auxiliary Signal Groups							
Maximum Green [s]	0	12	40	40	0	20	0
Amber [s]	0.0	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No	No		No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	46	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-
Minimum Green [s]	0	5	5	5	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall		No	No	No		No	
Maximum Recall		No	No	No		No	
Pedestrian Recall		No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	L	C
C, Cycle Length [s]	62	62	62	62	62	62
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	3	44	37	37	7	7
g / C, Green / Cycle	0.05	0.72	0.60	0.60	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.04	0.42	0.51	0.52	0.08	0.08
s, saturation flow rate [veh/h]	1781	3560	1870	1836	1781	1694
c, Capacity [veh/h]	96	2564	1125	1104	211	200
d1, Uniform Delay [s]	28.70	4.19	10.12	10.32	26.14	26.16
k, delay calibration	0.04	0.15	0.31	0.32	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.82	0.31	5.41	6.33	3.76	4.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.66	0.59	0.86	0.87	0.68	0.68
d, Delay for Lane Group [s/veh]	31.52	4.50	15.52	16.66	29.90	30.21
Lane Group LOS	C	A	B	B	C	C
Critical Lane Group	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.95	2.60	9.53	9.94	2.11	2.04
50th-Percentile Queue Length [ft/ln]	23.68	65.07	238.13	248.41	52.87	51.12
95th-Percentile Queue Length [veh/ln]	1.70	4.69	14.59	15.11	3.81	3.68
95th-Percentile Queue Length [ft/ln]	42.62	117.13	364.67	377.65	95.17	92.02

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.52	31.52	4.50	16.06	16.66	30.01	30.21
Movement LOS	C	C	A	B	B	C	C
d_A, Approach Delay [s/veh]	5.59			16.09		30.05	
Approach LOS	A			B		C	
d_I, Intersection Delay [s/veh]	12.76						
Intersection LOS	B						
Intersection V/C	0.795						

Emissions

Vehicle Miles Traveled [mph]	43.82	1045.41	340.59	340.59	48.04	46.09
Stops [stops/h]	55.21	303.47	555.29	579.27	123.30	119.21
Fuel consumption [US gal/h]	2.51	46.09	20.13	20.48	3.53	3.40
CO [g/h]	175.66	3221.60	1407.08	1431.82	246.40	237.38
NOx [g/h]	34.18	626.81	273.77	278.58	47.94	46.19
VOC [g/h]	40.71	746.64	326.10	331.84	57.11	55.01

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	23.39	0.00	23.39
l_p,int, Pedestrian LOS Score for Intersectio	2.960	0.000	2.119
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1295	1295	648
d_b, Bicycle Delay [s]	3.83	3.83	14.12
l_b,int, Bicycle LOS Score for Intersection	2.852	3.180	2.056
Bicycle LOS	C	C	B

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	75.7
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.975

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

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Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	98	575	21	249	446	625	494	119	26	13	155	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	61	215	29	0	377	0	0	0	105	44	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	15	0	0	188	0	0	39	0	0	33
Total Hourly Volume [veh/h]	159	790	35	249	823	437	494	119	92	57	155	77
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	217	10	68	226	120	136	33	25	16	43	21
Total Analysis Volume [veh/h]	175	868	38	274	904	480	543	131	101	63	170	85
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	26	25	0	26	25	0	0	30	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	0.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	30	30	0	0	35	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Cycle Length [s]	82	82	82	82	82	82	82	82	82	82
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	10	22	22	14	26	26	15	15	12	12
g / C, Green / Cycle	0.12	0.27	0.27	0.18	0.32	0.32	0.18	0.18	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.10	0.24	0.24	0.15	0.38	0.40	0.16	0.13	0.13	0.05
s, saturation flow rate [veh/h]	1781	1870	1843	1781	1870	1660	3459	1737	1845	1589
c, Capacity [veh/h]	213	497	489	313	602	534	627	315	275	237
d1, Uniform Delay [s]	35.42	29.40	29.40	33.08	27.94	27.94	32.76	31.88	34.13	31.51
k, delay calibration	0.04	0.23	0.23	0.04	0.50	0.50	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.01	13.91	14.10	3.05	99.46	129.51	1.45	1.27	2.77	0.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.92	0.92	0.88	1.19	1.26	0.87	0.74	0.85	0.36
d, Delay for Lane Group [s/veh]	38.44	43.31	43.50	36.13	127.40	157.45	34.21	33.15	36.90	31.85
Lane Group LOS	D	D	D	D	F	F	C	C	D	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.52	10.30	10.18	5.06	26.80	28.26	5.22	4.34	4.62	1.51
50th-Percentile Queue Length [ft/ln]	87.99	257.53	254.42	126.43	670.02	706.38	130.44	108.60	115.56	37.69
95th-Percentile Queue Length [veh/ln]	6.34	15.56	15.41	8.75	39.15	42.22	8.96	7.76	8.15	2.71
95th-Percentile Queue Length [ft/ln]	158.38	389.12	385.22	218.63	978.72	1055.49	224.10	194.05	203.71	67.84

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.44	43.40	43.50	36.13	133.74	157.45	34.21	33.15	33.15	36.90	36.90	31.85
Movement LOS	D	D	D	D	F	F	C	C	C	D	D	C
d_A, Approach Delay [s/veh]	42.60			124.47			33.89			35.55		
Approach LOS	D			F			C			D		
d_I, Intersection Delay [s/veh]	75.68											
Intersection LOS	E											
Intersection V/C	0.975											

Emissions

Vehicle Miles Traveled [mph]	101.07	263.53	259.71	190.58	496.18	466.47	40.85	17.45	25.77	9.40
Stops [stops/h]	154.18	451.26	445.82	221.54	1174.06	1237.76	457.14	190.30	202.49	66.04
Fuel consumption [US gal/h]	6.38	17.36	17.14	12.50	56.90	60.08	7.99	3.33	3.93	1.30
CO [g/h]	446.04	1213.72	1197.74	874.09	3977.14	4199.55	558.34	233.09	274.65	91.06
NOx [g/h]	86.78	236.15	233.04	170.07	773.81	817.08	108.63	45.35	53.44	17.72
VOC [g/h]	103.37	281.29	277.59	202.58	921.74	973.29	129.40	54.02	63.65	21.10

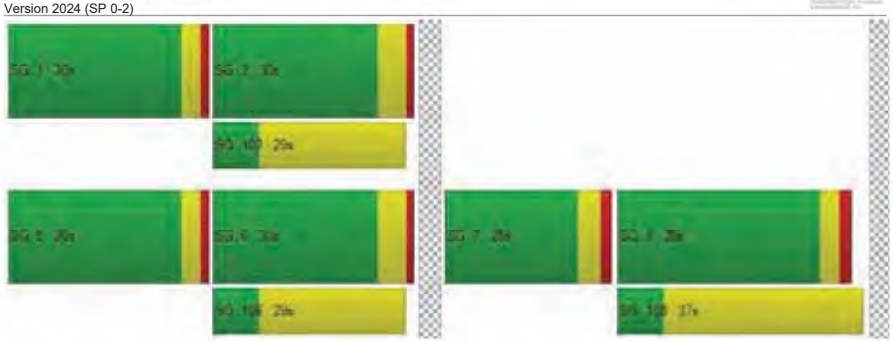
Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	30.83	0.00	30.83	30.83
l_p,int, Pedestrian LOS Score for Intersectio	2.746	0.000	2.627	2.245
Crosswalk LOS	B	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	601	601	742	487
d_b, Bicycle Delay [s]	20.10	20.10	16.25	23.52
l_b,int, Bicycle LOS Score for Intersection	2.464	3.083	2.903	2.139
Bicycle LOS	B	C	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	50.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.990

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	115	314	447	38	380	79
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	305	526	0	0	13
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	11	0	28
Total Hourly Volume [veh/h]	123	619	973	27	380	64
Peak Hour Factor	0.9000	0.9000	0.9000	0.7900	0.7900	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	172	270	9	120	18
Total Analysis Volume [veh/h]	137	688	1081	34	481	71
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	4	4	0
Auxiliary Signal Groups						
Maximum Green [s]	16	54	34	56	56	0
Amber [s]	3.0	5.0	5.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0
Walk [s]	0	0	4	4	4	0
Pedestrian Clearance [s]	0	0	14	24	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	4.0	2.0	2.0	0.0
Detector Location [ft]	20.0	20.0	20.0	20.0	20.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	245.0	245.0	245.0	245.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	20	60	40	60	60	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	5	5	0
Vehicle Extension [s]	1.0	1.0	1.0	1.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C
C, Cycle Length [s]	67	67	67	67	67	67
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	7	45	34	34	12	12
g / C, Green / Cycle	0.10	0.67	0.51	0.51	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.08	0.37	0.58	0.02	0.16	0.16
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1727
c, Capacity [veh/h]	176	1243	947	805	332	321
d1, Uniform Delay [s]	29.54	5.96	16.55	8.35	26.37	26.38
k, delay calibration	0.04	0.04	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.83	0.14	76.26	0.01	2.30	2.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.55	1.14	0.04	0.85	0.85
d, Delay for Lane Group [s/veh]	32.37	6.11	92.81	8.35	28.67	28.75
Lane Group LOS	C	A	F	A	C	C
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.03	2.45	29.94	0.18	4.29	4.17
50th-Percentile Queue Length [ft/ln]	50.80	61.24	748.40	4.51	107.30	104.26
95th-Percentile Queue Length [veh/ln]	3.66	4.41	42.88	0.32	7.69	7.51
95th-Percentile Queue Length [ft/ln]	91.44	110.23	1072.09	8.11	192.24	187.68

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.37	6.11	92.81	8.35	28.70	28.75
Movement LOS	C	A	F	A	C	C
d_A, Approach Delay [s/veh]	10.47		90.24		28.71	
Approach LOS	B		F		C	
d_I, Intersection Delay [s/veh]	50.20					
Intersection LOS	D					
Intersection V/C	0.990					

Emissions

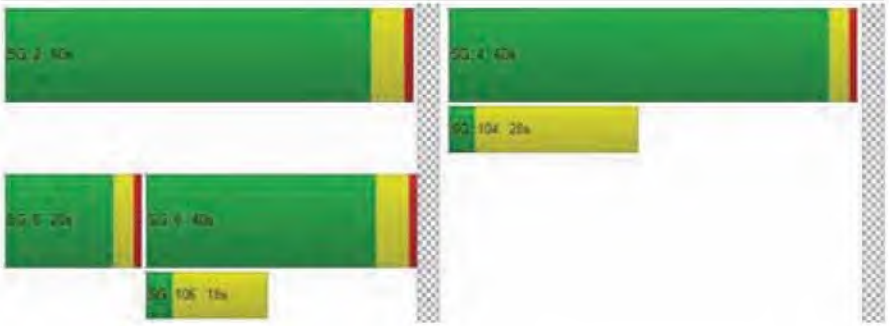
Vehicle Miles Traveled [mph]	16.90	84.89	624.30	19.64	65.81	63.84
Stops [stops/h]	109.22	131.66	1609.10	9.69	230.71	224.17
Fuel consumption [US gal/h]	3.50	6.14	71.19	0.89	5.62	5.46
CO [g/h]	244.40	429.21	4975.96	62.54	392.74	381.42
NOx [g/h]	47.55	83.51	968.14	12.17	76.41	74.21
VOC [g/h]	56.64	99.47	1153.23	14.49	91.02	88.40

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	25.97	0.00	25.97
l_p,int, Pedestrian LOS Score for Intersectio	3.123	0.000	2.216
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1613	1015	1672
d_b, Bicycle Delay [s]	1.26	8.12	0.90
l_b,int, Bicycle LOS Score for Intersection	2.921	3.418	2.517
Bicycle LOS	C	C	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	35.9
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.219

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	380	0	25	501	0	0	0	0	0	0	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	284	0	0	487	52	29	0	3	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	664	0	25	988	52	29	0	3	0	0	49
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	180	0	6	268	14	8	0	1	0	0	12
Total Analysis Volume [veh/h]	5	722	0	25	1074	57	32	0	3	0	0	49
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free		Free		Stop		Stop	
Flared Lane					Yes		Yes	
Storage Area [veh]	0		0		1		1	
Two-Stage Gap Acceptance					Yes		No	
Number of Storage Spaces in Median	0		0		1		1	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.03	0.01	0.00	0.22	0.00	0.01	0.00	0.00	0.11
d_M, Delay for Movement [s/veh]	10.88	0.00	0.00	9.21	0.00	0.00	35.89	31.88	25.23	76.48	61.20	14.53
Movement LOS	B	A	A	A	A	A	E	D	D	F	F	B
95th-Percentile Queue Length [veh/ln]	0.02	0.00	0.00	0.09	0.00	0.00	0.80	0.80	0.80	0.39	0.39	0.39
95th-Percentile Queue Length [ft/ln]	0.61	0.00	0.00	2.19	0.00	0.00	20.05	20.05	20.05	9.65	9.65	9.65
d_A, Approach Delay [s/veh]	0.07			0.20			34.98			14.53		
Approach LOS	A			A			D			B		
d_I, Intersection Delay [s/veh]	1.13											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Signalized	Delay (sec / veh):	17.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.634

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	200.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	311	16	94	407	0	0	0	0	54	0	69
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	53	19	0	0	28	434	270	0	31	0	5	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	37	0	0	0	0	0	37	0	55	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	5	0	0	130	0	0	26	0	0	21
Total Hourly Volume [veh/h]	90	330	11	94	435	304	307	0	60	54	5	48
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	89	3	25	117	82	83	0	16	15	1	13
Total Analysis Volume [veh/h]	97	355	12	101	468	327	330	0	65	58	5	52
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	11	0	0	18	0	0	14	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	9	9	0	9	9	0	0	9	0	0	9	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	C
C, Cycle Length [s]	45	45	45	45	45	45	45	45	45
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	14	4	14	14	7	7	7	4
g / C, Green / Cycle	0.08	0.32	0.08	0.32	0.32	0.15	0.15	0.15	0.09
(v / s)_i Volume / Saturation Flow Rate	0.05	0.20	0.06	0.25	0.21	0.09	0.09	0.04	0.07
s, saturation flow rate [veh/h]	1781	1859	1781	1870	1589	1781	1781	1589	1692
c, Capacity [veh/h]	140	595	143	602	512	276	276	246	154
d1, Uniform Delay [s]	20.30	13.02	20.28	13.87	13.10	17.80	17.80	16.84	20.06
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.98	1.04	6.23	2.21	1.34	2.08	2.08	0.57	7.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.69	0.62	0.71	0.78	0.64	0.60	0.60	0.26	0.75
d, Delay for Lane Group [s/veh]	26.28	14.07	26.51	16.09	14.43	19.88	19.88	17.41	27.11
Lane Group LOS	C	B	C	B	B	B	B	B	C
Critical Lane Group	Yes	No	No	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.00	2.23	1.05	3.16	2.03	1.56	1.56	0.56	1.35
50th-Percentile Queue Length [ft/ln]	25.08	55.69	26.24	79.05	50.79	38.97	38.97	14.01	33.76
95th-Percentile Queue Length [veh/ln]	1.81	4.01	1.89	5.69	3.66	2.81	2.81	1.01	2.43
95th-Percentile Queue Length [ft/ln]	45.14	100.23	47.24	142.30	91.42	70.14	70.14	25.21	60.76

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.28	14.07	14.07	26.51	16.09	14.43	19.88	19.88	17.41	27.11	27.11	27.11
Movement LOS	C	B	B	C	B	B	B	B	B	C	C	C
d_A, Approach Delay [s/veh]	16.62			16.66			19.47			27.11		
Approach LOS	B			B			B			C		
d_I, Intersection Delay [s/veh]	17.89											
Intersection LOS	B											
Intersection V/C	0.634											

Emissions

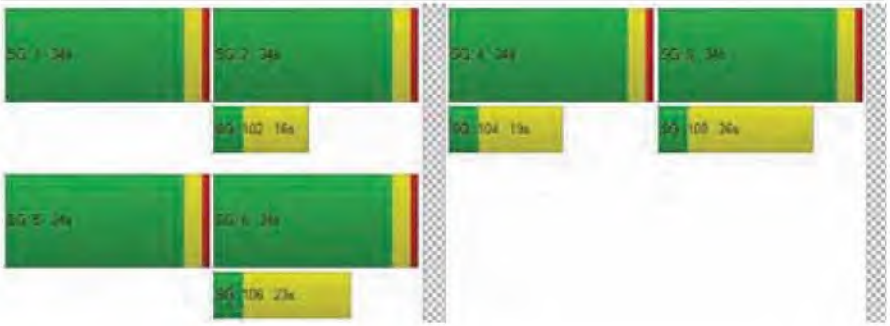
Vehicle Miles Traveled [mph]	32.89	124.45	10.25	47.48	33.18	11.03	11.03	4.35	97.08
Stops [stops/h]	80.16	177.98	83.88	252.66	162.33	124.54	124.54	44.77	107.89
Fuel consumption [US gal/h]	3.11	8.52	2.45	7.81	5.09	1.81	1.81	0.66	5.23
CO [g/h]	217.25	595.52	170.96	546.16	355.47	126.51	126.51	45.89	365.38
NOx [g/h]	42.27	115.87	33.26	106.26	69.16	24.61	24.61	8.93	71.09
VOC [g/h]	50.35	138.02	39.62	126.58	82.38	29.32	29.32	10.64	84.68

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	14.43	14.43	14.43	14.43
l_p,int, Pedestrian LOS Score for Intersectio	2.559	3.087	2.371	1.833
Crosswalk LOS	B	C	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1332	1332	1332	1332
d_b, Bicycle Delay [s]	2.52	2.52	2.52	2.52
l_b,int, Bicycle LOS Score for Intersection	2.333	3.253	2.254	1.784
Bicycle LOS	B	C	B	A

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Roundabout	Delay (sec / veh):	10.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	150.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	101	470	168	48	1	692	185
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	105	0	0	0	61
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	101	470	273	48	1	692	246
Peak Hour Factor	1.0000	0.8800	0.8800	0.8800	0.8800	1.0000	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	29	134	78	14	0	197	70
Total Analysis Volume [veh/h]	0	115	534	310	55	1	786	280
Pedestrian Volume [ped/h]	0			0		0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1		1		
Circulating Flow Rate [veh/h]	317			803		117		
Exiting Flow Rate [veh/h]	858			403		862		
Demand Flow Rate [veh/h]	0	101	470	273	48	1	692	246
Adjusted Demand Flow Rate [veh/h]	0	115	534	310	55	1	786	280

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1380.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00102	0.00091	0.00091
HV Adjustment Factor	0.98	0.98	0.98	0.98	0.98
Entry Flow Rate [veh/h]	118	545	373	803	286
Capacity of Entry and Bypass Lanes [veh/h]	1064	1064	609	1277	1277
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1044	1044	597	1252	1252
X, volume / capacity	0.11	0.51	0.61	0.63	0.22

Movement, Approach, & Intersection Results

Lane LOS	A	A	C	B	A
95th-Percentile Queue Length [veh]	0.37	3.00	4.14	4.70	0.86
95th-Percentile Queue Length [ft]	9.26	75.12	103.42	117.62	21.47
Approach Delay [s/veh]	8.66		18.14	9.21	
Approach LOS	A		C	A	
Intersection Delay [s/veh]	10.60				
Intersection LOS	B				

Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Signalized	Delay (sec / veh):	15.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.668

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	138	0	25	7	1	21	5	408	85	66	397	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	61	0	0	0	0	0	0	0	105	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	6	0	0	57	0	0	3
Total Hourly Volume [veh/h]	199	0	17	7	1	15	5	408	133	66	397	8
Peak Hour Factor	0.9700	1.0000	0.9300	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9300	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	0	5	2	0	4	1	105	34	18	102	2
Total Analysis Volume [veh/h]	205	0	18	7	1	15	5	421	137	71	409	8
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	24	0	0	11	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	9	0	0	9	0	9	9	0	9	9	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	L	C	L	C
C, Cycle Length [s]	43	43	43	43	43	43	43
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	7	1	0	16	3	18
g / C, Green / Cycle	0.16	0.16	0.03	0.01	0.37	0.07	0.43
(v / s)_i Volume / Saturation Flow Rate	0.12	0.01	0.01	0.00	0.31	0.04	0.22
s, saturation flow rate [veh/h]	1781	1589	1654	1781	1792	1781	1864
c, Capacity [veh/h]	284	253	47	12	665	120	804
d1, Uniform Delay [s]	17.07	15.28	20.46	21.14	12.28	19.36	8.91
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.48	0.12	7.74	20.50	2.94	4.61	0.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.72	0.07	0.49	0.41	0.84	0.59	0.52
d, Delay for Lane Group [s/veh]	20.55	15.40	28.20	41.64	15.22	23.98	9.43
Lane Group LOS	C	B	C	D	B	C	A
Critical Lane Group	Yes	No	Yes	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.91	0.14	0.30	0.11	4.25	0.76	2.19
50th-Percentile Queue Length [ft/ln]	47.82	3.43	7.55	2.85	106.13	18.92	54.69
95th-Percentile Queue Length [veh/ln]	3.44	0.25	0.54	0.21	7.62	1.36	3.94
95th-Percentile Queue Length [ft/ln]	86.08	6.17	13.58	5.13	190.61	34.06	98.43

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	20.55	20.55	15.40	28.20	28.20	28.20	41.64	15.22	15.22	23.98	9.43	9.43
Movement LOS	C	C	B	C	C	C	D	B	B	C	A	A
d_A, Approach Delay [s/veh]	20.14			28.20			15.46			11.54		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	15.02											
Intersection LOS	B											
Intersection V/C	0.668											

Emissions

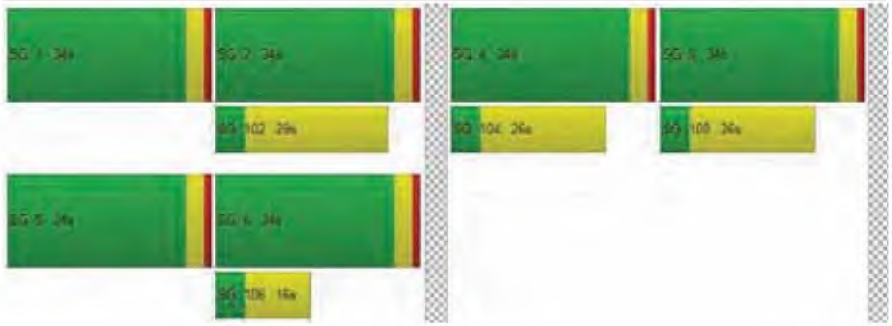
Vehicle Miles Traveled [mph]	60.86	5.34	0.55	0.72	79.90	59.75	350.92
Stops [stops/h]	161.58	11.58	25.50	9.63	358.61	63.93	184.77
Fuel consumption [US gal/h]	4.26	0.34	0.30	0.13	7.00	3.16	16.27
CO [g/h]	297.45	23.79	20.64	8.74	489.24	220.84	1137.05
NOx [g/h]	57.87	4.63	4.02	1.70	95.19	42.97	221.23
VOC [g/h]	68.94	5.51	4.78	2.03	113.39	51.18	263.52

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	13.26	13.26	13.26	13.26
l_p,int, Pedestrian LOS Score for Intersectio	2.225	1.706	2.390	2.213
Crosswalk LOS	B	A	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1408	1408	1408	1408
d_b, Bicycle Delay [s]	1.87	1.87	1.87	1.87
l_b,int, Bicycle LOS Score for Intersection	1.941	1.607	2.583	2.370
Bicycle LOS	A	A	B	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	50.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.902

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	375.00	100.00	150.00	400.00	100.00	220.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	57	61	268	230	100	36	33	574	121	234	562	158
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	21	0	0	22	12	29	0	36	49	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	87	0	0	17	0	0	36	0	0	47
Total Hourly Volume [veh/h]	57	61	202	230	100	41	45	603	85	270	611	111
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	16	52	59	26	11	12	155	22	70	157	29
Total Analysis Volume [veh/h]	59	63	208	237	103	42	46	622	88	278	630	114
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	0	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	35	0	0	40	0	25	45	0	25	44	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	0	0	44	0	29	50	0	29	50	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	0.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	R
C, Cycle Length [s]	124	124	124	124	124	124	124	124	124	124
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	3.50	5.30	5.30	3.50	6.00	6.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	1.50	3.30	3.30	1.50	4.00	4.00
g_i, Effective Green Time [s]	23	23	20	20	4	43	43	21	60	60
g / C, Green / Cycle	0.19	0.19	0.16	0.16	0.03	0.35	0.35	0.17	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.03	0.16	0.13	0.08	0.03	0.33	0.06	0.16	0.34	0.07
s, saturation flow rate [veh/h]	1781	1647	1781	1779	1781	1870	1589	1781	1870	1589
c, Capacity [veh/h]	331	306	280	280	60	650	553	305	897	762
d1, Uniform Delay [s]	42.72	49.44	51.04	48.17	59.74	39.73	28.07	50.72	25.44	18.17
k, delay calibration	0.13	0.17	0.13	0.13	0.04	0.39	0.11	0.26	0.41	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.32	12.59	8.47	1.85	7.53	22.24	0.13	20.56	3.77	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.18	0.89	0.85	0.52	0.77	0.96	0.16	0.91	0.70	0.15
d, Delay for Lane Group [s/veh]	43.04	62.03	59.51	50.02	67.27	61.97	28.20	71.28	29.22	18.29
Lane Group LOS	D	E	E	D	E	E	C	E	C	B
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.57	9.26	7.83	4.29	1.57	22.35	1.85	10.23	15.29	1.88
50th-Percentile Queue Length [ft/ln]	39.27	231.62	195.86	107.18	39.16	558.64	46.31	255.74	382.29	46.99
95th-Percentile Queue Length [veh/ln]	2.83	14.26	12.42	7.68	2.82	30.10	3.33	15.47	21.70	3.38
95th-Percentile Queue Length [ft/ln]	70.68	356.42	310.62	192.07	70.49	752.45	83.37	386.87	542.62	84.58

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.04	62.03	62.03	59.51	50.02	50.02	67.27	61.97	28.20	71.28	29.22	18.29
Movement LOS	D	E	E	E	D	D	E	E	C	E	C	B
d_A, Approach Delay [s/veh]	58.64			55.91			58.36			39.44		
Approach LOS	E			E			E			D		
d_I, Intersection Delay [s/veh]	50.25											
Intersection LOS	D											
Intersection V/C	0.902											

Emissions

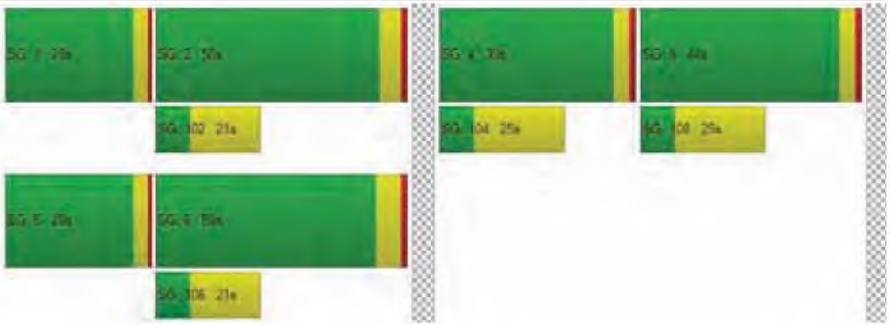
Vehicle Miles Traveled [mph]	101.52	466.29	48.05	29.40	16.11	217.80	30.81	125.44	284.27	51.44
Stops [stops/h]	45.44	268.02	226.64	124.02	45.31	646.44	53.59	295.93	442.37	54.37
Fuel consumption [US gal/h]	4.95	24.10	6.10	3.37	1.54	20.38	2.07	10.83	17.89	2.84
CO [g/h]	345.78	1684.39	426.38	235.64	107.86	1424.60	144.67	757.07	1250.64	198.68
NOx [g/h]	67.28	327.72	82.96	45.85	20.99	277.18	28.15	147.30	243.33	38.65
VOC [g/h]	80.14	390.37	98.82	54.61	25.00	330.16	33.53	175.46	289.85	46.04

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.71	51.71	51.71	51.71
l_p,int, Pedestrian LOS Score for Intersectio	2.379	2.197	2.573	2.755
Crosswalk LOS	B	B	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	559	640	718	707
d_b, Bicycle Delay [s]	32.29	28.79	25.55	26.00
l_b,int, Bicycle LOS Score for Intersection	2.248	2.218	2.866	3.323
Bicycle LOS	B	B	C	C

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	669	1065	49	32
2	649	1033	48	31
3	636	1012	47	30
4	595	948	44	28
5	529	841	39	25
6	522	831	38	25
7	515	820	38	25
8	468	746	34	22
9	462	735	34	22
10	455	724	33	22
11	395	628	29	19
12	368	586	27	18
13	361	575	26	17
14	268	426	20	13
15	268	426	20	13
16	187	298	14	9
17	107	170	8	5
18	107	170	8	5
19	60	96	4	3
20	33	53	2	2
21	20	32	1	1
22	7	11	0	0
23	7	11	0	0
24	7	11	0	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1734	1	49	No	No	No	No	No	No	No	Yes	No	No
2	2	1682	1	48	No	No	No	No	No	No	No	Yes	No	No
3	2	1648	1	47	No	No	No	No	No	No	No	Yes	No	No
4	2	1543	1	44	No	No	No	No	No	No	No	Yes	No	No
5	2	1370	1	39	No	No	No	No	No	No	No	No	No	No
6	2	1353	1	38	No	No	No	No	No	No	No	No	No	No
7	2	1335	1	38	No	No	No	No	No	No	No	No	No	No
8	2	1214	1	34	No	No	No	No	No	No	No	No	No	No
9	2	1197	1	34	No	No	No	No	No	No	No	No	No	No
10	2	1179	1	33	No	No	No	No	No	No	No	No	No	No
11	2	1023	1	29	No	No	No	No	No	No	No	No	No	No
12	2	954	1	27	No	No	No	No	No	No	No	No	No	No
13	2	936	1	26	No	No	No	No	No	No	No	No	No	No
14	2	694	1	20	No	No	No	No	No	No	No	No	No	No
15	2	694	1	20	No	No	No	No	No	No	No	No	No	No
16	2	485	1	14	No	No	No	No	No	No	No	No	No	No
17	2	277	1	8	No	No	No	No	No	No	No	No	No	No
18	2	277	1	8	No	No	No	No	No	No	No	No	No	No
19	2	156	1	4	No	No	No	No	No	No	No	No	No	No
20	2	86	1	2	No	No	No	No	No	No	No	No	No	No
21	2	52	1	1	No	No	No	No	No	No	No	No	No	No
22	2	18	1	0	No	No	No	No	No	No	No	No	No	No
23	2	18	1	0	No	No	No	No	No	No	No	No	No	No
24	2	18	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	4	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.5	35
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:11	0:18
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	49	32
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1815	1815
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

EPAP AM no Project

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Report File: C:\...\7 2033 AM no Proj.pdf 2/14/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	El Dorado Hills Blvd/Serrano Pkwy	Signalized	HCM 7th Edition	SB Right	1.156	177.9	F
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	EB Right	1.396	162.8	F
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	NB Left	1.106	92.6	F
4	Latrobe Rd/US 50 EB	Signalized	HCM 7th Edition	EB Right	1.040	32.3	C
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	SB Left	0.969	39.4	D
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	NB Left	0.773	44.3	D
7	Latrobe Rd/Golden Foothill Pkwy N	Signalized	HCM 7th Edition	SB Right	1.094	84.0	F
8	Latrobe Rd/Suncast Ln	Signalized	HCM 7th Edition	NB Left	0.822	13.7	B
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	EB Thru	1.040	90.2	F
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	NB Left	0.753	12.2	B
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	WB Right	0.090	14.1	B
12	Latrobe Rd/Royal Oaks Dr	Two-way stop	HCM 7th Edition	WB Left	0.049	25.9	D
13	Golden Foothill/Robert J Mathews	Two-way stop	HCM 7th Edition	NB Left	2.315	1,336.5	F
14	Investment Blvd/Robert J Mathews Pkwy	All-way stop	HCM 7th Edition	SB Thru	1.712	203.9	F
15	Golden Foothill Pkwy/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.218	13.7	B
16	Carson Crossing Rd/Calypso Cir.	Two-way stop	HCM 7th Edition	NB Left	0.192	15.1	C
17	Carson Crossing Rd/Four Seasons Dr	All-way stop	HCM 7th Edition	WB Left	0.108	8.0	A
	White Rock Rd/Carson		HCM 7th				

18	White Rock Rd/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.381	34.5	D
19	White Rock Rd/Windfield Way	Signalized	HCM 7th Edition	EB Left	0.585	29.2	C
20	White Rock Rd/Post St	Signalized	HCM 7th Edition	SB Left	0.625	40.1	D
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 7th Edition	WB Thru	1.314	252.3	F
22	White Rock Rd/Clarksville Crossing	Signalized	HCM 7th Edition	SB Right	0.857	35.7	D
23	White Rock Rd/US 50 EB	Signalized	HCM 7th Edition	EB Left	0.686	21.7	C
24	Silva Valley Pkwy/US 50 WB	Signalized	HCM 7th Edition	WB Left	1.021	69.7	E
25	New Intersection	Two-way stop	HCM 6th Edition	NB Thru	0.007	0.0	A
26	Latrobe/Wetsl-Oviatt	Two-way stop	HCM 7th Edition	EB Left	0.010	13.8	B
27	Latrobe/S. Shingle	Two-way stop	HCM 7th Edition	EB Left	0.142	20.3	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: El Dorado Hills Blvd/Serrano Pkwy

Control Type:	Signalized	Delay (sec / veh):	177.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.156

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	260.0	100.0	100.0	100.0	110.00	100.00	100.00	100.00	100.00	100.00	430.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No			No		
Crosswalk	No				Yes			Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Base Volume Input [veh/h]	5	232	792	301	70	1655	46	23	14	260	467	64	111
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	3	0	0	-6	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	14	0	0	78	0	0	33
Total Hourly Volume [veh/h]	5	232	795	301	70	1649	32	23	14	182	467	64	78
Peak Hour Factor	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	67	228	86	20	474	9	7	4	52	134	18	22
Total Analysis Volume [veh/h]	5	267	914	346	80	1895	37	26	16	209	537	74	90
Presence of On-Street Parking	No			No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	1	6	0	7	7	0	0	8	0
Auxiliary Signal Groups													
Maximum Green [s]	0	25	40	0	25	40	0	35	35	0	0	35	0
Amber [s]	0.0	3.0	4.7	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	12	0	0	12	0	0	0	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	100.0	245.0	0.0	100.0	100.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	29	46	0	29	46	0	39	39	0	0	39	0
Lead / Lag	-	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	3	6	0	3	3	0	3	3	0	0	3	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	4.0	0.0
Minimum Recall		No	No		No	No			No			No	
Maximum Recall		No	No		No	No			No			No	
Pedestrian Recall		No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C
C, Cycle Length [s]	128	128	128	128	128	128	128	128	128	128
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	54	54	7	40	40	20	20	29	29
g / C, Green / Cycle	0.17	0.42	0.42	0.06	0.31	0.31	0.16	0.16	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.15	0.26	0.22	0.04	0.52	0.52	0.01	0.14	0.20	0.20
s, saturation flow rate [veh/h]	1781	3560	1589	1781	1870	1857	1781	1607	1781	1744
c, Capacity [veh/h]	299	1499	669	103	581	577	279	252	405	396
d1, Uniform Delay [s]	52.59	29.01	27.56	59.83	44.34	44.34	46.44	53.21	47.95	47.99
k, delay calibration	0.25	0.04	0.17	0.04	0.50	0.50	0.04	0.04	0.29	0.29
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	20.28	0.15	0.97	4.78	305.40	310.44	0.05	4.43	14.10	14.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.61	0.52	0.78	1.66	1.67	0.09	0.89	0.87	0.88
d, Delay for Lane Group [s/veh]	72.87	29.16	28.53	64.61	349.74	354.77	46.49	57.65	62.05	62.73
Lane Group LOS	E	C	C	E	F	F	D	E	E	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	10.07	10.53	7.73	2.65	67.03	67.38	0.72	7.43	12.48	12.34
50th-Percentile Queue Length [ft/ln]	251.84	263.13	193.24	66.36	1675.64	1684.57	18.05	185.75	311.90	308.49
95th-Percentile Queue Length [veh/ln]	15.28	15.85	12.29	4.78	103.07	103.76	1.30	11.90	18.27	18.10
95th-Percentile Queue Length [ft/ln]	381.96	396.15	307.23	119.44	2576.64	2594.06	32.50	297.51	456.72	452.52

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	72.87	72.87	29.16	28.53	64.61	352.21	354.77	46.49	57.65	57.65	62.28	62.73	62.73
Movement LOS	E	E	C	C	E	F	F	D	E	E	E	E	E
d_A, Approach Delay [s/veh]	36.78				340.82			56.49			62.39		
Approach LOS	D				F			E			E		
d_I, Intersection Delay [s/veh]	177.93												
Intersection LOS	F												
Intersection V/C	1.156												

Emissions

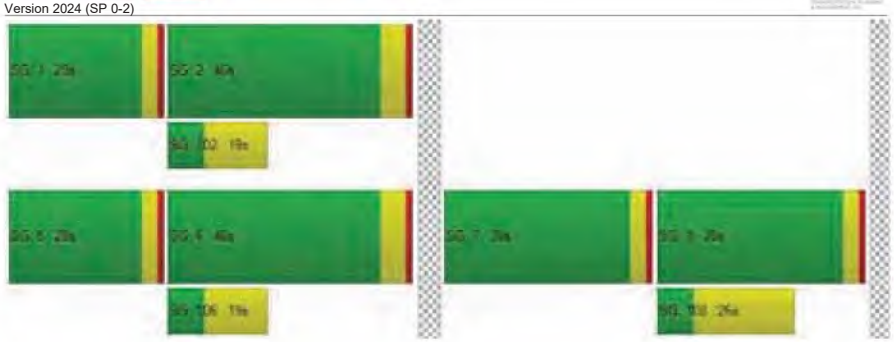
Vehicle Miles Traveled [mph]	64.96	218.29	82.64	11.76	142.03	142.03	1.11	9.61	18.50	18.18
Stops [stops/h]	282.37	590.07	216.67	74.40	1878.78	1888.79	20.24	208.27	349.71	345.89
Fuel consumption [US gal/h]	9.77	20.24	7.54	2.38	96.97	98.08	0.40	4.19	7.16	7.10
CO [g/h]	682.96	1414.93	526.73	166.36	6777.86	6855.70	28.21	292.56	500.23	495.95
NOx [g/h]	132.88	275.29	102.48	32.37	1318.73	1333.87	5.49	56.92	97.33	96.49
VOC [g/h]	158.28	327.92	122.07	38.56	1570.83	1588.88	6.54	67.80	115.93	114.94

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	53.69	53.69	53.69
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.240	2.303	2.386
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	628	628	545	545
d_b, Bicycle Delay [s]	30.24	30.24	33.98	33.98
l_b,int, Bicycle LOS Score for Intersection	2.819	3.231	2.102	2.771
Bicycle LOS	C	C	B	C

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	162.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.396

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	500.0	100.0	100.0	100.0	500.0	100.0	100.0	300.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	1	413	988	150	1	218	1727	441	150	61	708	33	34	191
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	3	0	0	0	-6	0	0	0	-3	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	45	0	0	0	132	0	0	212	0	0	57
Total Hourly Volume [veh/h]	1	415	991	105	1	218	1721	309	150	61	493	33	34	134
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	112	266	28	0	59	463	83	40	16	133	9	9	36
Total Analysis Volume [veh/h]	1	446	1066	113	1	234	1851	332	161	66	530	35	37	144
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	5	3	8	1
Auxiliary Signal Groups														1,8
Maximum Green [s]	0	20	50	0	0	20	50	0	20	20	20	0	20	20
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	3.0	0.0	3.0	3.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	14	0	0	0	18	0	0	0	0	0	28	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0
l2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	2.0	0.0	2.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	20.0	0.0	20.0	20.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	245.0	0.0	245.0	245.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	6.0	0.0	6.0	6.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	0	24	56	0	24	24	24	0	24	24
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	4	0	5	4
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Cycle Length [s]	123	123	123	123	123	123	123	123	123	123	123
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	52	52	18	50	50	20	20	20	16	16
g / C, Green / Cycle	0.16	0.42	0.42	0.15	0.41	0.41	0.16	0.16	0.16	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.25	0.22	0.22	0.13	0.52	0.21	0.06	0.06	0.33	0.02	0.11
s, saturation flow rate [veh/h]	1781	3560	1780	1781	3560	1589	1781	1831	1589	1781	1640
c, Capacity [veh/h]	289	1497	748	262	1443	644	289	297	258	226	208
d1, Uniform Delay [s]	51.67	26.58	26.59	51.67	36.67	27.56	46.20	46.18	51.67	47.97	52.86
k, delay calibration	0.50	0.13	0.14	0.26	0.20	0.13	0.04	0.04	0.50	0.04	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	262.99	0.35	0.72	21.30	129.30	0.77	0.32	0.31	488.51	0.12	14.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.55	0.53	0.53	0.90	1.28	0.52	0.39	0.39	2.06	0.16	0.87
d, Delay for Lane Group [s/veh]	314.66	26.93	27.31	72.97	165.97	28.33	46.52	46.48	540.17	48.09	66.92
Lane Group LOS	F	C	C	E	F	C	D	D	F	D	E
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	29.76	8.27	8.35	8.49	46.30	7.18	3.12	3.18	42.91	0.97	6.31
50th-Percentile Queue Length [ft/ln]	743.92	206.74	208.79	212.35	1157.41	179.55	78.02	79.48	1072.85	24.31	157.79
95th-Percentile Queue Length [veh/ln]	46.05	12.99	13.09	13.27	67.48	11.58	5.62	5.72	67.64	1.75	10.43
95th-Percentile Queue Length [ft/ln]	1151.15	324.64	327.28	331.84	1686.89	289.42	140.43	143.06	1691.09	43.76	260.80

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	314.6	314.6	27.03	27.31	72.97	72.97	165.9	28.33	46.52	46.48	540.17	48.09	66.92	66.92
Movement LOS	F	F	C	C	E	E	F	C	D	D	F	D	E	E
d_A, Approach Delay [s/veh]	106.12				138.03				392.14			63.87		
Approach LOS	F				F				F			E		
d_I, Intersection Delay [s/veh]	162.84													
Intersection LOS	F													
Intersection V/C	1.396													

Emissions

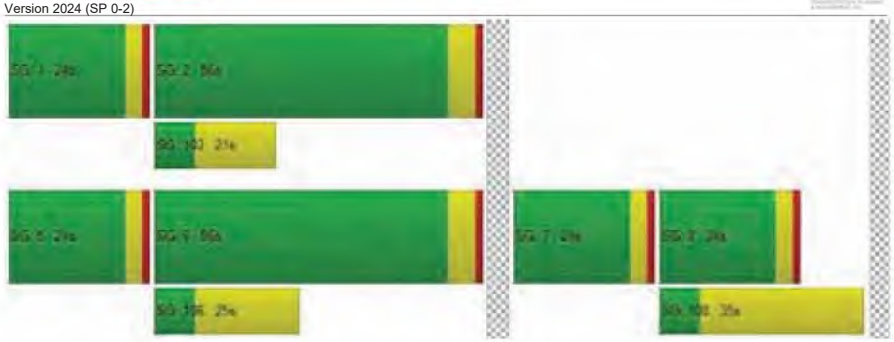
Vehicle Miles Traveled [mph]	84.12	147.91	73.98	56.13	442.08	79.29	7.01	7.15	33.05	1.71	8.83
Stops [stops/h]	869.09	483.05	243.92	248.08	2704.33	209.76	91.14	92.85	1253.38	28.40	184.34
Fuel consumption [US gal/h]	42.31	15.38	7.75	8.50	111.28	7.24	1.86	1.89	66.53	0.57	3.85
CO [g/h]	2957.17	1075.22	541.92	593.99	7778.60	506.06	129.74	132.19	4650.55	39.82	268.87
NOx [g/h]	575.36	209.20	105.44	115.57	1513.43	98.46	25.24	25.72	904.83	7.75	52.31
VOC [g/h]	685.35	249.19	125.60	137.66	1802.77	117.28	30.07	30.64	1077.81	9.23	62.31

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.12	51.12	51.12
I_p,int, Pedestrian LOS Score for Intersectio	0.000	3.628	2.915	2.274
Crosswalk LOS	F	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	816	816	325	325
d_b, Bicycle Delay [s]	21.59	21.59	43.25	43.25
I_b,int, Bicycle LOS Score for Intersection	2.478	3.470	3.158	2.010
Bicycle LOS	B	C	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	92.6
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.106

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	500.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1417	1188	141	3	69	1353	1044	256	92	816	171	99	105
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	5	2	0	0	-9	0	0	0	-4	-2	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	43	0	0	0	313	0	0	244	0	0	32
Total Hourly Volume [veh/h]	1	1421	1193	100	3	69	1344	731	256	92	568	169	99	73
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	355	298	25	1	17	336	183	64	23	142	42	25	18
Total Analysis Volume [veh/h]	1	1421	1193	100	3	69	1344	731	256	92	568	169	99	73
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	134
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	37	62	0	0	14	39	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	42	68	0	0	19	45	28	0	28	0	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	37	71	71	8	41	73	27	27	11	11	11
g / C, Green / Cycle	0.28	0.52	0.52	0.06	0.30	0.53	0.20	0.20	0.08	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.41	0.24	0.25	0.04	0.26	0.46	0.10	0.10	0.06	0.06	0.07
s, saturation flow rate [veh/h]	3459	3560	1798	1781	5094	1589	1781	1826	1781	1827	1674
c, Capacity [veh/h]	951	1845	932	99	1520	847	351	360	145	149	137
d1, Uniform Delay [s]	36.83	4.98	5.00	63.24	45.46	27.44	48.51	48.50	61.30	61.25	61.40
k, delay calibration	0.22	0.50	0.50	0.04	0.50	0.50	0.08	0.08	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	225.32	0.83	1.73	3.85	7.85	11.28	0.79	0.76	3.56	3.32	4.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.50	0.46	0.47	0.73	0.88	0.86	0.49	0.49	0.79	0.78	0.81
d, Delay for Lane Group [s/veh]	262.15	5.81	6.73	67.09	53.31	38.72	49.30	49.26	64.86	64.57	65.64
Lane Group LOS	F	A	A	E	D	D	D	D	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	43.51	2.18	2.50	2.52	15.06	21.70	5.30	5.42	4.04	4.09	3.92
50th-Percentile Queue Length [ft/ln]	1087.72	54.59	62.53	62.90	376.51	542.39	132.54	135.57	100.90	102.14	97.96
95th-Percentile Queue Length [veh/ln]	66.39	3.93	4.50	4.53	21.42	29.33	9.08	9.24	7.26	7.35	7.05
95th-Percentile Queue Length [ft/ln]	1659.82	98.26	112.56	113.23	535.62	733.37	226.94	231.05	181.61	183.85	176.34

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	262.1	262.1	6.07	6.73	67.09	67.09	53.31	38.72	49.29	49.26	0.00	64.77	64.98	65.64
Movement LOS	F	F	A	A	E	E	D	D	D	D		E	E	E
d_A, Approach Delay [s/veh]	140.22				48.81				18.72			65.01		
Approach LOS	F				D				B			E		
d_I, Intersection Delay [s/veh]	92.63													
Intersection LOS	F													
Intersection V/C	1.106													

Emissions

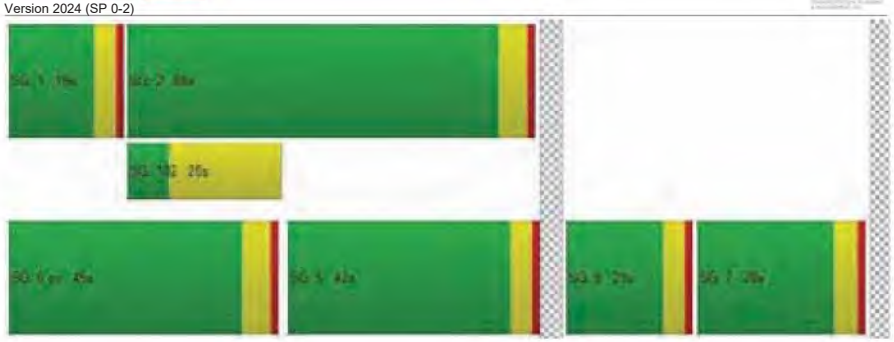
Vehicle Miles Traveled [mph]	243.54	145.71	75.74	13.55	252.93	137.57	7.95	8.14	3.64	3.69	3.51
Stops [stops/h]	2303.42	115.60	66.21	66.60	1195.97	574.30	140.33	143.55	106.83	108.15	103.73
Fuel consumption [US gal/h]	98.60	7.64	4.09	2.28	38.12	17.62	2.83	2.89	2.25	2.28	2.19
CO [g/h]	6891.80	534.22	285.88	159.05	2664.57	1231.36	197.67	202.20	157.32	159.11	153.15
NOx [g/h]	1340.89	103.94	55.62	30.95	518.43	239.58	38.46	39.34	30.61	30.96	29.80
VOC [g/h]	1597.24	123.81	66.26	36.86	617.54	285.38	45.81	46.86	36.46	36.88	35.49

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		57.44	
l_p,int, Pedestrian LOS Score for Intersectio	0.000		0.000		0.000		2.361	
Crosswalk LOS	F		F		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	915		576		337		241	
d_b, Bicycle Delay [s]	20.02		34.45		47.03		52.59	
l_b,int, Bicycle LOS Score for Intersection	3.076		2.875		2.134		1.867	
Bicycle LOS	C		C		B		A	

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 4: Latrobe Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	32.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.040

Intersection Setup

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	200.00	570.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No			No		
Crosswalk	No			No				No			Yes		

Volumes

Name	Latrobe Rd			El Dorado Hills Blvd			US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Base Volume Input [veh/h]	0	2219	463	0	520	1821	0	0	1266	0	0	528
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	11	2	0	0	-15	0	0	0	-13	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	140	0	0	0	0	0	0	376	0	0	158
Total Hourly Volume [veh/h]	0	2230	325	0	520	1806	0	0	0	877	0	0	370
Peak Hour Factor	1.0000	0.8400	0.8400	1.000	0.840	0.840	1.000	1.0000	1.0000	0.8400	1.0000	1.0000	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	664	97	0	155	538	0	0	0	261	0	0	110
Total Analysis Volume [veh/h]	0	2655	387	0	619	2150	0	0	0	1044	0	0	440
Presence of On-Street Parking	No		No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	74.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	50	0	0	39	50	0	0	0	45	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No				No			
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
l2, Clearance Lost Time [s]	0.0	4.2	0.0	0.0	2.6	4.2	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	2.5	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Minimum Recall		No			No	No				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	R	
C, Cycle Length [s]	68	68	68	68	68	
L, Total Lost Time per Cycle [s]	6.20	6.20	4.60	6.20	4.60	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	4.20	4.20	2.60	4.20	2.60	
g_i, Effective Green Time [s]	32	32	25	35	22	
g / C, Green / Cycle	0.47	0.47	0.37	0.51	0.33	
(v / s)_i Volume / Saturation Flow Rate	0.45	0.44	0.35	0.32	0.37	
s, saturation flow rate [veh/h]	5094	1716	1781	6792	2813	
c, Capacity [veh/h]	2395	807	661	3476	927	
d1, Uniform Delay [s]	17.29	17.15	20.61	11.86	22.80	
k, delay calibration	0.50	0.50	0.14	0.50	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	10.24	20.49	8.51	0.84	58.28	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.95	0.94	0.94	0.62	1.13	
d, Delay for Lane Group [s/veh]	27.53	37.64	29.13	12.69	81.08	
Lane Group LOS	C	D	C	B	F	
Critical Lane Group	Yes	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	11.12	13.37	9.47	4.65	14.26	
50th-Percentile Queue Length [ft/ln]	278.01	334.16	236.75	116.27	356.53	
95th-Percentile Queue Length [veh/ln]	16.59	19.36	14.52	8.19	21.95	
95th-Percentile Queue Length [ft/ln]	414.73	484.05	362.92	204.69	548.68	

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	28.95	37.64	29.13	29.13	12.69	0.00	0.00	0.00	81.08	0.00	0.00	0.00
Movement LOS		C	D	C	C	B				F			
d_A, Approach Delay [s/veh]		30.06			16.37				81.08			0.00	
Approach LOS		C			B				F			A	
d_I, Intersection Delay [s/veh]	32.30												
Intersection LOS	C												
Intersection V/C	1.040												

Emissions

Vehicle Miles Traveled [mph]	330.13	110.04	106.02	368.23	74.71	
Stops [stops/h]	1766.17	707.62	501.35	984.89	1510.00	
Fuel consumption [US gal/h]	46.06	18.39	13.54	30.42	28.64	
CO [g/h]	3219.50	1285.79	946.20	2126.52	2002.06	
NOx [g/h]	626.40	250.17	184.10	413.74	389.53	
VOC [g/h]	746.15	297.99	219.29	492.84	464.00	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00	0.00
d_p, Pedestrian Delay [s]	0.00		0.00		0.00	23.89
I_p,int, Pedestrian LOS Score for Intersectio	0.000		0.000		0.000	2.258
Crosswalk LOS	F		F		F	B
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	906		1024		659	0
d_b, Bicycle Delay [s]	10.18		8.10		15.29	34.00
I_b,int, Bicycle LOS Score for Intersection	2.872		2.446		1.560	1.560
Bicycle LOS	C		B		A	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	39.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.969

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	68	1965	251	4	537	2174	372	156	9	24	1	72	32	557
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	13	1	0	0	-28	0	0	0	0	0	-2	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	76	0	0	0	112	0	0	7	0	0	0	167
Total Hourly Volume [veh/h]	1	69	1978	176	4	537	2146	260	156	9	17	1	70	32	390
Peak Hour Factor	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.9800	0.9800	0.9800	0.980	0.980	0.980	0.980
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	18	505	45	1	137	547	66	40	2	4	0	18	8	99
Total Analysis Volume [veh/h]	1	70	2018	180	4	548	2190	265	159	9	17	1	71	33	398
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	123
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	5	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	50	0	15	15	50	0	15	20	0	0	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	3.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.5	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	1.5	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	245.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	19	19	56	0	19	24	0	0	19	19	0
Lead / Lag	-	Lead	-	-	Lead	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	4	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	No			No	No			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	102	102	102	102	102	102	102	102	102	102	102	102
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	4	49	49	15	60	60	7	7	7	15	15	15
g / C, Green / Cycle	0.04	0.48	0.48	0.15	0.59	0.59	0.07	0.07	0.07	0.15	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.02	0.44	0.13	0.18	0.48	0.19	0.05	0.01	0.01	0.04	0.15	0.15
s, saturation flow rate [veh/h]	3113	4584	1431	3113	4584	1431	3113	1683	1431	1603	1464	1431
c, Capacity [veh/h]	120	2191	684	455	2686	838	228	124	105	235	214	209
d1, Uniform Delay [s]	48.50	24.96	15.98	43.76	16.84	10.79	46.38	44.25	44.54	39.12	43.76	43.76
k, delay calibration	0.04	0.04	0.04	0.09	0.04	0.04	0.08	0.08	0.08	0.08	0.44	0.44
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.75	0.75	0.08	99.22	0.24	0.08	2.83	0.18	0.53	0.54	62.16	62.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.92	0.26	1.21	0.82	0.32	0.70	0.07	0.16	0.31	1.02	1.02
d, Delay for Lane Group [s/veh]	50.25	25.71	16.06	142.98	17.07	10.87	49.22	44.43	45.07	39.66	105.92	106.60
Lane Group LOS	D	C	B	F	B	B	D	D	D	D	F	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.92	14.53	2.48	11.98	12.46	2.90	2.06	0.22	0.42	1.65	9.06	8.90
50th-Percentile Queue Length [ft/ln]	22.96	363.26	61.95	299.50	311.52	72.61	51.43	5.47	10.49	41.19	226.58	222.41
95th-Percentile Queue Length [veh/ln]	1.65	20.78	4.46	19.14	18.25	5.23	3.70	0.39	0.75	2.97	14.11	13.90
95th-Percentile Queue Length [ft/ln]	41.32	519.55	111.52	478.53	456.25	130.71	92.57	9.84	18.87	74.15	352.85	347.50

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.25	50.25	25.71	16.06	142.9	142.9	17.07	10.87	49.22	44.43	45.07	39.66	39.66	105.9	106.2
Movement LOS	D	D	C	B	F	F	B	B	D	D	D	D	D	F	F
d_A, Approach Delay [s/veh]	25.71				39.64				48.60			96.73			
Approach LOS	C				D				D			F			
d_I, Intersection Delay [s/veh]	39.43														
Intersection LOS	D														
Intersection V/C	0.969														

Emissions

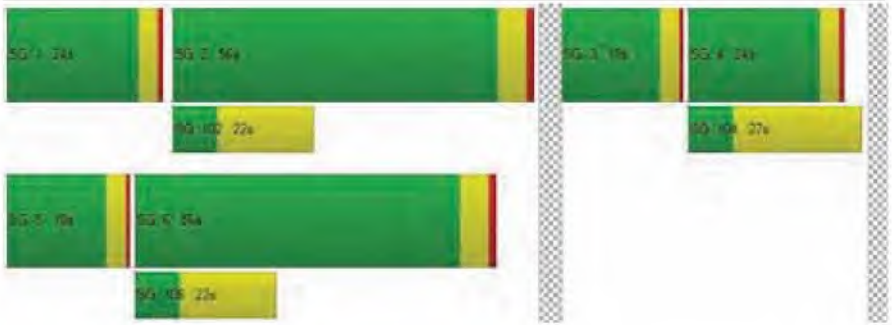
Vehicle Miles Traveled [mph]	15.85	450.37	40.17	79.87	316.89	38.34	20.28	1.15	2.17	25.27	76.50	74.77
Stops [stops/h]	64.58	1532.90	87.15	842.57	1314.56	102.14	144.68	7.69	14.75	57.94	318.70	312.85
Fuel consumption [US gal/h]	1.74	37.57	2.72	24.00	27.92	2.73	3.23	0.17	0.33	1.94	9.61	9.43
CO [g/h]	121.28	2625.97	190.37	1677.70	1951.47	190.77	225.54	11.96	22.83	135.71	671.59	658.94
NOx [g/h]	23.60	510.92	37.04	326.42	379.68	37.12	43.88	2.33	4.44	26.40	130.67	128.21
VOC [g/h]	28.11	608.59	44.12	388.82	452.27	44.21	52.27	2.77	5.29	31.45	155.65	152.71

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	40.78	0.00	40.78	40.78
I_p,int, Pedestrian LOS Score for Intersectio	3.465	0.000	2.578	2.833
Crosswalk LOS	C	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	987	987	400	303
d_b, Bicycle Delay [s]	13.14	13.14	32.74	36.86
I_b,int, Bicycle LOS Score for Intersection	2.849	2.974	1.718	2.548
Bicycle LOS	C	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	44.3
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.773

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	3	2	0	0	1	2	0	0	0	3	0	0
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	260.0	100.0	100.0	260.0	360.0	100.0	100.0	100.0	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	2	121	1681	388	1	95	1737	444	2	355	391	78	425	318	248
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	16	4	0	0	-30	0	0	0	0	0	-7	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	118	0	0	0	133	0	0	0	23	0	0	74
Total Hourly Volume [veh/h]	2	121	1697	274	1	95	1707	311	2	355	391	55	418	318	174
Peak Hour Factor	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	0.9400	0.9400	0.9400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	32	451	73	0	25	454	83	1	94	104	15	111	85	46
Total Analysis Volume [veh/h]	2	129	1805	291	1	101	1816	331	2	378	416	59	445	338	185
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	157
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups															
Maximum Green [s]	0	15	45	0	0	25	45	0	0	30	25	0	20	35	0
Amber [s]	0.0	4.0	4.7	0.0	0.0	4.0	4.7	0.0	0.0	4.5	4.7	0.0	4.5	4.7	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	39	0	0	0	37	0	0	0	48	0	0	50	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	3.0	3.7	0.0	0.0	3.0	3.7	0.0	0.0	4.0	3.7	0.0	4.0	3.7	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	19	51	0	0	29	51	0	0	36	31	0	26	41	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	7	0	0	10	7	0	0	10	10	0	10	10	0
Vehicle Extension [s]	0.0	1.5	3.0	0.0	0.0	1.5	3.0	0.0	0.0	1.5	2.0	0.0	1.5	2.0	0.0
Minimum Recall		No	Yes			No	Yes			No	No		No	No	
Maximum Recall		No	No			No	No			No	No		No	No	
Pedestrian Recall		No	No			No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	157	157	157	157	157	157	157	157	157	157	157	157
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	6.00	5.70	5.70	6.00	5.70	5.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	4.00	3.70	3.70	4.00	3.70	3.70
g_i, Effective Green Time [s]	13	82	82	10	79	79	20	23	23	20	23	23
g / C, Green / Cycle	0.09	0.52	0.52	0.06	0.50	0.50	0.12	0.14	0.14	0.13	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.07	0.27	0.18	0.03	0.36	0.21	0.11	0.13	0.13	0.13	0.10	0.12
s, saturation flow rate [veh/h]	1767	6737	1577	3431	5053	1577	3431	1855	1775	3431	3532	1577
c, Capacity [veh/h]	151	3520	824	218	2529	789	427	267	255	437	518	231
d1, Uniform Delay [s]	70.87	24.45	21.95	70.93	30.58	24.80	67.65	66.21	66.22	68.50	63.22	64.77
k, delay calibration	0.17	0.50	0.50	0.04	0.50	0.50	0.04	0.23	0.23	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	20.03	0.54	1.19	0.58	1.79	1.64	2.57	20.82	21.61	17.05	0.52	2.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.51	0.35	0.47	0.72	0.42	0.89	0.91	0.91	1.02	0.65	0.80
d, Delay for Lane Group [s/veh]	90.91	24.99	23.14	71.51	32.37	26.43	70.22	87.03	87.83	85.55	63.74	67.21
Lane Group LOS	F	C	C	E	C	C	E	F	F	F	E	E
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.08	11.17	6.66	1.98	17.63	7.99	7.69	11.16	10.75	9.84	6.46	7.35
50th-Percentile Queue Length [ft/ln]	151.91	279.32	166.62	49.43	440.65	199.70	192.37	279.09	268.70	246.06	161.38	183.85
95th-Percentile Queue Length [veh/ln]	10.12	16.65	10.90	3.56	24.51	12.62	12.24	16.64	16.12	15.11	10.62	11.80
95th-Percentile Queue Length [ft/ln]	252.98	416.37	272.46	88.98	612.79	315.58	306.10	416.08	403.12	377.70	265.55	295.03

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	90.91	90.91	24.99	23.14	71.51	71.51	32.37	26.43	70.22	70.22	87.36	87.83	85.55	63.74	67.21
Movement LOS	F	F	C	C	E	E	C	C	E	E	F	F	F	E	E
d_A, Approach Delay [s/veh]	28.62				33.27				79.78				74.43		
Approach LOS	C				C				E				E		
d_I, Intersection Delay [s/veh]	44.26														
Intersection LOS	D														
Intersection V/C	0.773														

Emissions

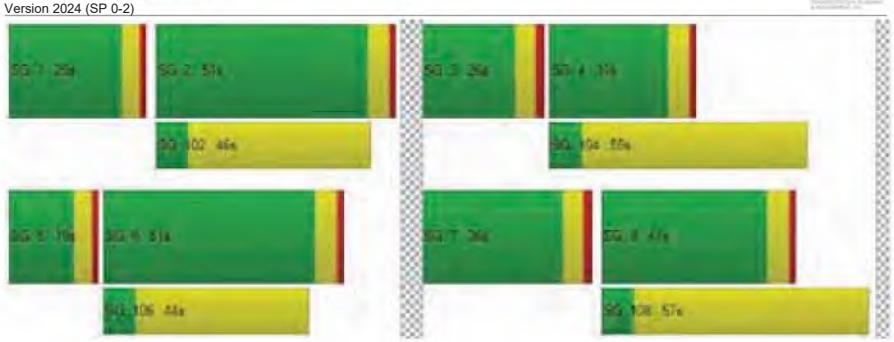
Vehicle Miles Traveled [mph]	52.16	718.63	115.86	22.76	405.29	73.87	94.70	60.47	57.91	46.65	35.44	19.40
Stops [stops/h]	139.33	1024.78	152.82	90.68	1212.50	183.17	352.88	255.98	246.45	451.37	296.03	168.62
Fuel consumption [US gal/h]	5.34	44.42	6.98	3.39	40.93	6.59	11.28	8.20	7.90	12.16	7.48	4.26
CO [g/h]	373.26	3105.11	488.17	237.09	2861.01	460.65	788.30	573.16	552.08	849.98	522.72	297.77
NOx [g/h]	72.62	604.14	94.98	46.13	556.65	89.62	153.37	111.52	107.41	165.37	101.70	57.94
VOC [g/h]	86.51	719.64	113.14	54.95	663.07	106.76	182.70	132.84	127.95	196.99	121.15	69.01

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	67.89	67.89	67.89	67.89
I_p,int, Pedestrian LOS Score for Intersectio	3.551	3.888	2.806	3.000
Crosswalk LOS	D	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	577	577	322	450
d_b, Bicycle Delay [s]	39.74	39.74	55.24	47.17
I_b,int, Bicycle LOS Score for Intersection	2.526	2.814	1.972	2.419
Bicycle LOS	B	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	84.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.094

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	57	1777	2	2	18	1704	532	257	5	15	4	9	15
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	20	0	0	0	-38	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	50	0	0	5	0	0	5
Total Hourly Volume [veh/h]	1	57	1797	2	2	18	1666	482	257	5	10	4	9	10
Peak Hour Factor	1.000	0.870	0.870	0.870	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	16	516	1	1	5	479	139	74	1	3	1	3	3
Total Analysis Volume [veh/h]	1	66	2066	2	2	21	1915	554	295	6	11	5	10	11
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	112
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	12	40	0	0	15	40	0	0	20	0	0	20	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	12	0	0	0	20	0	0	20	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	0	0	18	46	0	0	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	73	73	73	73	73	73	73	73	73
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	43	43	1	40	40	9	9	2
g / C, Green / Cycle	0.05	0.59	0.59	0.02	0.55	0.55	0.12	0.12	0.03
(v / s)_i Volume / Saturation Flow Rate	0.04	0.55	0.55	0.01	0.66	0.71	0.09	0.09	0.02
s, saturation flow rate [veh/h]	1781	1870	1869	1781	1870	1733	1781	1769	1725
c, Capacity [veh/h]	92	1093	1093	29	1026	951	219	217	51
d1, Uniform Delay [s]	34.04	14.08	14.08	35.73	16.44	16.44	30.75	30.75	34.86
k, delay calibration	0.04	0.44	0.44	0.04	0.50	0.50	0.11	0.11	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.98	15.55	15.61	16.03	100.65	141.88	4.33	4.37	2.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.72	0.95	0.95	0.79	1.20	1.30	0.72	0.72	0.51
d, Delay for Lane Group [s/veh]	38.02	29.63	29.69	51.76	117.09	158.32	35.08	35.12	37.79
Lane Group LOS	D	C	C	D	F	F	D	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.24	17.41	17.43	0.50	40.23	48.17	2.81	2.80	0.48
50th-Percentile Queue Length [ft/ln]	30.89	435.24	435.75	12.48	1005.85	1204.31	70.26	69.91	12.08
95th-Percentile Queue Length [veh/ln]	2.22	24.25	24.28	0.90	58.08	71.55	5.06	5.03	0.87
95th-Percentile Queue Length [ft/ln]	55.59	606.32	606.92	22.46	1451.88	1788.78	126.47	125.84	21.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.02	38.02	29.66	29.69	51.76	51.76	131.7	158.3	35.10	35.12	35.12	37.79	37.79	37.79
Movement LOS	D	D	C	C	D	D	F	F	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	29.92				136.91				35.10			37.79		
Approach LOS	C				F				D			D		
d_I, Intersection Delay [s/veh]	83.99													
Intersection LOS	F													
Intersection V/C	1.094													

Emissions

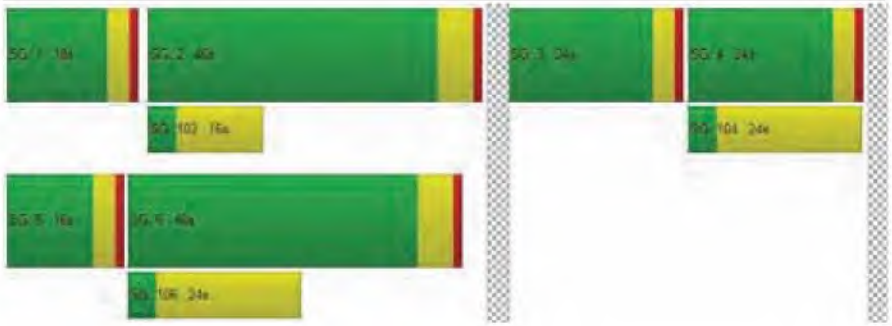
Vehicle Miles Traveled [mph]	23.71	365.89	365.89	9.16	491.49	491.49	37.68	37.46	0.49
Stops [stops/h]	61.15	861.72	862.72	24.71	1991.43	2384.36	139.11	138.42	23.92
Fuel consumption [US gal/h]	1.83	26.06	26.08	1.01	82.84	100.50	3.44	3.42	0.35
CO [g/h]	128.07	1821.43	1822.69	70.42	5790.78	7024.68	240.21	238.95	24.64
NOx [g/h]	24.92	354.38	354.63	13.70	1126.67	1366.75	46.74	46.49	4.79
VOC [g/h]	29.68	422.13	422.43	16.32	1342.07	1628.04	55.67	55.38	5.71

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	28.81	0.00	28.81	28.81
l_p,int, Pedestrian LOS Score for Intersectio	3.086	0.000	2.263	1.743
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1100	1100	550	550
d_b, Bicycle Delay [s]	7.37	7.37	19.12	19.12
l_b,int, Bicycle LOS Score for Intersection	3.320	3.639	2.083	1.611
Bicycle LOS	C	D	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Latrobe Rd/Suncast Ln

Control Type:	Signalized	Delay (sec / veh):	13.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.822

Intersection Setup

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Approach	Northbound			Southbound		Eastbound	
Lane Configuration							
Turning Movement	U-turn	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			No		Yes	

Volumes

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Base Volume Input [veh/h]	1	92	1693	1327	397	153	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	20	-38	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	119	0	17
Total Hourly Volume [veh/h]	1	92	1713	1289	278	153	40
Peak Hour Factor	1.0000	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	26	492	370	80	44	11
Total Analysis Volume [veh/h]	1	106	1969	1482	320	176	46
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permissive	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	5	2	6	0	3	0
Auxiliary Signal Groups							
Maximum Green [s]	0	12	40	40	0	20	0
Amber [s]	0.0	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No	No		No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	46	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-
Minimum Green [s]	0	5	5	5	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall		No	No	No		No	
Maximum Recall		No	No	No		No	
Pedestrian Recall		No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	L	R
C, Cycle Length [s]	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	5	47	38	38	9	9
g / C, Green / Cycle	0.08	0.72	0.58	0.58	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.06	0.55	0.48	0.51	0.10	0.03
s, saturation flow rate [veh/h]	1781	3560	1870	1760	1781	1589
c, Capacity [veh/h]	139	2548	1077	1014	234	209
d1, Uniform Delay [s]	29.53	5.91	11.32	12.03	27.35	25.38
k, delay calibration	0.04	0.15	0.30	0.33	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.34	0.73	4.85	8.15	4.84	0.53
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.77	0.84	0.89	0.75	0.22
d, Delay for Lane Group [s/veh]	32.87	6.65	16.18	20.17	32.18	25.91
Lane Group LOS	C	A	B	C	C	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.70	5.26	9.78	11.14	2.82	0.64
50th-Percentile Queue Length [ft/ln]	42.55	131.42	244.57	278.51	70.61	15.98
95th-Percentile Queue Length [veh/ln]	3.06	9.02	14.91	16.61	5.08	1.15
95th-Percentile Queue Length [ft/ln]	76.58	225.42	372.81	415.35	127.09	28.77

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.87	32.87	6.65	17.74	20.17	32.18	25.91
Movement LOS	C	C	A	B	C	C	C
d_A, Approach Delay [s/veh]	8.00			18.17		30.88	
Approach LOS	A			B		C	
d_I, Intersection Delay [s/veh]	13.71						
Intersection LOS	B						
Intersection V/C	0.822						

Emissions

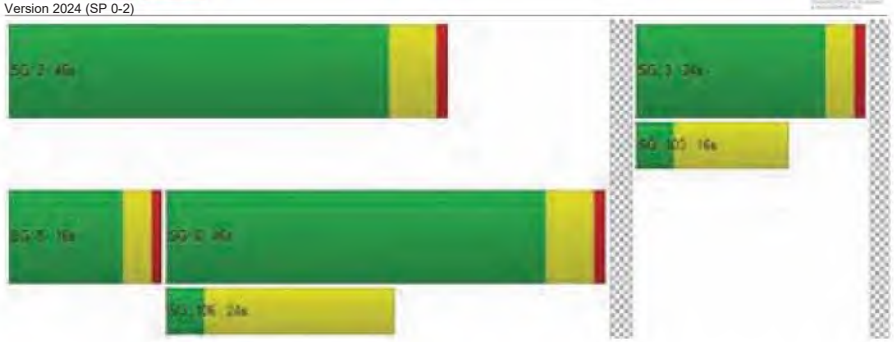
Vehicle Miles Traveled [mph]	74.65	1373.79	318.83	318.83	59.38	15.52
Stops [stops/h]	93.97	580.49	540.15	615.10	155.94	35.30
Fuel consumption [US gal/h]	4.31	62.43	19.08	20.22	4.46	1.08
CO [g/h]	301.14	4363.53	1333.39	1413.53	311.67	75.24
NOx [g/h]	58.59	848.98	259.43	275.02	60.64	14.64
VOC [g/h]	69.79	1011.29	309.03	327.60	72.23	17.44

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0			0.0		8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00			0.00		0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00			0.00		0.00
d_p, Pedestrian Delay [s]	25.09			0.00		25.09
I_p,int, Pedestrian LOS Score for Intersectio	2.992			0.000		2.206
Crosswalk LOS	C			F		B
s_b, Saturation Flow Rate of the bicycle lane	2000			2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	1227			1227		613
d_b, Bicycle Delay [s]	4.87			4.87		15.67
I_b,int, Bicycle LOS Score for Intersection	3.271			3.144		1.560
Bicycle LOS	C			C		A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	90.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.040

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	53	773	21	249	386	750	514	69	78	136	241	520
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	8	2	0	-15	-23	12	2	-5	-3	-4	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	7	0	0	218	0	0	22	0	0	156
Total Hourly Volume [veh/h]	56	781	16	249	371	509	526	71	51	133	237	364
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	219	4	70	104	143	148	20	14	37	67	102
Total Analysis Volume [veh/h]	63	878	18	280	417	572	591	80	57	149	266	409
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Cycle Length [s]	89	89	89	89	89	89	89	89	89	89
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	4	23	23	12	31	31	15	15	20	20
g / C, Green / Cycle	0.05	0.26	0.26	0.14	0.35	0.35	0.17	0.17	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.04	0.24	0.24	0.16	0.22	0.36	0.21	0.21	0.23	0.25
s, saturation flow rate [veh/h]	1781	1870	1857	1781	1870	1589	1781	1766	1829	1589
c, Capacity [veh/h]	83	484	481	241	650	552	301	298	412	358
d1, Uniform Delay [s]	41.83	32.10	32.10	38.40	24.33	28.97	36.90	36.90	34.40	34.40
k, delay calibration	0.04	0.27	0.27	0.50	0.22	0.50	0.50	0.50	0.41	0.47
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.16	17.20	17.29	109.22	2.19	47.85	122.84	123.96	50.48	78.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.93	0.93	1.16	0.64	1.04	1.21	1.22	1.04	1.11
d, Delay for Lane Group [s/veh]	46.99	49.29	49.38	147.62	26.53	76.82	159.74	160.86	84.88	112.52
Lane Group LOS	D	D	D	F	C	F	F	F	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.47	11.42	11.36	12.12	6.87	17.55	16.64	16.59	14.40	15.26
50th-Percentile Queue Length [ft/ln]	36.68	285.62	283.91	302.94	171.69	438.64	415.99	414.84	359.94	381.59
95th-Percentile Queue Length [veh/ln]	2.64	16.97	16.88	19.01	11.17	24.99	25.51	25.46	21.06	22.89
95th-Percentile Queue Length [ft/ln]	66.03	424.20	422.07	475.14	279.14	624.83	637.63	636.58	526.49	572.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.99	49.33	49.38	147.62	26.53	76.82	160.17	160.86	160.86	84.88	84.88	112.52
Movement LOS	D	D	D	F	C	F	F	F	F	F	F	F
d_A, Approach Delay [s/veh]	49.18			75.91			160.29			98.17		
Approach LOS	D			E			F			F		
d_I, Intersection Delay [s/veh]	90.23											
Intersection LOS	F											
Intersection V/C	1.040											

Emissions

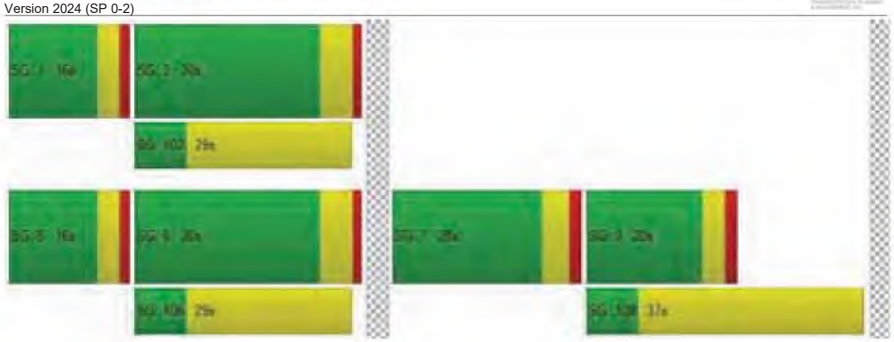
Vehicle Miles Traveled [mph]	36.38	259.65	257.81	195.36	290.94	399.09	27.47	27.30	47.30	43.84
Stops [stops/h]	59.50	463.26	460.48	491.35	278.47	711.45	674.71	672.84	583.80	618.91
Fuel consumption [US gal/h]	2.43	17.76	17.64	24.07	17.16	35.51	16.73	16.72	12.56	14.30
CO [g/h]	169.78	1241.25	1233.25	1682.59	1199.21	2481.90	1169.20	1168.46	877.78	999.46
NOx [g/h]	33.03	241.50	239.95	327.37	233.32	482.89	227.48	227.34	170.78	194.46
VOC [g/h]	39.35	287.67	285.82	389.96	277.93	575.20	270.97	270.80	203.43	231.63

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.07	0.00	34.07	34.07
l_p,int, Pedestrian LOS Score for Intersectio	2.623	0.000	2.578	2.605
Crosswalk LOS	B	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	349	451
d_b, Bicycle Delay [s]	23.13	23.13	30.24	26.64
l_b,int, Bicycle LOS Score for Intersection	2.357	2.786	2.797	3.177
Bicycle LOS	B	C	C	C

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	12.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.753

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	122	575	254	291	262	88
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-3	0	0	-23	13	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	119	575	254	268	275	90
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	160	71	74	76	25
Total Analysis Volume [veh/h]	132	639	282	298	306	100
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	12	40	40	0	20	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	46	46	0	24	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	38	38	38	38	38	38
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	4	19	11	11	9	9
g / C, Green / Cycle	0.10	0.50	0.29	0.29	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.07	0.34	0.15	0.19	0.17	0.06
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1589
c, Capacity [veh/h]	178	935	550	467	420	375
d1, Uniform Delay [s]	16.55	7.19	11.11	11.61	13.34	11.79
k, delay calibration	0.04	0.15	0.15	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.26	1.27	1.06	2.06	2.43	0.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.68	0.51	0.64	0.73	0.27
d, Delay for Lane Group [s/veh]	18.81	8.46	12.17	13.68	15.77	12.16
Lane Group LOS	B	A	B	B	B	B
Critical Lane Group	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.88	1.52	1.29	1.51	2.18	0.59
50th-Percentile Queue Length [ft/ln]	22.09	37.97	32.13	37.72	54.46	14.66
95th-Percentile Queue Length [veh/ln]	1.59	2.73	2.31	2.72	3.92	1.06
95th-Percentile Queue Length [ft/ln]	39.76	68.34	57.83	67.89	98.03	26.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.81	8.46	12.17	13.68	15.77	12.16
Movement LOS	B	A	B	B	B	B
d_A, Approach Delay [s/veh]	10.24		12.94		14.88	
Approach LOS	B		B		B	
d_I, Intersection Delay [s/veh]	12.20					
Intersection LOS	B					
Intersection V/C	0.753					

Emissions

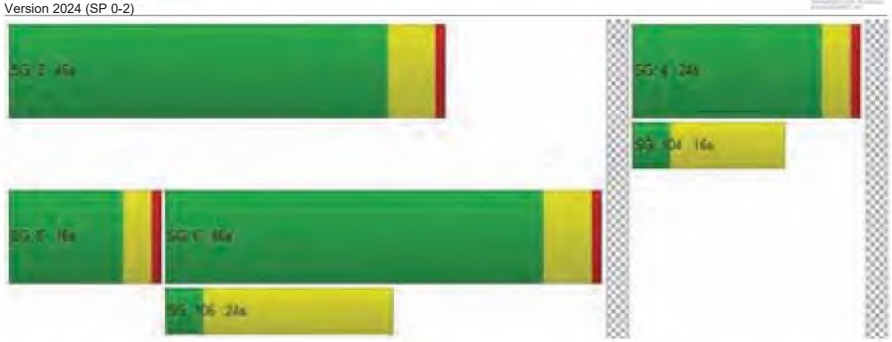
Vehicle Miles Traveled [mph]	16.29	78.84	162.86	172.10	71.87	23.49
Stops [stops/h]	84.30	144.90	122.61	143.96	207.85	55.96
Fuel consumption [US gal/h]	2.62	6.43	8.42	9.26	5.09	1.52
CO [g/h]	182.85	449.43	588.83	647.31	355.71	106.50
NOx [g/h]	35.58	87.44	114.56	125.94	69.21	20.72
VOC [g/h]	42.38	104.16	136.47	150.02	82.44	24.68

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	11.71	0.00	11.71
I_p,int, Pedestrian LOS Score for Intersectio	2.583	0.000	2.168
Crosswalk LOS	B	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	2120	2120	1060
d_b, Bicycle Delay [s]	0.07	0.07	4.17
I_b,int, Bicycle LOS Score for Intersection	2.832	2.517	1.560
Bicycle LOS	C	B	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	14.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.090

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	658	0	14	328	0	0	0	0	0	0	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-3	0	0	2	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	655	0	14	330	0	0	0	0	0	0	39
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	178	0	4	90	0	0	0	0	0	0	10
Total Analysis Volume [veh/h]	0	712	0	14	359	0	0	0	0	0	0	39
Pedestrian Volume [ped/h]		0			0			0			0	

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			Yes	Yes
Storage Area [veh]	0	0	1	1
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
d_M, Delay for Movement [s/veh]	8.00	0.00	0.00	9.07	0.00	0.00	26.92	22.28	10.25	25.16	23.11	14.15
Movement LOS	A	A	A	A	A	A	D	C	B	D	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.02	0.02	0.02	0.00	0.00	0.00	0.30	0.30	0.30
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.59	0.59	0.59	0.00	0.00	0.00	7.39	7.39	7.39
d_A, Approach Delay [s/veh]	0.00			0.34			19.82			14.15		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	0.60											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Two-way stop	Delay (sec / veh):	25.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.049

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	408	41	74	254	0	0	0	0	11	0	250
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-3	0	0	2	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	405	41	74	256	0	0	0	0	11	0	250
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	109	11	20	69	0	0	0	0	3	0	67
Total Analysis Volume [veh/h]	0	435	44	80	275	0	0	0	0	12	0	269
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.45
d_M, Delay for Movement [s/veh]	7.79	0.00	0.00	8.59	0.00	0.00	37.94	19.24	9.71	25.85	24.87	17.02
Movement LOS	A	A	A	A	A	A	E	C	A	D	C	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00	2.73	2.73	2.73
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	5.97	0.00	0.00	0.00	0.00	0.00	68.30	68.30	68.30
d_A, Approach Delay [s/veh]	0.00			1.94			22.30			17.39		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	5.00											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Two-way stop	Delay (sec / veh):	1,336.5
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.315

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	13	460	201	51	0	862	182
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	14	-5	-8	0	-26	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	18	474	196	43	0	836	185
Peak Hour Factor	1.0000	0.9060	0.9060	0.9060	0.9060	1.0000	0.9060	0.9060
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	5	131	54	12	0	231	51
Total Analysis Volume [veh/h]	0	20	523	216	47	0	923	204
Pedestrian Volume [ped/h]	0			0		0		

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	2.31	0.65	0.00	0.00	0.00	0.71	0.00
d_M, Delay for Movement [s/veh]	1336.45	1336.45	924.30	0.00	0.00	20.85	10.25	0.00
Movement LOS	F	F	F	A	A	C	B	A
95th-Percentile Queue Length [veh/ln]	49.16	49.16	49.16	0.00	0.00	3.44	3.44	3.44
95th-Percentile Queue Length [ft/ln]	1228.90	1228.90	1228.90	0.00	0.00	86.02	86.02	86.02
d_A, Approach Delay [s/veh]	939.48			0.00		8.40		
Approach LOS	F			A		A		
d_I, Intersection Delay [s/veh]	268.80							
Intersection LOS	F							

Intersection Level Of Service Report
Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Control Type:	All-way stop	Delay (sec / veh):	203.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.712

Intersection Setup

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Base Volume Input [veh/h]	9	149	80	2	30	779	37	11	17	0	240	45	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	-36	20	15	0	0	-26	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	149	80	2	30	779	1	31	32	0	240	19	62
Peak Hour Factor	0.8300	0.8300	0.8300	1.000	0.830	0.830	0.830	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	45	24	1	9	235	0	9	10	0	72	6	19
Total Analysis Volume [veh/h]	11	180	96	2	36	939	1	37	39	0	289	23	75
Pedestrian Volume [ped/h]	0			0				0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	543	978	453	530
Degree of Utilization, x	0.53	1.71	0.17	0.73

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.07	57.24	0.60	6.07
95th-Percentile Queue Length [ft]	76.74	1430.99	14.93	151.67
Approach Delay [s/veh]	16.82	344.09	12.54	26.03
Approach LOS	C	F	B	D
Intersection Delay [s/veh]	203.92			
Intersection LOS	F			

Intersection Level Of Service Report
Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	13.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.218

Intersection Setup

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00			30.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	No		No			No		

Volumes

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Base Volume Input [veh/h]	110	126	1	106	95	0	67	128
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-13	0	-1	0	0	7	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	113	1	105	95	0	74	129
Peak Hour Factor	0.9500	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	30	0	28	25	0	19	34
Total Analysis Volume [veh/h]	116	119	1	111	100	0	78	136
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Priority Scheme	Stop		Free			Free		
Flared Lane								
Storage Area [veh]	0		0			0		
Two-Stage Gap Acceptance	No							
Number of Storage Spaces in Median	0		0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.22	0.13	0.00	0.00	0.00	0.00	0.06	0.00
d_M, Delay for Movement [s/veh]	13.65	9.70	8.82	0.00	0.00	10.10	7.81	0.00
Movement LOS	B	A	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.82	0.46	0.00	0.00	0.00	0.18	0.18	0.00
95th-Percentile Queue Length [ft/ln]	20.61	11.61	0.05	0.05	0.05	4.56	4.56	0.00
d_A, Approach Delay [s/veh]	11.65		0.04			2.85		
Approach LOS	B		A			A		
d_I, Intersection Delay [s/veh]	5.08							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 16: Carson Crossing Rd/Calypso Cir.

Control Type:	Two-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.192

Intersection Setup

Name			Carson Crossing Rd		Carson Crossing Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	190.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			Carson Crossing Rd		Carson Crossing Rd	
Base Volume Input [veh/h]	83	80	145	57	121	95
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-13	0	0	7
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	83	80	132	57	121	102
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	22	36	15	33	28
Total Analysis Volume [veh/h]	90	87	143	62	132	111
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.19	0.10	0.00	0.00	0.10	0.00
d_M, Delay for Movement [s/veh]	15.06	11.34	0.00	0.00	7.92	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.19	1.19	0.00	0.00	0.32	0.00
95th-Percentile Queue Length [ft/ln]	29.78	29.78	0.00	0.00	8.00	0.00
d_A, Approach Delay [s/veh]	13.23		0.00		4.30	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	5.42					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 17: Carson Crossing Rd/Four Seasons Dr

Control Type:	All-way stop	Delay (sec / veh):	8.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.108

Intersection Setup

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	500.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	500.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Base Volume Input [veh/h]	67	10	11	165	19	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	0	0	-13	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	74	10	11	152	19	18
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	3	3	41	5	5
Total Analysis Volume [veh/h]	80	11	12	165	21	20
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	723	748	690	764	764	732
Degree of Utilization, x	0.06	0.06	0.02	0.11	0.11	0.06

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.20	0.19	0.05	0.36	0.36	0.18
95th-Percentile Queue Length [ft]	5.03	4.85	1.33	9.05	9.05	4.44
Approach Delay [s/veh]	7.92		7.99			8.21
Approach LOS	A		A			A
Intersection Delay [s/veh]	8.00					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	34.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.381

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	65	0	18	66	1	8	4	296	125	50	536	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	0	0	0	0	0	0	0	-13	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	72	0	18	66	1	8	4	296	112	50	536	15
Peak Hour Factor	0.9700	1.0000	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	0	5	17	0	2	1	76	29	13	138	4
Total Analysis Volume [veh/h]	74	0	19	68	1	8	4	305	115	52	553	15
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.38	0.00	0.03	0.35	0.00	0.02	0.00	0.00	0.00	0.05	0.01	0.00
d_M, Delay for Movement [s/veh]	34.49	21.66	10.43	33.40	32.51	21.67	8.60	0.00	0.00	8.31	0.00	0.00
Movement LOS	D	C	B	D	D	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.66	0.09	0.09	1.61	1.61	1.61	0.01	0.00	0.00	0.14	0.00	0.00
95th-Percentile Queue Length [ft/ln]	41.54	2.15	2.15	40.18	40.18	40.18	0.30	0.00	0.00	3.58	0.00	0.00
d_A, Approach Delay [s/veh]	29.57			32.17			0.08			0.70		
Approach LOS	D			D			A			A		
d_I, Intersection Delay [s/veh]	4.69											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 19: White Rock Rd/Windfield Way

Control Type:	Signalized	Delay (sec / veh):	29.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.585

Intersection Setup

Name	Windfield Way				White Rock Rd				White Rock Rd			
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00			
Grade [%]	0.00			0.00			0.00			0.00			
Curb Present	No			No			No			No			
Crosswalk	Yes			Yes			Yes			No			

Volumes

Name	Windfield Way						White Rock Rd			White Rock Rd			
Base Volume Input [veh/h]	72	5	189	5	5	5	5	632	184	0	378	502	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	57	0	0	2	0	0	55	0	0	0	2
Total Hourly Volume [veh/h]	72	5	132	5	5	3	5	632	129	0	378	502	3
Peak Hour Factor	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000	1.0000	0.9700	0.9700	1.000	0.970	0.970	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	19	1	34	1	1	1	1	163	33	0	97	129	1
Total Analysis Volume [veh/h]	74	5	136	5	5	3	5	652	133	0	390	518	3
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	31.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi
Signal Group	3	8	0	7	4	0	5	2	0	0	1	6	0
Auxiliary Signal Groups													
Maximum Green [s]	25	25	0	10	10	0	9	19	0	0	44	54	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	2.0	1.0	0.0	0.0	2.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	26	0	0	13	0	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	245.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	15	15	0	15	25	0	0	50	60	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	3	3	0	5	3	0	5	7	0	0	3	7	0
Vehicle Extension [s]	1.0	1.0	0.0	3.0	1.0	0.0	3.0	3.6	0.0	0.0	1.0	3.6	0.0
Minimum Recall	No	No		No	No		No	Yes			No	Yes	
Maximum Recall	No	No		No	No		No	No			No	No	
Pedestrian Recall	No	No		No	No		No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	6	12	1	7	1	57	57	28	84	84
g / C, Green / Cycle	0.05	0.10	0.01	0.06	0.01	0.47	0.47	0.23	0.70	0.70
(v / s)_i Volume / Saturation Flow Rate	0.04	0.09	0.00	0.00	0.00	0.22	0.22	0.22	0.14	0.14
s, saturation flow rate [veh/h]	1781	1598	1781	1754	1781	1870	1762	1781	1870	1866
c, Capacity [veh/h]	96	165	12	99	12	885	834	415	1308	1305
d1, Uniform Delay [s]	56.04	52.90	59.33	53.65	59.34	21.23	21.24	45.20	6.30	6.30
k, delay calibration	0.04	0.04	0.11	0.04	0.11	0.50	0.50	0.08	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.83	4.72	19.50	0.13	19.95	1.69	1.81	8.64	0.34	0.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.85	0.40	0.08	0.40	0.46	0.46	0.94	0.20	0.20
d, Delay for Lane Group [s/veh]	60.87	57.61	78.83	53.78	79.29	22.92	23.05	53.84	6.65	6.65
Lane Group LOS	E	E	E	D	E	C	C	D	A	A
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.34	4.39	0.22	0.23	0.22	7.96	7.55	12.32	2.28	2.28
50th-Percentile Queue Length [ft/ln]	58.56	109.83	5.48	5.83	5.50	199.09	188.65	308.10	57.00	56.89
95th-Percentile Queue Length [veh/ln]	4.22	7.83	0.39	0.42	0.40	12.59	12.05	18.08	4.10	4.10
95th-Percentile Queue Length [ft/ln]	105.40	195.77	9.86	10.49	9.90	314.79	301.28	452.04	102.59	102.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	60.87	57.61	57.61	78.83	53.78	53.78	79.29	22.97	23.05	53.84	53.84	6.65	6.65
Movement LOS	E	E	E	E	D	D	E	C	C	D	D	A	A
d_A, Approach Delay [s/veh]	58.73			63.41			23.34			26.85			
Approach LOS	E			E			C			C			
d_I, Intersection Delay [s/veh]	29.21												
Intersection LOS	C												
Intersection V/C	0.585												

Emissions

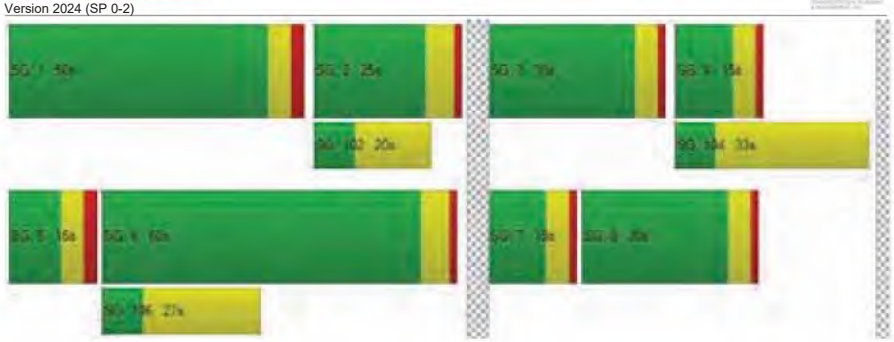
Vehicle Miles Traveled [mph]	28.51	54.33	0.17	0.28	4.21	339.83	320.77	97.19	64.98	64.85
Stops [stops/h]	70.27	131.80	6.57	6.99	6.60	238.91	226.38	369.72	68.40	68.27
Fuel consumption [US gal/h]	2.48	4.62	0.12	0.14	0.29	17.19	16.24	10.32	3.41	3.40
CO [g/h]	173.25	322.77	8.65	9.62	20.30	1201.81	1135.42	721.11	238.07	237.59
NOx [g/h]	33.71	62.80	1.68	1.87	3.95	233.83	220.91	140.30	46.32	46.23
VOC [g/h]	40.15	74.80	2.00	2.23	4.70	278.53	263.15	167.12	55.18	55.06

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00
d_p, Pedestrian Delay [s]	49.50			49.50			49.50			0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.313			1.967			2.673			0.000
Crosswalk LOS	B			A			B			F
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000
c_b, Capacity of the bicycle lane [bicycles/h]	417			167			317			900
d_b, Bicycle Delay [s]	37.60			50.42			42.50			18.15
I_b,int, Bicycle LOS Score for Intersection	2.008			1.584			2.257			1.991
Bicycle LOS	B			A			B			A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 20: White Rock Rd/Post St

Control Type:	Signalized	Delay (sec / veh):	40.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.625

Intersection Setup

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Approach	Northbound			Southbound			Eastbound				Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0	120.00	100.00	400.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00				30.00		
Grade [%]	0.00			0.00			0.00				0.00		
Curb Present	No			No			No				No		
Crosswalk	Yes			Yes			Yes				No		

Volumes

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	59	7	20	114	11	203	0	243	569	62	55	729	205
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	-2	0	1	3	0	0	-5	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	6	0	0	60	0	0	0	19	0	0	62
Total Hourly Volume [veh/h]	59	7	14	114	11	141	0	244	572	43	55	724	143
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	1.000	0.910	0.910	0.910	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	2	4	31	3	39	0	67	157	12	15	199	39
Total Analysis Volume [veh/h]	65	8	15	125	12	155	0	268	629	47	60	796	157
Presence of On-Street Parking	No		No	No		No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0				0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0				0		
v_co, Outbound Pedestrian Volume crossing	0			0			0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0				0		
Bicycle Volume [bicycles/h]	0			0			0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	71.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups													
Maximum Green [s]	21	62	0	8	48	0	0	14	31	0	16	34	0
Amber [s]	3.5	5.0	0.0	3.5	5.0	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.7	1.0	0.0	1.0	1.0	0.0	0.0	2.0	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	32	0	0	0	21	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.2	4.0	0.0	2.5	4.0	0.0	0.0	3.5	2.5	0.0	3.0	2.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	100.0	0.0	100.0	100.0	0.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	0	13	54	0	0	20	36	0	21	39	0
Lead / Lag	Lead	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	3	7	0	3	7	0	0	3	3	0	3	3	0
Vehicle Extension [s]	1.0	3.6	0.0	1.0	3.6	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No			No	Yes		No	Yes	
Maximum Recall	No	No		No	No			No	No		No	No	
Pedestrian Recall	No	No		No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	5.20	6.00	4.50	6.00	5.50	4.50	4.50	5.00	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.20	4.00	2.50	4.00	3.50	2.50	2.50	3.00	2.50	2.50
g_i, Effective Green Time [s]	7	16	9	17	23	90	90	6	73	73
g / C, Green / Cycle	0.05	0.11	0.06	0.12	0.16	0.64	0.64	0.04	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.04	0.01	0.07	0.10	0.15	0.18	0.03	0.03	0.26	0.26
s, saturation flow rate [veh/h]	1781	1677	1781	1607	1781	3560	1589	1781	1870	1764
c, Capacity [veh/h]	83	188	108	195	289	2283	1019	77	969	915
d1, Uniform Delay [s]	66.05	55.95	65.75	60.32	57.82	10.95	9.29	66.32	22.00	22.01
k, delay calibration	0.04	0.13	0.40	0.13	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.95	0.36	125.62	12.51	5.42	0.30	0.09	6.24	1.88	2.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.12	1.16	0.86	0.93	0.28	0.05	0.78	0.51	0.51
d, Delay for Lane Group [s/veh]	72.00	56.31	191.37	72.83	63.23	11.25	9.37	72.56	23.89	24.00
Lane Group LOS	E	E	F	E	E	B	A	E	C	C
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.44	0.76	7.65	6.51	9.80	4.32	0.56	2.26	11.05	10.45
50th-Percentile Queue Length [ft/ln]	61.10	18.92	191.15	162.71	244.91	108.06	14.00	56.62	276.19	261.33
95th-Percentile Queue Length [veh/ln]	4.40	1.36	12.73	10.69	14.93	7.73	1.01	4.08	16.50	15.76
95th-Percentile Queue Length [ft/ln]	109.98	34.06	318.26	267.31	373.23	193.31	25.21	101.91	412.46	393.89

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	72.00	56.31	56.31	191.37	72.83	72.83	63.23	63.23	11.25	9.37	72.56	23.93	24.00
Movement LOS	E	E	E	F	E	E	E	E	B	A	E	C	C
d_A, Approach Delay [s/veh]	67.90			123.57			25.91				26.82		
Approach LOS	E			F			C				C		
d_I, Intersection Delay [s/veh]	40.09												
Intersection LOS	D												
Intersection V/C	0.625												

Emissions

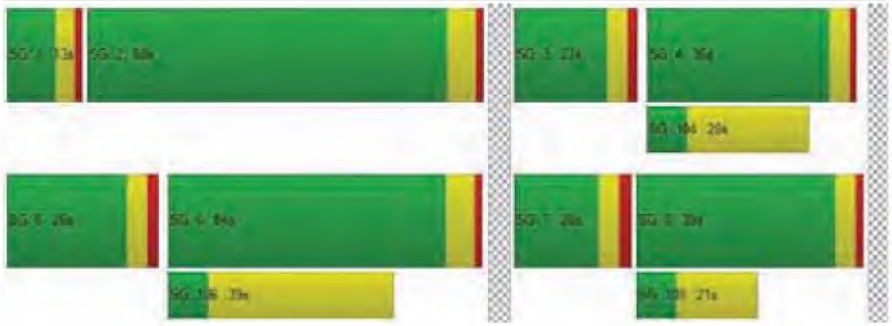
Vehicle Miles Traveled [mph]	3.25	1.15	5.81	7.76	28.10	65.94	4.93	21.01	171.69	162.01
Stops [stops/h]	62.85	19.46	196.61	167.36	251.90	222.30	14.40	58.24	284.08	268.79
Fuel consumption [US gal/h]	1.43	0.42	6.19	3.72	6.00	5.38	0.37	2.07	11.02	10.41
CO [g/h]	100.19	29.25	432.86	259.95	419.16	376.25	26.01	144.86	770.37	727.95
NOx [g/h]	19.49	5.69	84.22	50.58	81.55	73.20	5.06	28.18	149.89	141.63
VOC [g/h]	23.22	6.78	100.32	60.25	97.14	87.20	6.03	33.57	178.54	168.71

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	59.43	59.43	59.43	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.045	2.322	2.832	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	886	686	450	493
d_b, Bicycle Delay [s]	21.73	30.23	42.04	39.75
I_b,int, Bicycle LOS Score for Intersection	1.715	2.140	2.133	2.446
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	252.3
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.314

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	115	53	383	193	45	46	218	278	224	320	839	307
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	1	0	-1	0	0	3	0	-2	-5	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	115	0	0	14	0	0	67	0	0	92
Total Hourly Volume [veh/h]	115	54	269	193	44	32	218	281	157	318	834	215
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	16	77	55	13	9	63	81	45	91	240	62
Total Analysis Volume [veh/h]	132	62	309	222	51	37	251	323	180	366	959	247
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	0	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	35	0	0	40	0	25	45	0	25	45	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	18	0	0	17	0	0	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	0	0	44	0	29	50	0	29	51	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	0.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	138	138	138	138	138	138	138	138
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	3.50	5.30	3.50	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	1.50	3.30	1.50	4.00
g_i, Effective Green Time [s]	33	33	20	20	21	42	25	45
g / C, Green / Cycle	0.24	0.24	0.15	0.15	0.15	0.31	0.18	0.33
(v / s)_i Volume / Saturation Flow Rate	0.07	0.23	0.12	0.05	0.14	0.29	0.21	0.67
s, saturation flow rate [veh/h]	1781	1630	1781	1741	1781	1759	1781	1805
c, Capacity [veh/h]	432	396	259	253	276	537	323	590
d1, Uniform Delay [s]	42.65	51.13	57.47	52.99	57.24	46.54	56.39	46.38
k, delay calibration	0.13	0.39	0.13	0.13	0.25	0.36	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.49	26.79	9.77	1.02	21.57	20.44	90.88	476.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.94	0.86	0.35	0.91	0.94	1.13	2.05
d, Delay for Lane Group [s/veh]	43.14	77.92	67.24	54.01	78.81	66.98	147.26	522.77
Lane Group LOS	D	E	E	D	E	E	F	F
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.77	15.46	8.25	2.83	10.25	19.71	19.36	98.00
50th-Percentile Queue Length [ft/ln]	94.33	386.47	206.34	70.78	256.15	492.77	484.01	2449.97
95th-Percentile Queue Length [veh/ln]	6.79	21.91	12.97	5.10	15.50	26.99	28.31	154.37
95th-Percentile Queue Length [ft/ln]	169.79	547.67	324.13	127.40	387.39	674.80	707.79	3859.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.14	77.92	77.92	67.24	54.01	54.01	78.81	66.98	66.98	147.26	522.77	522.77
Movement LOS	D	E	E	E	D	D	E	E	E	F	F	F
d_A, Approach Delay [s/veh]	68.79			63.48			70.92			435.34		
Approach LOS	E			E			E			F		
d_I, Intersection Delay [s/veh]	252.35											
Intersection LOS	F											
Intersection V/C	1.314											

Emissions

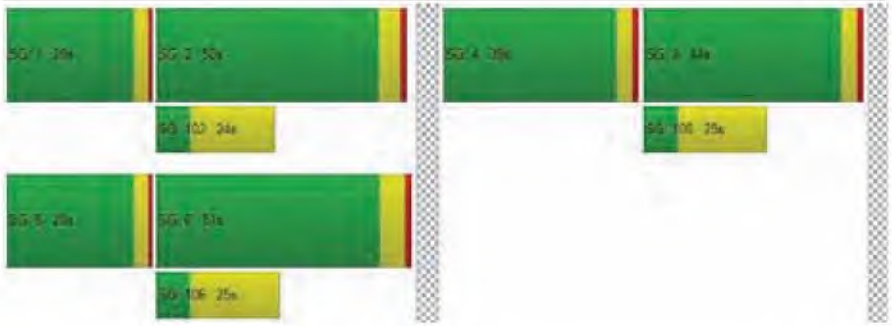
Vehicle Miles Traveled [mph]	227.13	638.36	45.01	17.84	87.89	176.13	165.15	544.18
Stops [stops/h]	98.77	404.65	216.05	74.11	268.20	515.95	506.78	2565.22
Fuel consumption [US gal/h]	11.05	34.40	6.08	2.11	9.12	16.96	20.56	164.84
CO [g/h]	772.70	2404.32	425.26	147.55	637.82	1185.23	1437.47	11522.41
NOx [g/h]	150.34	467.79	82.74	28.71	124.10	230.60	279.68	2241.84
VOC [g/h]	179.08	557.22	98.56	34.20	147.82	274.69	333.15	2670.43

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	58.21	58.21	58.21	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.541	2.298	2.694	0.000
Crosswalk LOS	B	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	506	579	650	654
d_b, Bicycle Delay [s]	38.37	34.72	31.33	31.13
I_b,int, Bicycle LOS Score for Intersection	2.579	2.094	2.914	4.305
Bicycle LOS	B	B	C	E

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 22: White Rock Rd/Clarksville Crossing

Control Type:	Signalized	Delay (sec / veh):	35.7
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.857

Intersection Setup

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	180.00	460.00	100.00	100.00	290.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	0	0	5	4	0	354	3	851	0	4	1112	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	5	0	0	-8	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	5	4	0	354	3	856	0	4	1104	31
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	2	1	0	113	1	274	0	1	354	10
Total Analysis Volume [veh/h]	0	0	6	5	0	454	4	1097	0	5	1415	40
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	20	0	0	20	0	20	50	0	20	50	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	5.0	0.0	4.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	5.0	0.0	3.0	5.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	R
C, Cycle Length [s]	82	82	82	82	82	82	82	82	82	82
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	7.00	7.00	5.00	7.00	7.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	5.00	5.00	3.00	5.00	5.00
g_i, Effective Green Time [s]	1	1	20	20	0	38	38	1	39	39
g / C, Green / Cycle	0.01	0.01	0.24	0.24	0.01	0.47	0.47	0.01	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.00	0.29	0.00	0.29	0.29	0.00	0.40	0.03
s, saturation flow rate [veh/h]	1870	1589	1781	1589	1781	1870	1870	1781	3560	1589
c, Capacity [veh/h]	15	13	435	389	10	882	882	12	1683	751
d1, Uniform Delay [s]	0.00	40.39	23.41	30.90	40.53	16.16	16.16	40.45	18.86	11.66
k, delay calibration	0.11	0.11	0.11	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	23.82	0.01	100.02	23.84	0.72	0.72	20.32	1.20	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.46	0.01	1.17	0.40	0.62	0.62	0.41	0.84	0.05
d, Delay for Lane Group [s/veh]	0.00	64.21	23.42	130.91	64.37	16.89	16.89	60.77	20.06	11.69
Lane Group LOS	A	E	C	F	E	B	B	E	C	B
Critical Lane Group	No	Yes	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.00	0.20	0.07	18.13	0.15	7.25	7.25	0.17	10.95	0.38
50th-Percentile Queue Length [ft/ln]	0.00	5.09	1.82	453.15	3.63	181.31	181.31	4.19	273.74	9.47
95th-Percentile Queue Length [veh/ln]	0.00	0.37	0.13	27.31	0.26	11.67	11.67	0.30	16.38	0.68
95th-Percentile Queue Length [ft/ln]	0.00	9.16	3.27	682.68	6.53	291.73	291.73	7.55	409.42	17.05

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	64.21	23.42	23.42	130.91	64.37	16.89	16.89	60.77	20.06	11.69
Movement LOS	A	A	E	C	C	F	E	B	B	E	C	B
d_A, Approach Delay [s/veh]	64.21			129.74			17.06			19.97		
Approach LOS	E			F			B			B		
d_I, Intersection Delay [s/veh]	35.65											
Intersection LOS	D											
Intersection V/C	0.857											

Emissions

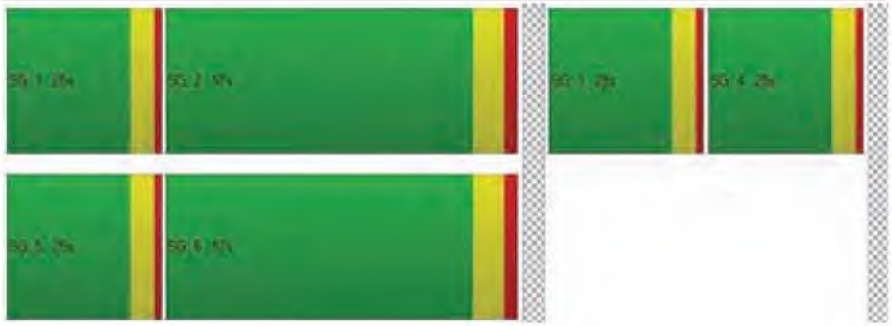
Vehicle Miles Traveled [mph]	0.00	0.30	2.37	215.36	1.80	247.50	247.50	0.87	246.84	6.98
Stops [stops/h]	0.00	8.97	3.20	798.99	6.40	319.69	319.69	7.39	965.32	16.70
Fuel consumption [US gal/h]	0.00	0.14	0.14	25.37	0.16	13.84	13.84	0.14	21.27	0.47
CO [g/h]	0.00	9.81	9.73	1773.59	11.33	967.40	967.40	9.69	1486.92	33.18
NOx [g/h]	0.00	1.91	1.89	345.08	2.20	188.22	188.22	1.88	289.30	6.46
VOC [g/h]	0.00	2.27	2.25	411.05	2.63	224.20	224.20	2.24	344.61	7.69

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	490	490	1224	1224
d_b, Bicycle Delay [s]	23.28	23.28	6.14	6.14
l_b,int, Bicycle LOS Score for Intersection	1.570	2.317	2.468	2.764
Bicycle LOS	A	B	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 23: White Rock Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	21.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.686

Intersection Setup

Name	White Rock Rd		White Rock Rd		US 50 EB	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	1	0	1
Entry Pocket Length [ft]	500.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	White Rock Rd		White Rock Rd		US 50 EB	
Base Volume Input [veh/h]	481	379	1054	278	213	93
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	1	-8	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	12
Total Hourly Volume [veh/h]	485	380	1046	278	213	81
Peak Hour Factor	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	146	114	315	84	64	24
Total Analysis Volume [veh/h]	584	458	1260	335	257	98
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	21	61	32	0	16	0
Amber [s]	3.7	4.8	4.8	0.0	4.8	0.0
All red [s]	0.5	2.0	2.0	0.0	1.0	0.0
Walk [s]	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.2	4.8	4.8	0.0	3.8	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	39	0	22	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	8	9	9	0	8	0
Vehicle Extension [s]	2.0	1.0	1.0	0.0	2.0	0.0
Minimum Recall	No	Yes	Yes		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80
g_i, Effective Green Time [s]	17	69	47	47	9	9	9
g / C, Green / Cycle	0.19	0.76	0.52	0.52	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.17	0.13	0.35	0.21	0.07	0.07	0.06
s, saturation flow rate [veh/h]	3459	3560	3560	1589	1781	1781	1589
c, Capacity [veh/h]	668	2716	1862	831	173	173	154
d1, Uniform Delay [s]	35.24	2.90	15.84	12.97	39.54	39.54	39.10
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.46	0.13	1.99	1.45	2.37	2.37	1.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.17	0.68	0.40	0.74	0.74	0.64
d, Delay for Lane Group [s/veh]	36.70	3.04	17.84	14.42	41.92	41.92	40.72
Lane Group LOS	D	A	B	B	D	D	D
Critical Lane Group	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.21	0.85	9.32	4.17	2.84	2.84	2.13
50th-Percentile Queue Length [ft/ln]	155.22	21.18	232.91	104.16	71.06	71.06	53.17
95th-Percentile Queue Length [veh/ln]	10.30	1.52	14.32	7.50	5.12	5.12	3.83
95th-Percentile Queue Length [ft/ln]	257.39	38.12	358.05	187.49	127.91	127.91	95.70

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.70	3.04	17.84	14.42	41.92	40.72
Movement LOS	D	A	B	B	D	D
d_A, Approach Delay [s/veh]	21.90		17.12		41.59	
Approach LOS	C		B		D	
d_I, Intersection Delay [s/veh]	21.69					
Intersection LOS	C					
Intersection V/C	0.686					

Emissions

Vehicle Miles Traveled [mph]	101.87	79.89	223.28	59.36	7.78	7.78	5.93
Stops [stops/h]	496.72	67.77	745.30	166.66	113.70	113.70	85.07
Fuel consumption [US gal/h]	11.30	3.95	17.88	4.35	2.04	2.04	1.53
CO [g/h]	789.81	275.86	1250.07	303.92	142.92	142.92	106.69
NOx [g/h]	153.67	53.67	243.22	59.13	27.81	27.81	20.76
VOC [g/h]	183.05	63.93	289.72	70.44	33.12	33.12	24.73

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1360	716	360
d_b, Bicycle Delay [s]	4.61	18.56	30.26
l_b,int, Bicycle LOS Score for Intersection	2.419	2.875	2.165
Bicycle LOS	B	C	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 24: Silva Valley Pkwy/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	69.7
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.021

Intersection Setup

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Approach	Northbound				Southbound			Westbound			Northeastbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	550.0	100.0	100.0	100.0	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No					
Crosswalk	No				No			No			No		

Volumes

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Base Volume Input [veh/h]	0	78	514	0	0	391	671	941	0	298	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	1	0	0	-1	0	-7	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	47	0	0	30	0	0	0
Total Hourly Volume [veh/h]	0	78	515	0	0	390	624	934	0	268	0	0	0
Peak Hour Factor	1.000	0.790	0.790	1.000	1.0000	0.7900	0.7900	0.7900	0.7900	0.7900	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	25	163	0	0	123	197	296	0	85	0	0	0
Total Analysis Volume [veh/h]	0	99	652	0	0	494	790	1182	0	339	0	0	0
Presence of On-Street Parking	No			No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	6	0	0	8	0	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	20	54	0	0	26	0	0	23	0	0	0	0
Amber [s]	0.0	3.7	4.8	0.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0
All red [s]	0.0	0.5	2.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	4.8	0.0	0.0	4.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	61	0	0	33	0	0	29	0	0	0	0
Lead / Lag	-	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	8	8	0	0	8	0	0	8	0	0	0	0
Vehicle Extension [s]	0.0	2.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No	Yes			Yes			No				
Maximum Recall		No	No			No			No				
Pedestrian Recall		No	No			No			No				

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	R	
C, Cycle Length [s]	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80	
g_i, Effective Green Time [s]	7	51	40	40	26	26	26	
g / C, Green / Cycle	0.08	0.57	0.44	0.44	0.29	0.29	0.29	
(v / s)_i Volume / Saturation Flow Rate	0.06	0.18	0.14	0.50	0.33	0.33	0.21	
s, saturation flow rate [veh/h]	1781	3560	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	147	2027	1567	699	518	518	462	
d1, Uniform Delay [s]	40.10	10.22	16.39	25.20	31.91	31.91	28.77	
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.17	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	2.00	0.42	0.53	75.64	84.51	84.51	3.51	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.67	0.32	0.32	1.13	1.14	1.14	0.73	
d, Delay for Lane Group [s/veh]	42.10	10.64	16.92	100.84	116.42	116.42	32.28	
Lane Group LOS	D	B	B	F	F	F	C	
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	2.18	3.27	3.30	28.56	22.99	22.99	6.85	
50th-Percentile Queue Length [ft/ln]	54.62	81.67	82.50	714.05	574.84	574.84	171.16	
95th-Percentile Queue Length [veh/ln]	3.93	5.88	5.94	40.69	33.40	33.40	11.14	
95th-Percentile Queue Length [ft/ln]	98.32	147.01	148.50	1017.24	835.03	835.03	278.44	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.10	42.10	10.64	0.00	0.00	16.92	100.84	116.42	116.42	32.28	0.00	0.00	0.00
Movement LOS	D	D	B			B	F	F	F	C			
d_A, Approach Delay [s/veh]	14.79				68.55			97.67			0.00		
Approach LOS	B				E			F			A		
d_I, Intersection Delay [s/veh]	69.65												
Intersection LOS	E												
Intersection V/C	1.021												

Emissions

Vehicle Miles Traveled [mph]	17.54	115.54	67.55	108.02	20.47	20.47	11.74	
Stops [stops/h]	87.40	261.36	264.00	1142.49	919.75	919.75	273.86	
Fuel consumption [US gal/h]	2.05	7.61	5.94	26.97	19.92	19.92	4.22	
CO [g/h]	143.52	532.12	415.20	1885.09	1392.68	1392.68	295.22	
NOx [g/h]	27.92	103.53	80.78	366.77	270.96	270.96	57.44	
VOC [g/h]	33.26	123.32	96.23	436.89	322.77	322.77	68.42	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1204	582	516	0
d_b, Bicycle Delay [s]	7.12	22.61	24.79	45.00
I_b,int, Bicycle LOS Score for Intersection	2.179	2.658	4.119	4.132
Bicycle LOS	B	B	D	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 25: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Base Volume Input [veh/h]	0	658	328	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-3	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	655	330	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	164	83	0	0	0
Total Analysis Volume [veh/h]	0	655	330	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	10.06
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.06	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 26: Latrobe/Wetsl-Oviatt

Control Type:	Two-way stop	Delay (sec / veh):	13.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Base Volume Input [veh/h]	0	445	227	38	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-3	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	442	229	38	4	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	111	57	10	1	0
Total Analysis Volume [veh/h]	0	442	229	38	4	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.78	0.00	0.00	0.00	13.85	9.64
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.74	0.74
d_A, Approach Delay [s/veh]	0.00		0.00		13.85	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.08					
Intersection LOS	B					

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Intersection Level Of Service Report
Intersection 27: Latrobe/S. Shingle

Control Type:	Two-way stop	Delay (sec / veh):	20.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.142

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Base Volume Input [veh/h]	6	238	41	52	127	9	47	81	0	37	73	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-3	0	0	2	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	235	41	52	129	9	47	81	0	37	73	43
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	59	10	13	32	2	12	20	0	9	18	11
Total Analysis Volume [veh/h]	6	235	41	52	129	9	47	81	0	37	73	43
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.00	0.00	0.14	0.19	0.00	0.11	0.16	0.05
d_M, Delay for Movement [s/veh]	7.50	0.00	0.00	7.86	0.00	0.00	20.32	17.72	13.38	18.90	16.74	13.23
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.09	0.09	0.09	1.41	1.41	1.41	1.39	1.39	1.39
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.26	2.26	2.26	2.26	35.13	35.13	35.13	34.85	34.85	34.85
d_A, Approach Delay [s/veh]	0.16			2.15			18.67			16.27		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	7.08											
Intersection LOS	C											

Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	655	344	39	0
2	635	334	38	0
3	622	327	37	0
4	583	306	35	0
5	517	272	31	0
6	511	268	30	0
7	504	265	30	0
8	458	241	27	0
9	452	237	27	0
10	445	234	27	0
11	386	203	23	0
12	360	189	21	0
13	354	186	21	0
14	262	138	16	0
15	262	138	16	0
16	183	96	11	0
17	105	55	6	0
18	105	55	6	0
19	59	31	4	0
20	33	17	2	0
21	20	10	1	0
22	7	3	0	0
23	7	3	0	0
24	7	3	0	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	999	1	39	No	No	No	No	No	No	No	No	No	No
2	1	969	1	38	No	No	No	No	No	No	No	No	No	No
3	1	949	1	37	No	No	No	No	No	No	No	No	No	No
4	1	889	1	35	No	No	No	No	No	No	No	No	No	No
5	1	789	1	31	No	No	No	No	No	No	No	No	No	No
6	1	779	1	30	No	No	No	No	No	No	No	No	No	No
7	1	769	1	30	No	No	No	No	No	No	No	No	No	No
8	1	699	1	27	No	No	No	No	No	No	No	No	No	No
9	1	689	1	27	No	No	No	No	No	No	No	No	No	No
10	1	679	1	27	No	No	No	No	No	No	No	No	No	No
11	1	589	1	23	No	No	No	No	No	No	No	No	No	No
12	1	549	1	21	No	No	No	No	No	No	No	No	No	No
13	1	540	1	21	No	No	No	No	No	No	No	No	No	No
14	1	400	1	16	No	No	No	No	No	No	No	No	No	No
15	1	400	1	16	No	No	No	No	No	No	No	No	No	No
16	1	279	1	11	No	No	No	No	No	No	No	No	No	No
17	1	160	1	6	No	No	No	No	No	No	No	No	No	No
18	1	160	1	6	No	No	No	No	No	No	No	No	No	No
19	1	90	1	4	No	No	No	No	No	No	No	No	No	No
20	1	50	1	2	No	No	No	No	No	No	No	No	No	No
21	1	30	1	1	No	No	No	No	No	No	No	No	No	No
22	1	10	1	0	No	No	No	No	No	No	No	No	No	No
23	1	10	1	0	No	No	No	No	No	No	No	No	No	No
24	1	10	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.1	19.8
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:09	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	39	0
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1038	1038
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 12: Latrobe Rd/Royal Oaks Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	446	330	261	0
2	433	320	253	0
3	424	314	248	0
4	397	294	232	0
5	352	261	206	0
6	348	257	204	0
7	343	254	201	0
8	312	231	183	0
9	308	228	180	0
10	303	224	177	0
11	263	195	154	0
12	245	182	144	0
13	241	178	141	0
14	178	132	104	0
15	178	132	104	0
16	125	92	73	0
17	71	53	42	0
18	71	53	42	0
19	40	30	23	0
20	22	17	13	0
21	13	10	8	0
22	4	3	3	0
23	4	3	3	0
24	4	3	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	776	1	261	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
2	2	753	1	253	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
3	2	738	1	248	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
4	2	691	1	232	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
5	2	613	1	206	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No
6	2	605	1	204	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No
7	2	597	1	201	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
8	2	543	1	183	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
9	2	536	1	180	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
10	2	527	1	177	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
11	2	458	1	154	No	No	Yes	Yes	No	No	No	No	No	No
12	2	427	1	144	No	No	Yes	Yes	No	No	No	No	No	No
13	2	419	1	141	No	No	No	Yes	No	No	No	No	No	No
14	2	310	1	104	No	No	No	No	No	No	No	No	No	No
15	2	310	1	104	No	No	No	No	No	No	No	No	No	No
16	2	217	1	73	No	No	No	No	No	No	No	No	No	No
17	2	124	1	42	No	No	No	No	No	No	No	No	No	No
18	2	124	1	42	No	No	No	No	No	No	No	No	No	No
19	2	70	1	23	No	No	No	No	No	No	No	No	No	No
20	2	39	1	13	No	No	No	No	No	No	No	No	No	No
21	2	23	1	8	No	No	No	No	No	No	No	No	No	No
22	2	7	1	3	No	No	No	No	No	No	No	No	No	No
23	2	7	1	3	No	No	No	No	No	No	No	No	No	No
24	2	7	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					6	10	12	13	0	3	4	10	10	4

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	17.4	22.3
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:15	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	261	0
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1037	1037
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 13: Golden Foothill/Robert J Mathews

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	1021	239	492
2	990	232	477
3	970	227	467
4	909	213	438
5	807	189	389
6	796	186	384
7	786	184	379
8	715	167	344
9	704	165	339
10	694	163	335
11	602	141	290
12	562	131	271
13	551	129	266
14	408	96	197
15	408	96	197
16	286	67	138
17	163	38	79
18	163	38	79
19	92	22	44
20	51	12	25
21	31	7	15
22	10	2	5
23	10	2	5
24	10	2	5

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1260	1	492	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1222	1	477	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1197	1	467	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1122	1	438	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	996	1	389	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	982	1	384	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1	970	1	379	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	1	882	1	344	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	1	869	1	339	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	1	857	1	335	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
11	1	743	1	290	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
12	1	693	1	271	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
13	1	680	1	266	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
14	1	504	1	197	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
15	1	504	1	197	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
16	1	353	1	138	No	No	Yes	Yes	No	No	No	No	No	No
17	1	201	1	79	No	No	No	No	No	No	No	No	No	No
18	1	201	1	79	No	No	No	No	No	No	No	No	No	No
19	1	114	1	44	No	No	No	No	No	No	No	No	No	No
20	1	63	1	25	No	No	No	No	No	No	No	No	No	No
21	1	38	1	15	No	No	No	No	No	No	No	No	No	No
22	1	12	1	5	No	No	No	No	No	No	No	No	No	No
23	1	12	1	5	No	No	No	No	No	No	No	No	No	No
24	1	12	1	5	No	No	No	No	No	No	No	No	No	No
Hours Met					15	15	16	16	10	13	13	15	13	9

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	939.5
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	128:23
Delay Condition Met	Yes
Volume on Minor Street Approach During Same Hour	492
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1752
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	Yes
Warrant Met for Intersection	**Yes**

Signal Warrants Report For Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	238	812	321	63
2	231	788	311	61
3	226	771	305	60
4	212	723	286	56
5	188	641	254	50
6	186	633	250	49
7	183	625	247	49
8	167	568	225	44
9	164	560	221	43
10	162	552	218	43
11	140	479	189	37
12	131	447	177	35
13	129	438	173	34
14	95	325	128	25
15	95	325	128	25
16	67	227	90	18
17	38	130	51	10
18	38	130	51	10
19	21	73	29	6
20	12	41	16	3
21	7	24	10	2
22	2	8	3	1
23	2	8	3	1
24	2	8	3	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1050	1	321	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1019	1	311	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	997	1	305	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	935	1	286	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
5	1	829	1	254	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
6	1	819	1	250	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
7	1	808	1	247	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
8	1	735	1	225	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
9	1	724	1	221	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
10	1	714	1	218	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
11	1	619	1	189	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
12	1	578	1	177	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
13	1	567	1	173	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
14	1	420	1	128	No	Yes	Yes	Yes	No	No	No	Yes	No	No
15	1	420	1	128	No	Yes	Yes	Yes	No	No	No	Yes	No	No
16	1	294	1	90	No	No	No	Yes	No	No	No	No	No	No
17	1	168	1	51	No	No	No	No	No	No	No	No	No	No
18	1	168	1	51	No	No	No	No	No	No	No	No	No	No
19	1	94	1	29	No	No	No	No	No	No	No	No	No	No
20	1	53	1	16	No	No	No	No	No	No	No	No	No	No
21	1	31	1	10	No	No	No	No	No	No	No	No	No	No
22	1	10	1	3	No	No	No	No	No	No	No	No	No	No
23	1	10	1	3	No	No	No	No	No	No	No	No	No	No
24	1	10	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					13	15	15	16	7	11	13	15	10	3

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	26	12.5
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2:19	0:13
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	321	63
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1434	1434
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	203	201	223
2	197	195	216
3	193	191	212
4	181	179	198
5	160	159	176
6	158	157	174
7	156	155	172
8	142	141	156
9	140	139	154
10	138	137	152
11	120	119	132
12	112	111	123
13	110	109	120
14	81	80	89
15	81	80	89
16	57	56	62
17	32	32	36
18	32	32	36
19	18	18	20
20	10	10	11
21	6	6	7
22	2	2	2
23	2	2	2
24	2	2	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	404	2	223	No	No	No	Yes	No	No	No	No	No	No
2	2	392	2	216	No	No	No	Yes	No	No	No	No	No	No
3	2	384	2	212	No	No	No	Yes	No	No	No	No	No	No
4	2	360	2	198	No	No	No	Yes	No	No	No	No	No	No
5	2	319	2	176	No	No	No	No	No	No	No	No	No	No
6	2	315	2	174	No	No	No	No	No	No	No	No	No	No
7	2	311	2	172	No	No	No	No	No	No	No	No	No	No
8	2	283	2	156	No	No	No	No	No	No	No	No	No	No
9	2	279	2	154	No	No	No	No	No	No	No	No	No	No
10	2	275	2	152	No	No	No	No	No	No	No	No	No	No
11	2	239	2	132	No	No	No	No	No	No	No	No	No	No
12	2	223	2	123	No	No	No	No	No	No	No	No	No	No
13	2	219	2	120	No	No	No	No	No	No	No	No	No	No
14	2	161	2	89	No	No	No	No	No	No	No	No	No	No
15	2	161	2	89	No	No	No	No	No	No	No	No	No	No
16	2	113	2	62	No	No	No	No	No	No	No	No	No	No
17	2	64	2	36	No	No	No	No	No	No	No	No	No	No
18	2	64	2	36	No	No	No	No	No	No	No	No	No	No
19	2	36	2	20	No	No	No	No	No	No	No	No	No	No
20	2	20	2	11	No	No	No	No	No	No	No	No	No	No
21	2	12	2	7	No	No	No	No	No	No	No	No	No	No
22	2	4	2	2	No	No	No	No	No	No	No	No	No	No
23	2	4	2	2	No	No	No	No	No	No	No	No	No	No
24	2	4	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	4	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	11.7
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:43
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	223
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	627
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

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Signal Warrants Report For Intersection 16: Carson Crossing Rd/Calypso Cir.

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	223	189	163
2	216	183	158
3	212	180	155
4	198	168	145
5	176	149	129
6	174	147	127
7	172	146	126
8	156	132	114
9	154	130	112
10	152	129	111
11	132	112	96
12	123	104	90
13	120	102	88
14	89	76	65
15	89	76	65
16	62	53	46
17	36	30	26
18	36	30	26
19	20	17	15
20	11	9	8
21	7	6	5
22	2	2	2
23	2	2	2
24	2	2	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	412	1	163	No	No	No	Yes	No	No	No	No	No	No
2	2	399	1	158	No	No	No	Yes	No	No	No	No	No	No
3	2	392	1	155	No	No	No	Yes	No	No	No	No	No	No
4	2	366	1	145	No	No	No	Yes	No	No	No	No	No	No
5	2	325	1	129	No	No	No	No	No	No	No	No	No	No
6	2	321	1	127	No	No	No	No	No	No	No	No	No	No
7	2	318	1	126	No	No	No	No	No	No	No	No	No	No
8	2	288	1	114	No	No	No	No	No	No	No	No	No	No
9	2	284	1	112	No	No	No	No	No	No	No	No	No	No
10	2	281	1	111	No	No	No	No	No	No	No	No	No	No
11	2	244	1	96	No	No	No	No	No	No	No	No	No	No
12	2	227	1	90	No	No	No	No	No	No	No	No	No	No
13	2	222	1	88	No	No	No	No	No	No	No	No	No	No
14	2	165	1	65	No	No	No	No	No	No	No	No	No	No
15	2	165	1	65	No	No	No	No	No	No	No	No	No	No
16	2	115	1	46	No	No	No	No	No	No	No	No	No	No
17	2	66	1	26	No	No	No	No	No	No	No	No	No	No
18	2	66	1	26	No	No	No	No	No	No	No	No	No	No
19	2	37	1	15	No	No	No	No	No	No	No	No	No	No
20	2	20	1	8	No	No	No	No	No	No	No	No	No	No
21	2	13	1	5	No	No	No	No	No	No	No	No	No	No
22	2	4	1	2	No	No	No	No	No	No	No	No	No	No
23	2	4	1	2	No	No	No	No	No	No	No	No	No	No
24	2	4	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	4	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	13.2
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:35
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	163
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	575
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

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Signal Warrants Report For Intersection 17: Carson Crossing Rd/Four Seasons Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	84	163	37
2	81	158	36
3	80	155	35
4	75	145	33
5	66	129	29
6	66	127	29
7	65	126	28
8	59	114	26
9	58	112	26
10	57	111	25
11	50	96	22
12	46	90	20
13	45	88	20
14	34	65	15
15	34	65	15
16	24	46	10
17	13	26	6
18	13	26	6
19	8	15	3
20	4	8	2
21	3	5	1
22	1	2	0
23	1	2	0
24	1	2	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	247	1	37	No	No	No	No	No	No	No	No	No	No
2	3	239	1	36	No	No	No	No	No	No	No	No	No	No
3	3	235	1	35	No	No	No	No	No	No	No	No	No	No
4	3	220	1	33	No	No	No	No	No	No	No	No	No	No
5	3	195	1	29	No	No	No	No	No	No	No	No	No	No
6	3	193	1	29	No	No	No	No	No	No	No	No	No	No
7	3	191	1	28	No	No	No	No	No	No	No	No	No	No
8	3	173	1	26	No	No	No	No	No	No	No	No	No	No
9	3	170	1	26	No	No	No	No	No	No	No	No	No	No
10	3	168	1	25	No	No	No	No	No	No	No	No	No	No
11	3	146	1	22	No	No	No	No	No	No	No	No	No	No
12	3	136	1	20	No	No	No	No	No	No	No	No	No	No
13	3	133	1	20	No	No	No	No	No	No	No	No	No	No
14	3	99	1	15	No	No	No	No	No	No	No	No	No	No
15	3	99	1	15	No	No	No	No	No	No	No	No	No	No
16	3	70	1	10	No	No	No	No	No	No	No	No	No	No
17	3	39	1	6	No	No	No	No	No	No	No	No	No	No
18	3	39	1	6	No	No	No	No	No	No	No	No	No	No
19	3	23	1	3	No	No	No	No	No	No	No	No	No	No
20	3	12	1	2	No	No	No	No	No	No	No	No	No	No
21	3	8	1	1	No	No	No	No	No	No	No	No	No	No
22	3	3	1	0	No	No	No	No	No	No	No	No	No	No
23	3	3	1	0	No	No	No	No	No	No	No	No	No	No
24	3	3	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	8.2
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:05
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	37
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	284
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 18: White Rock Rd/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	601	412	90	75
2	583	400	87	73
3	571	391	86	71
4	535	367	80	67
5	475	325	71	59
6	469	321	70	59
7	463	317	69	58
8	421	288	63	53
9	415	284	62	52
10	409	280	61	51
11	355	243	53	44
12	331	227	50	41
13	325	222	49	41
14	240	165	36	30
15	240	165	36	30
16	168	115	25	21
17	96	66	14	12
18	96	66	14	12
19	54	37	8	7
20	30	21	5	4
21	18	12	3	2
22	6	4	1	1
23	6	4	1	1
24	6	4	1	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1013	1	90	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
2	2	983	1	87	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
3	2	962	1	86	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
4	2	902	1	80	No	No	No	No	Yes	Yes	Yes	Yes	No	No
5	2	800	1	71	No	No	No	No	No	Yes	Yes	Yes	No	No
6	2	790	1	70	No	No	No	No	No	Yes	Yes	Yes	No	No
7	2	780	1	69	No	No	No	No	No	Yes	Yes	Yes	No	No
8	2	709	1	63	No	No	No	No	No	No	Yes	Yes	No	No
9	2	699	1	62	No	No	No	No	No	No	Yes	Yes	No	No
10	2	689	1	61	No	No	No	No	No	No	Yes	Yes	No	No
11	2	598	1	53	No	No	No	No	No	No	No	Yes	No	No
12	2	558	1	50	No	No	No	No	No	No	No	Yes	No	No
13	2	547	1	49	No	No	No	No	No	No	No	Yes	No	No
14	2	405	1	36	No	No	No	No	No	No	No	No	No	No
15	2	405	1	36	No	No	No	No	No	No	No	No	No	No
16	2	283	1	25	No	No	No	No	No	No	No	No	No	No
17	2	162	1	14	No	No	No	No	No	No	No	No	No	No
18	2	162	1	14	No	No	No	No	No	No	No	No	No	No
19	2	91	1	8	No	No	No	No	No	No	No	No	No	No
20	2	51	1	5	No	No	No	No	No	No	No	No	No	No
21	2	30	1	3	No	No	No	No	No	No	No	No	No	No
22	2	10	1	1	No	No	No	No	No	No	No	No	No	No
23	2	10	1	1	No	No	No	No	No	No	No	No	No	No
24	2	10	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	3	4	7	10	13	0	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	29.6	32.2
Number of Lanes on Minor Street Approach	2	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:44	0:40
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	90	75
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1178	1178
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

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Signal Warrants Report For Intersection 25: New Intersection

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	655	330	0
2	635	320	0
3	622	314	0
4	583	294	0
5	517	261	0
6	511	257	0
7	504	254	0
8	458	231	0
9	452	228	0
10	445	224	0
11	386	195	0
12	360	182	0
13	354	178	0
14	262	132	0
15	262	132	0
16	183	92	0
17	105	53	0
18	105	53	0
19	59	30	0
20	33	17	0
21	20	10	0
22	7	3	0
23	7	3	0
24	7	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	985	1	0	No	No	No	No	No	No	No	No	No	No
2	1	955	1	0	No	No	No	No	No	No	No	No	No	No
3	1	936	1	0	No	No	No	No	No	No	No	No	No	No
4	1	877	1	0	No	No	No	No	No	No	No	No	No	No
5	1	778	1	0	No	No	No	No	No	No	No	No	No	No
6	1	768	1	0	No	No	No	No	No	No	No	No	No	No
7	1	758	1	0	No	No	No	No	No	No	No	No	No	No
8	1	689	1	0	No	No	No	No	No	No	No	No	No	No
9	1	680	1	0	No	No	No	No	No	No	No	No	No	No
10	1	669	1	0	No	No	No	No	No	No	No	No	No	No
11	1	581	1	0	No	No	No	No	No	No	No	No	No	No
12	1	542	1	0	No	No	No	No	No	No	No	No	No	No
13	1	532	1	0	No	No	No	No	No	No	No	No	No	No
14	1	394	1	0	No	No	No	No	No	No	No	No	No	No
15	1	394	1	0	No	No	No	No	No	No	No	No	No	No
16	1	275	1	0	No	No	No	No	No	No	No	No	No	No
17	1	158	1	0	No	No	No	No	No	No	No	No	No	No
18	1	158	1	0	No	No	No	No	No	No	No	No	No	No
19	1	89	1	0	No	No	No	No	No	No	No	No	No	No
20	1	50	1	0	No	No	No	No	No	No	No	No	No	No
21	1	30	1	0	No	No	No	No	No	No	No	No	No	No
22	1	10	1	0	No	No	No	No	No	No	No	No	No	No
23	1	10	1	0	No	No	No	No	No	No	No	No	No	No
24	1	10	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	10.1
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	985
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

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Signal Warrants Report For Intersection 26: Latrobe/Wetsl-Oviatt

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	442	267	4
2	429	259	4
3	420	254	4
4	393	238	4
5	349	211	3
6	345	208	3
7	340	206	3
8	309	187	3
9	305	184	3
10	301	182	3
11	261	158	2
12	243	147	2
13	239	144	2
14	177	107	2
15	177	107	2
16	124	75	1
17	71	43	1
18	71	43	1
19	40	24	0
20	22	13	0
21	13	8	0
22	4	3	0
23	4	3	0
24	4	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	709	1	4	No	No	No	No	No	No	No	No	No	No
2	1	688	1	4	No	No	No	No	No	No	No	No	No	No
3	1	674	1	4	No	No	No	No	No	No	No	No	No	No
4	1	631	1	4	No	No	No	No	No	No	No	No	No	No
5	1	560	1	3	No	No	No	No	No	No	No	No	No	No
6	1	553	1	3	No	No	No	No	No	No	No	No	No	No
7	1	546	1	3	No	No	No	No	No	No	No	No	No	No
8	1	496	1	3	No	No	No	No	No	No	No	No	No	No
9	1	489	1	3	No	No	No	No	No	No	No	No	No	No
10	1	483	1	3	No	No	No	No	No	No	No	No	No	No
11	1	419	1	2	No	No	No	No	No	No	No	No	No	No
12	1	390	1	2	No	No	No	No	No	No	No	No	No	No
13	1	383	1	2	No	No	No	No	No	No	No	No	No	No
14	1	284	1	2	No	No	No	No	No	No	No	No	No	No
15	1	284	1	2	No	No	No	No	No	No	No	No	No	No
16	1	199	1	1	No	No	No	No	No	No	No	No	No	No
17	1	114	1	1	No	No	No	No	No	No	No	No	No	No
18	1	114	1	1	No	No	No	No	No	No	No	No	No	No
19	1	64	1	0	No	No	No	No	No	No	No	No	No	No
20	1	35	1	0	No	No	No	No	No	No	No	No	No	No
21	1	21	1	0	No	No	No	No	No	No	No	No	No	No
22	1	7	1	0	No	No	No	No	No	No	No	No	No	No
23	1	7	1	0	No	No	No	No	No	No	No	No	No	No
24	1	7	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	13.8
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	4
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	713
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 27: Latrobe/S. Shingle

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

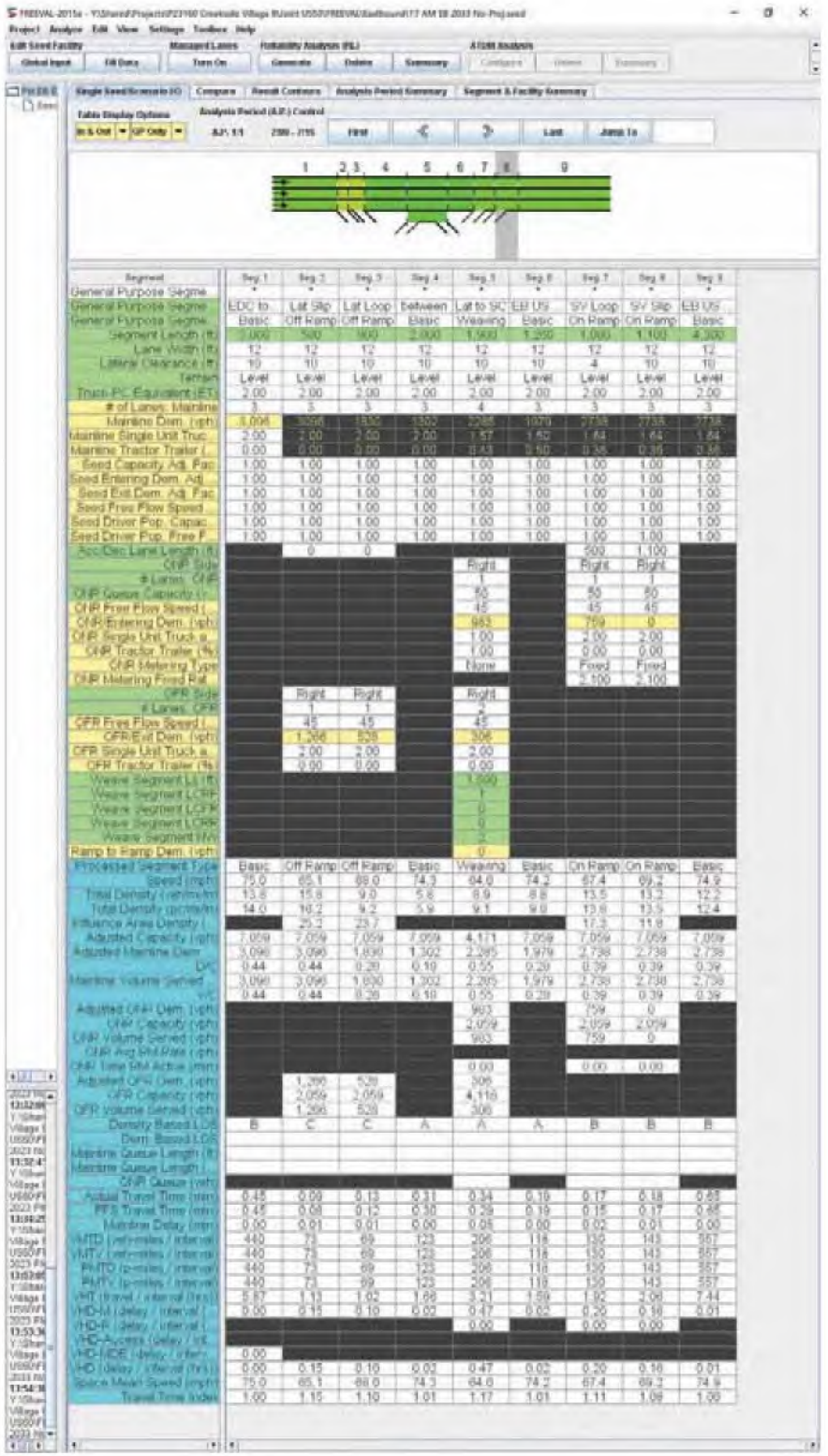
Hour	Major Streets		Minor Streets	
	S	N	E	W
1	282	190	153	128
2	274	184	148	124
3	268	181	145	122
4	251	169	136	114
5	223	150	121	101
6	220	148	119	100
7	217	146	118	99
8	197	133	107	90
9	195	131	106	88
10	192	129	104	87
11	166	112	90	76
12	155	105	84	70
13	152	103	83	69
14	113	76	61	51
15	113	76	61	51
16	79	53	43	36
17	45	30	24	20
18	45	30	24	20
19	25	17	14	12
20	14	10	8	6
21	8	6	5	4
22	3	2	2	1
23	3	2	2	1
24	3	2	2	1

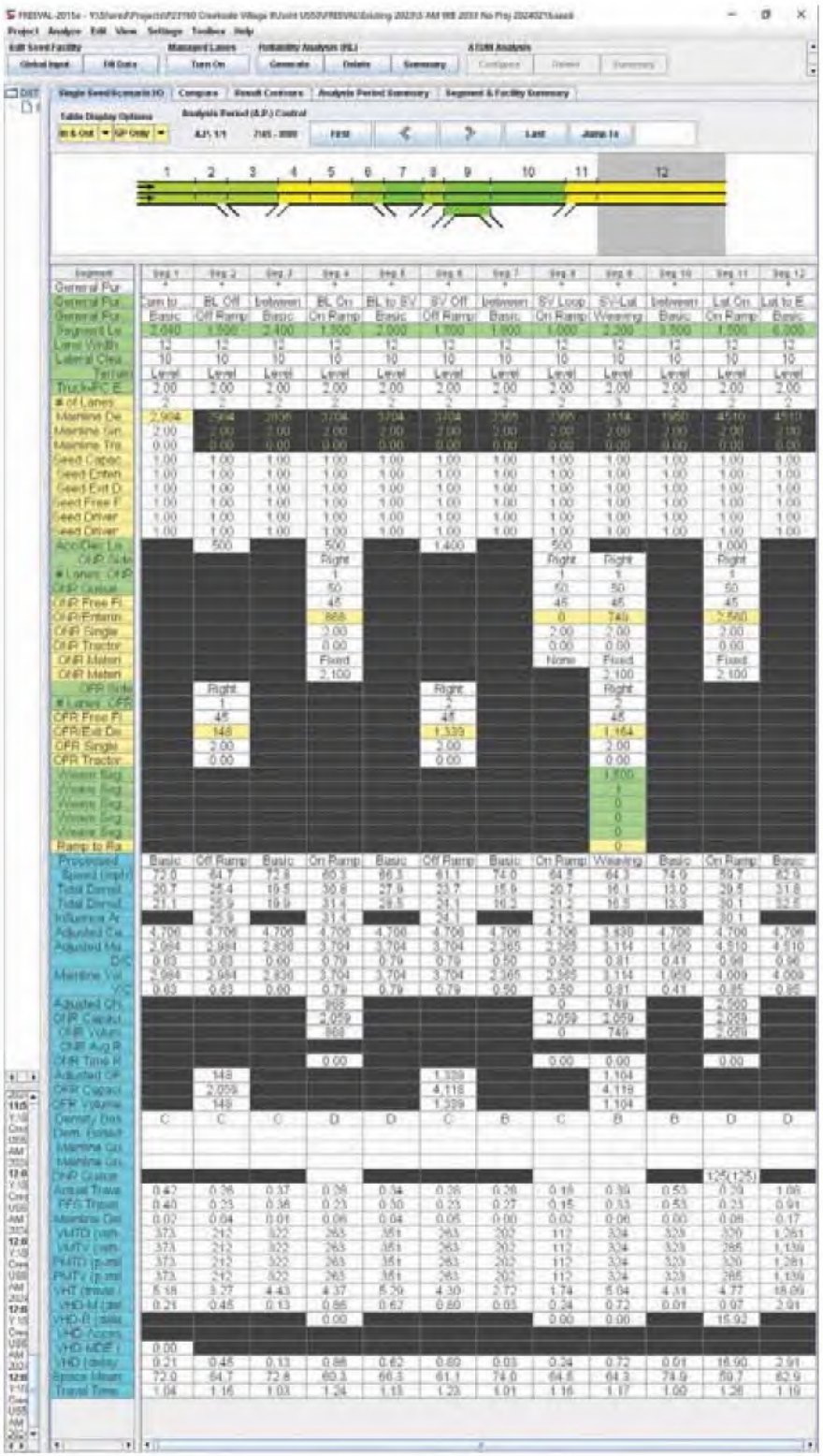
Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	472	1	153	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
2	1	458	1	148	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
3	1	449	1	145	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
4	1	420	1	136	No	Yes	Yes	Yes	No	No	No	Yes	No	No
5	1	373	1	121	No	No	Yes	Yes	No	No	No	No	No	No
6	1	368	1	119	No	No	Yes	Yes	No	No	No	No	No	No
7	1	363	1	118	No	No	Yes	Yes	No	No	No	No	No	No
8	1	330	1	107	No	No	No	Yes	No	No	No	No	No	No
9	1	326	1	106	No	No	No	Yes	No	No	No	No	No	No
10	1	321	1	104	No	No	No	Yes	No	No	No	No	No	No
11	1	278	1	90	No	No	No	No	No	No	No	No	No	No
12	1	260	1	84	No	No	No	No	No	No	No	No	No	No
13	1	255	1	83	No	No	No	No	No	No	No	No	No	No
14	1	189	1	61	No	No	No	No	No	No	No	No	No	No
15	1	189	1	61	No	No	No	No	No	No	No	No	No	No
16	1	132	1	43	No	No	No	No	No	No	No	No	No	No
17	1	75	1	24	No	No	No	No	No	No	No	No	No	No
18	1	75	1	24	No	No	No	No	No	No	No	No	No	No
19	1	42	1	14	No	No	No	No	No	No	No	No	No	No
20	1	24	1	8	No	No	No	No	No	No	No	No	No	No
21	1	14	1	5	No	No	No	No	No	No	No	No	No	No
22	1	5	1	2	No	No	No	No	No	No	No	No	No	No
23	1	5	1	2	No	No	No	No	No	No	No	No	No	No
24	1	5	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	10	0	0	0	4	3	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.3	18.7
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:41	0:39
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	153	128
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	753	753
Number of Approaches on Intersection	4	4
Total Volume Condition Met	No	No
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	





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Scenario 2 2033 PM with CCSP, No Project
2/14/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	El Dorado Hills Blvd/Serrano Pkwy	Signalized	HCM 7th Edition	NB Thru	0.974	55.7	E
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	EB Right	1.242	112.0	F
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	WB Right	0.985	50.7	D
4	Latrobe Rd/US 50 EB	Signalized	HCM 7th Edition	EB Right	0.938	58.1	E
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	SB Left	1.016	52.3	D
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	WB Left	0.786	79.6	E
7	Latrobe Rd/Golden Foothill Pkwy N	Signalized	HCM 7th Edition	SB Right	1.069	80.0	E
8	Latrobe Rd/Suncast Ln	Signalized	HCM 7th Edition	EB Left	0.875	22.6	C
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	EB Left	1.102	132.3	F
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	NB Left	0.785	19.1	B
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	WB Left	0.011	24.9	C
12	Latrobe Rd/Royal Oaks Dr	Two-way stop	HCM 7th Edition	WB Left	0.355	35.9	E
13	Golden Foothill/Robert J Mathews	Two-way stop	HCM 7th Edition	NB Left	27.742	10,000.0	F
14	Investment Blvd/Robert J Mathews Pkwy	All-way stop	HCM 7th Edition	NB Thru	1.351	135.9	F
15	Golden Foothill Pkwy/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.374	21.4	C
16	Carson Crossing Rd/Calypso Cir.	Two-way stop	HCM 7th Edition	NB Left	0.308	20.2	C
17	Carson Crossing Rd/Four Seasons Dr	All-way stop	HCM 7th Edition	NB Thru	0.147	8.2	A
18	White Rock Rd/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	1.659	411.5	F
19	White Rock Rd/Windfield Way	Signalized	HCM 7th Edition	SB Thru	0.581	32.9	C
20	White Rock Rd/Post St	Signalized	HCM 7th Edition	SB Left	0.603	67.2	E
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 6th Edition	EB Thru	1.375	259.5	F
22	White Rock Rd/Clarksville Crossing	Signalized	HCM 7th Edition	SB Right	0.901	37.9	D
23	White Rock Rd/US 50 EB	Signalized	HCM 7th Edition	NB Left	0.775	49.9	D
24	Silva Valley Pkwy/US 50 WB	Signalized	HCM 7th Edition	WB Left	0.686	23.0	C
25	New Intersection	Two-way stop	HCM 6th Edition	SB Thru	0.005	0.0	A
26	Latrobe/Wetsl-Oviatt	Two-way stop	HCM 7th Edition	EB Left	0.074	15.7	C
27	Latrobe/S. Shingle	Two-way stop	HCM 7th Edition	WB Left	0.147	19.2	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: El Dorado Hills Blvd/Serrano Pkwy

Control Type:	Signalized	Delay (sec / veh):	55.7
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.974

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	260.0	100.0	100.0	100.0	110.00	100.00	100.00	100.00	100.00	100.00	430.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No			No		
Crosswalk	No				Yes			Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Base Volume Input [veh/h]	3	113	1766	404	35	1126	67	53	25	85	339	61	22
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-7	0	0	1	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	20	0	0	26	0	0	7
Total Hourly Volume [veh/h]	3	113	1759	404	35	1127	47	53	25	59	339	61	15
Peak Hour Factor	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	32	505	116	10	324	14	15	7	17	97	18	4
Total Analysis Volume [veh/h]	3	130	2022	464	40	1295	54	61	29	68	390	70	17
Presence of On-Street Parking	No			No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	1	6	0	7	7	0	0	8	0
Auxiliary Signal Groups													
Maximum Green [s]	0	25	40	0	25	40	0	35	35	0	0	35	0
Amber [s]	0.0	3.0	4.7	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	12	0	0	12	0	0	0	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	100.0	245.0	0.0	100.0	100.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	29	46	0	29	46	0	39	39	0	0	39	0
Lead / Lag	-	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	3	6	0	3	3	0	3	3	0	0	3	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	4.0	0.0
Minimum Recall		No	No		No	No			No			No	
Maximum Recall		No	No		No	No			No			No	
Pedestrian Recall		No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C
C, Cycle Length [s]	81	81	81	81	81	81	81	81	81	81
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	40	40	2	35	35	7	7	15	15
g / C, Green / Cycle	0.10	0.49	0.49	0.03	0.43	0.43	0.08	0.08	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.07	0.57	0.29	0.02	0.36	0.36	0.03	0.06	0.13	0.13
s, saturation flow rate [veh/h]	1781	3560	1589	1781	1870	1844	1781	1664	1781	1791
c, Capacity [veh/h]	170	1750	781	51	794	783	147	137	321	322
d1, Uniform Delay [s]	36.03	20.72	14.88	39.32	21.16	21.19	35.52	36.43	31.62	31.62
k, delay calibration	0.04	0.07	0.08	0.04	0.20	0.20	0.04	0.04	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.96	70.96	0.54	9.24	4.99	5.17	0.70	2.48	4.77	4.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	1.16	0.59	0.78	0.85	0.86	0.42	0.71	0.74	0.74
d, Delay for Lane Group [s/veh]	38.99	91.68	15.42	48.56	26.15	26.37	36.21	38.91	36.39	36.36
Lane Group LOS	D	F	B	D	C	C	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.57	30.85	5.30	0.88	11.12	11.04	1.16	1.93	4.72	4.74
50th-Percentile Queue Length [ft/ln]	64.15	771.29	132.47	22.09	277.97	276.07	28.90	48.34	118.03	118.61
95th-Percentile Queue Length [veh/ln]	4.62	44.37	9.07	1.59	16.59	16.49	2.08	3.48	8.28	8.32
95th-Percentile Queue Length [ft/ln]	115.47	1109.21	226.85	39.76	414.68	412.31	52.02	87.01	207.11	207.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.99	38.99	91.68	15.42	48.56	26.25	26.37	36.21	38.91	38.91	36.38	36.36	36.36
Movement LOS	D	D	F	B	D	C	C	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	75.49				26.90			37.87			36.37		
Approach LOS	E				C			D			D		
d_I, Intersection Delay [s/veh]	55.66												
Intersection LOS	E												
Intersection V/C	0.974												

Emissions

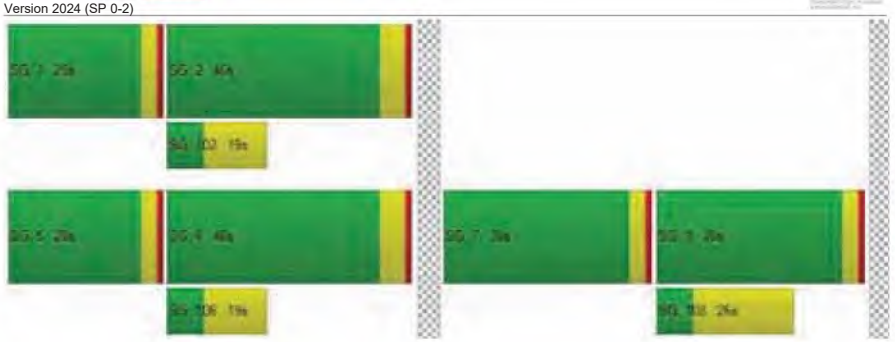
Vehicle Miles Traveled [mph]	31.76	482.92	110.82	5.88	99.74	98.60	2.61	4.14	12.45	12.51
Stops [stops/h]	113.59	2731.39	234.57	39.11	492.19	488.82	51.17	85.59	208.99	210.02
Fuel consumption [US gal/h]	3.56	88.23	8.17	1.08	13.15	13.06	0.84	1.41	3.43	3.44
CO [g/h]	248.59	6167.45	571.19	75.71	919.11	912.58	58.68	98.66	239.63	240.80
NOx [g/h]	48.37	1199.96	111.13	14.73	178.83	177.56	11.42	19.20	46.62	46.85
VOC [g/h]	57.61	1429.37	132.38	17.55	213.01	211.50	13.60	22.87	55.54	55.81

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	30.41	30.41	30.41
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.351	2.120	2.275
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	991	991	861	861
d_b, Bicycle Delay [s]	10.35	10.35	13.19	13.19
l_b,int, Bicycle LOS Score for Intersection	3.718	2.722	1.863	2.358
Bicycle LOS	D	B	A	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	112.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.242

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	500.0	100.0	100.0	100.0	500.0	100.0	100.0	300.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	5	442	1616	173	4	218	1133	198	380	48	581	63	107	286
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-3	-7	0	0	0	1	0	0	0	1	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	52	0	0	0	59	0	0	175	0	0	86
Total Hourly Volume [veh/h]	5	439	1609	121	4	218	1134	139	380	48	407	63	107	200
Peak Hour Factor	0.930	0.930	0.930	0.930	0.930	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	118	433	33	1	59	305	37	102	13	109	17	29	54
Total Analysis Volume [veh/h]	5	472	1730	130	4	234	1219	149	409	52	438	68	115	215
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	0	3	8	0
Auxiliary Signal Groups														
Maximum Green [s]	0	20	50	0	0	20	50	0	20	20	0	0	20	0
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	14	0	0	0	18	0	0	0	0	0	28	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	0	24	56	0	24	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Cycle Length [s]	125	125	125	125	125	125	125	125	125	125	125
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	48	48	18	47	47	20	20	20	20	20
g / C, Green / Cycle	0.16	0.39	0.39	0.15	0.38	0.38	0.16	0.16	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.27	0.35	0.35	0.13	0.34	0.09	0.13	0.13	0.28	0.04	0.20
s, saturation flow rate [veh/h]	1781	3560	1804	1781	3560	1589	1781	1800	1589	1781	1677
c, Capacity [veh/h]	286	1383	701	264	1340	598	286	289	255	286	269
d1, Uniform Delay [s]	52.30	35.58	35.82	52.14	36.84	26.73	50.42	50.36	52.30	45.65	52.30
k, delay calibration	0.50	0.13	0.36	0.28	0.13	0.13	0.25	0.25	0.50	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	315.82	2.58	12.95	22.60	3.27	0.26	11.63	10.96	338.60	0.16	129.97
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.67	0.89	0.90	0.90	0.91	0.25	0.81	0.80	1.72	0.24	1.23
d, Delay for Lane Group [s/veh]	368.11	38.16	48.77	74.75	40.11	26.99	62.05	61.32	390.89	45.80	182.27
Lane Group LOS	F	D	D	E	D	C	E	E	F	D	F
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	33.75	17.00	19.58	8.78	17.31	3.01	7.84	7.81	31.95	1.86	18.11
50th-Percentile Queue Length [ft/ln]	843.85	425.08	489.60	219.39	432.68	75.14	195.91	195.15	798.67	46.54	452.69
95th-Percentile Queue Length [veh/ln]	52.48	23.77	26.84	13.63	24.13	5.41	12.43	12.39	50.21	3.35	27.52
95th-Percentile Queue Length [ft/ln]	1311.97	594.15	671.04	340.85	603.25	135.25	310.68	309.70	1255.13	83.78	687.93

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	368.1	368.1	41.23	48.77	74.75	74.75	40.11	26.99	61.73	61.32	390.89	45.80	182.27	182.27
Movement LOS	F	F	D	D	E	E	D	C	E	E	F	D	F	F
d_A, Approach Delay [s/veh]	108.37				44.02				222.08			158.95		
Approach LOS	F				D				F			F		
d_I, Intersection Delay [s/veh]	112.00													
Intersection LOS	F													
Intersection V/C	1.242													

Emissions

Vehicle Miles Traveled [mph]	89.45	230.49	118.31	56.84	291.14	35.59	14.35	14.40	27.32	3.32	16.09
Stops [stops/h]	975.70	982.99	566.09	253.67	1000.57	86.88	226.52	225.64	923.46	53.81	523.42
Fuel consumption [US gal/h]	50.92	29.67	17.35	8.72	32.37	3.12	4.75	4.72	41.06	1.07	15.79
CO [g/h]	3559.45	2073.67	1213.11	609.69	2262.56	217.98	331.88	329.91	2870.09	74.62	1103.87
NOx [g/h]	692.54	403.46	236.03	118.62	440.21	42.41	64.57	64.19	558.42	14.52	214.77
VOC [g/h]	824.94	480.59	281.15	141.30	524.37	50.52	76.92	76.46	665.17	17.29	255.83

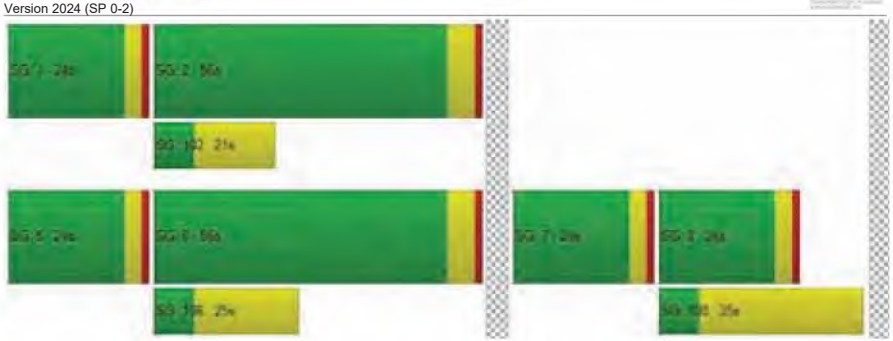
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00	
d_p, Pedestrian Delay [s]	0.00	51.76	51.76	51.76	
I_p,int, Pedestrian LOS Score for Intersectio	0.000	3.551	2.851	2.388	
Crosswalk LOS	F	D	C	B	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000	
c_b, Capacity of the bicycle lane [bicycles/h]	808	808	321	321	
d_b, Bicycle Delay [s]	22.13	22.13	43.88	43.88	
I_b,int, Bicycle LOS Score for Intersection	2.871	2.740	3.332	2.358	
Bicycle LOS	C	B	C	B	

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	50.7
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.985

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	500.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1224	1679	414	0	37	1252	493	306	130	404	236	88	251
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-10	-10	-2	0	0	2	0	0	0	1	1	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	124	0	0	0	148	0	0	122	0	0	75
Total Hourly Volume [veh/h]	1	1214	1669	288	0	37	1254	345	306	130	283	237	88	176
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	304	417	72	0	9	314	86	77	33	71	59	22	44
Total Analysis Volume [veh/h]	1	1214	1669	288	0	37	1254	345	306	130	283	237	88	176
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	136
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	45	62	0	0	14	29	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	50	68	0	0	19	35	28	0	28	0	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	45	74	74	6	34	59	19	19	17	17	17
g / C, Green / Cycle	0.33	0.54	0.54	0.04	0.25	0.43	0.14	0.14	0.12	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.35	0.36	0.39	0.02	0.25	0.22	0.12	0.12	0.09	0.09	0.11
s, saturation flow rate [veh/h]	3459	3532	1725	1781	5053	1589	1781	1832	1781	1828	1589
c, Capacity [veh/h]	1155	1914	935	81	1279	685	249	257	223	228	199
d1, Uniform Delay [s]	45.28	22.41	23.41	63.30	50.45	28.15	57.19	57.19	57.24	57.21	58.55
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.16	0.16	0.12	0.11	0.24
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	25.55	1.89	4.79	1.51	20.87	2.64	12.22	11.90	4.77	4.44	23.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.05	0.67	0.72	0.46	0.98	0.50	0.86	0.86	0.72	0.72	0.89
d, Delay for Lane Group [s/veh]	70.83	24.29	28.20	64.81	71.32	30.79	69.41	69.09	62.01	61.65	81.74
Lane Group LOS	F	C	C	E	E	C	E	E	E	E	F
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	23.42	15.01	17.17	1.26	16.17	8.41	8.08	8.29	5.63	5.72	7.25
50th-Percentile Queue Length [ft/ln]	585.62	375.18	429.14	31.57	404.27	210.14	202.10	207.28	140.79	143.07	181.28
95th-Percentile Queue Length [veh/ln]	32.44	21.36	23.96	2.27	22.77	13.16	12.75	13.01	9.52	9.65	11.67
95th-Percentile Queue Length [ft/ln]	811.09	534.01	599.01	56.82	569.14	329.01	318.67	325.34	238.08	241.15	291.68

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	70.83	70.83	25.20	28.20	64.81	64.81	71.32	30.79	69.32	69.09	0.00	61.90	61.65	81.74
Movement LOS	E	F	C	C	E	E	E	C	E	E		E	E	F
d_A, Approach Delay [s/veh]	42.95				62.62				41.99			68.82		
Approach LOS	D				E				D			E		
d_I, Intersection Delay [s/veh]	50.74													
Intersection LOS	D													
Intersection V/C	0.985													

Emissions

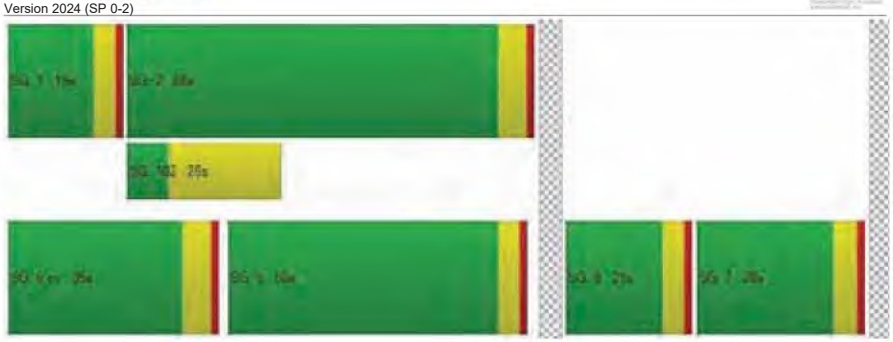
Vehicle Miles Traveled [mph]	208.99	220.70	115.91	6.94	235.16	64.70	9.94	10.23	5.11	5.22	5.60
Stops [stops/h]	1240.14	794.49	454.38	33.42	1284.14	222.51	213.99	219.48	149.07	151.48	191.94
Fuel consumption [US gal/h]	32.97	19.82	11.15	1.14	42.22	7.15	4.63	4.74	3.06	3.11	4.22
CO [g/h]	2304.35	1385.29	779.37	79.78	2951.48	499.48	323.44	331.40	214.18	217.42	294.84
NOx [g/h]	448.34	269.53	151.64	15.52	574.25	97.18	62.93	64.48	41.67	42.30	57.36
VOC [g/h]	534.06	321.05	180.63	18.49	684.03	115.76	74.96	76.80	49.64	50.39	68.33

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	57.44
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.539
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	915	429	337	241
d_b, Bicycle Delay [s]	20.02	41.93	47.03	52.59
l_b,int, Bicycle LOS Score for Intersection	3.372	2.520	2.279	2.035
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Latrobe Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	58.1
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.938

Intersection Setup

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	200.00	570.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No			No		
Crosswalk	No			No				No			Yes		

Volumes

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Base Volume Input [veh/h]	0	2456	609	1	388	1504	0	0	0	1591	0	0	861
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-22	-4	0	0	4	0	0	0	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	182	0	0	0	0	0	0	478	0	0	258
Total Hourly Volume [veh/h]	0	2434	423	1	388	1508	0	0	0	1115	0	0	603
Peak Hour Factor	1.0000	0.9500	0.8400	1.000	0.840	0.950	1.000	1.0000	1.0000	0.8400	1.0000	1.0000	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	641	126	0	115	397	0	0	0	332	0	0	179
Total Analysis Volume [veh/h]	0	2562	504	1	462	1587	0	0	0	1327	0	0	718
Presence of On-Street Parking	No		No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0				0			0	
v_co, Outbound Pedestrian Volume crossing		0			0				0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0	
Bicycle Volume [bicycles/h]		0			0				0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	26.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	30	0	0	26	34	0	0	0	22	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No				No			
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	4.2	0.0	0.0	2.6	4.2	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	2.5	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Minimum Recall		Yes			No	Yes				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	C	L	C	R	
C, Cycle Length [s]	68	68	68	68	68	
L, Total Lost Time per Cycle [s]	6.20	6.20	4.60	6.20	4.60	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	4.20	4.20	2.60	4.20	2.60	
g_i, Effective Green Time [s]	38	38	20	35	22	
g / C, Green / Cycle	0.55	0.55	0.29	0.51	0.33	
(v / s)_i Volume / Saturation Flow Rate	0.45	0.46	0.26	0.23	0.47	
s, saturation flow rate [veh/h]	5094	1676	1781	6792	2813	
c, Capacity [veh/h]	2809	924	516	3476	927	
d1, Uniform Delay [s]	12.47	12.61	23.17	10.58	22.80	
k, delay calibration	0.50	0.50	0.17	0.50	0.17	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	2.80	8.54	8.80	0.43	196.51	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.82	0.83	0.90	0.46	1.43	
d, Delay for Lane Group [s/veh]	15.27	21.15	31.97	11.01	219.31	
Lane Group LOS	B	C	C	B	F	
Critical Lane Group	No	Yes	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	7.57	9.11	7.43	3.03	32.05	
50th-Percentile Queue Length [ft/ln]	189.14	227.63	185.84	75.84	801.34	
95th-Percentile Queue Length [veh/ln]	12.08	14.05	11.90	5.46	50.02	
95th-Percentile Queue Length [ft/ln]	301.91	351.35	297.62	136.52	1250.55	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	15.88	21.15	31.97	31.97	11.01	0.00	0.00	0.00	219.31	0.00	0.00	0.00
Movement LOS		B	C	C	C	B				F			
d_A, Approach Delay [s/veh]		16.74			15.74			219.31			0.00		
Approach LOS		B			B			F			A		
d_I, Intersection Delay [s/veh]	58.15												
Intersection LOS	E												
Intersection V/C	0.938												

Emissions

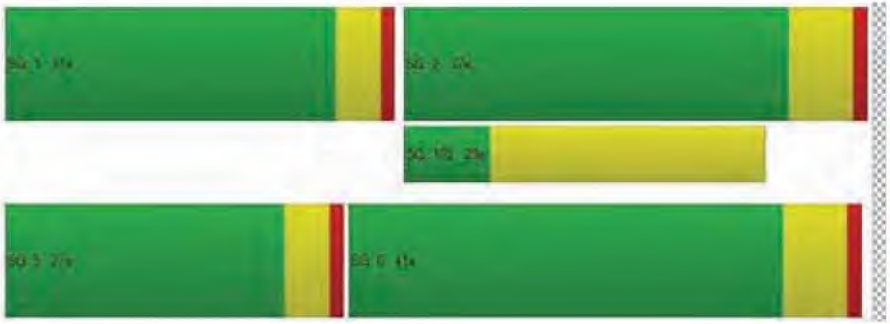
Vehicle Miles Traveled [mph]	332.73	110.91	79.64	272.97	94.96	
Stops [stops/h]	1201.60	482.04	393.53	642.43	3393.91	
Fuel consumption [US gal/h]	33.49	13.09	10.64	20.90	81.87	
CO [g/h]	2341.14	915.31	743.40	1460.96	5722.94	
NOx [g/h]	455.50	178.09	144.64	284.25	1113.48	
VOC [g/h]	542.58	212.13	172.29	338.59	1326.35	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	23.89
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.259
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	906	1024	659	0
d_b, Bicycle Delay [s]	10.18	8.10	15.29	34.00
l_b,int, Bicycle LOS Score for Intersection	2.899	2.215	1.560	1.560
Bicycle LOS	C	B	A	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	52.3
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.016

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	24	1987	233	3	570	1937	585	460	37	83	1	92	6	615
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-26	-2	0	0	6	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	69	0	0	0	176	0	0	25	0	0	0	185
Total Hourly Volume [veh/h]	1	24	1961	162	3	570	1943	409	460	37	58	1	92	6	430
Peak Hour Factor	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.9600	0.9600	0.9600	0.960	0.960	0.960	0.960
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	6	511	42	1	148	506	107	120	10	15	0	24	2	112
Total Analysis Volume [veh/h]	1	25	2043	169	3	594	2024	426	479	39	60	1	96	6	448
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	138
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	0	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	40	0	0	12	65	0	15	20	0	0	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	0.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.0	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	0.0	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	46	0	0	16	71	0	19	24	0	0	19	19	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	0	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	Yes			No	Yes			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	101	101	101	101	101	101	101	101	101	101	101	101
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	2	42	42	12	51	51	16	16	16	15	15	15
g / C, Green / Cycle	0.02	0.41	0.41	0.12	0.51	0.51	0.16	0.16	0.16	0.15	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.01	0.40	0.11	0.17	0.40	0.27	0.14	0.02	0.04	0.05	0.14	0.14
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	1870	1589	1781	1596	1589
c, Capacity [veh/h]	72	2100	655	411	2599	811	561	304	258	264	237	236
d1, Uniform Delay [s]	48.83	29.15	19.53	44.54	20.11	16.56	41.16	36.22	36.85	38.76	42.74	42.74
k, delay calibration	0.04	0.04	0.04	0.17	0.04	0.04	0.08	0.08	0.08	0.08	0.39	0.39
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.15	2.10	0.08	209.05	0.20	0.20	2.86	0.14	0.34	0.63	42.70	42.82
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.97	0.26	1.45	0.78	0.53	0.85	0.13	0.23	0.37	0.96	0.96
d, Delay for Lane Group [s/veh]	49.98	31.25	19.61	253.59	20.31	16.75	44.03	36.36	37.19	39.39	85.45	85.56
Lane Group LOS	D	C	B	F	C	B	D	D	D	D	F	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.33	15.88	2.59	17.01	12.19	6.36	5.95	0.83	1.31	2.20	8.38	8.35
50th-Percentile Queue Length [ft/ln]	8.33	396.99	64.67	425.16	304.87	158.99	148.83	20.82	32.74	54.99	209.42	208.78
95th-Percentile Queue Length [veh/ln]	0.60	22.41	4.66	27.16	17.92	10.50	9.95	1.50	2.36	3.96	13.12	13.09
95th-Percentile Queue Length [ft/ln]	15.00	560.37	116.41	679.10	448.04	262.38	248.87	37.47	58.92	98.98	328.08	327.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.98	49.98	31.25	19.61	253.5	253.5	20.31	16.75	44.03	36.36	37.19	39.39	39.39	85.45	85.50
Movement LOS	D	D	C	B	F	F	C	B	D	D	D	D	D	F	F
d_A, Approach Delay [s/veh]	30.59				65.52				42.80			77.39			
Approach LOS	C				E				D			E			
d_I, Intersection Delay [s/veh]	52.30														
Intersection LOS	D														
Intersection V/C	1.016														

Emissions

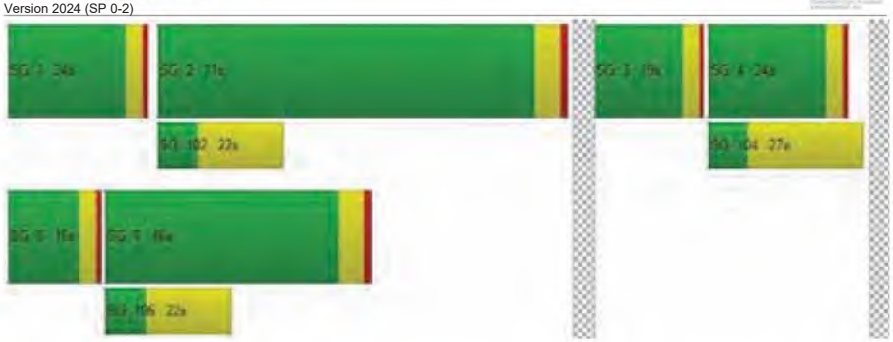
Vehicle Miles Traveled [mph]	5.80	456.07	37.73	86.38	292.87	61.64	61.10	4.97	7.65	34.04	79.83	79.51
Stops [stops/h]	23.78	1698.92	92.26	1212.97	1304.68	226.79	424.61	29.70	46.70	78.45	298.73	297.83
Fuel consumption [US gal/h]	0.63	41.15	2.74	41.06	27.63	5.24	9.15	0.66	1.03	2.61	8.89	8.86
CO [g/h]	44.37	2876.65	191.33	2870.09	1931.22	366.49	639.76	45.95	71.80	182.61	621.47	619.52
NOx [g/h]	8.63	559.69	37.23	558.42	375.75	71.31	124.47	8.94	13.97	35.53	120.92	120.54
VOC [g/h]	10.28	666.69	44.34	665.17	447.58	84.94	148.27	10.65	16.64	42.32	144.03	143.58

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	40.07	0.00	40.07	40.07
l_p,int, Pedestrian LOS Score for Intersectio	3.441	0.000	2.695	2.882
Crosswalk LOS	C	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	802	1298	406	307
d_b, Bicycle Delay [s]	18.10	6.22	32.05	36.16
l_b,int, Bicycle LOS Score for Intersection	2.828	3.006	2.057	2.616
Bicycle LOS	C	C	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	79.6
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.786

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	3	2	0	0	1	2	0	0	0	3	0	0
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	260.0	100.0	100.0	260.0	360.0	100.0	100.0	100.0	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	6	125	1673	518	2	253	1422	436	2	376	472	124	516	223	194
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-28	-8	0	0	6	0	0	0	0	0	1	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	153	0	0	0	131	0	0	0	37	0	0	58
Total Hourly Volume [veh/h]	6	125	1645	357	2	253	1428	305	2	376	472	87	517	223	136
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	34	442	96	1	68	384	82	1	101	127	23	139	60	37
Total Analysis Volume [veh/h]	6	134	1769	384	2	272	1535	328	2	404	508	94	556	240	146
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	158
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups															
Maximum Green [s]	0	25	50	0	0	35	50	0	0	25	15	0	15	25	0
Amber [s]	0.0	4.0	4.7	0.0	0.0	4.0	4.7	0.0	0.0	4.5	4.7	0.0	4.5	4.7	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	39	0	0	0	37	0	0	0	48	0	0	50	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	3.7	0.0	0.0	3.0	3.7	0.0	0.0	4.0	3.7	0.0	4.0	3.7	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	30	56	0	0	40	56	0	0	31	21	0	21	31	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	7	0	0	10	7	0	0	10	10	0	10	10	0
Vehicle Extension [s]	0.0	1.5	3.0	0.0	0.0	1.5	3.0	0.0	0.0	1.5	2.0	0.0	1.5	2.0	0.0
Minimum Recall		No	Yes			No	Yes			No	No		No	No	
Maximum Recall		No	No			No	No			No	No		No	No	
Pedestrian Recall		No	No			No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	158	158	158	158	158	158	158	158	158	158	158	158
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	6.00	5.70	5.70	6.00	5.70	5.70
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	4.00	3.70	3.70	4.00	3.70	3.70
g_i, Effective Green Time [s]	14	84	84	15	84	84	21	22	22	15	17	17
g / C, Green / Cycle	0.09	0.53	0.53	0.09	0.53	0.53	0.13	0.14	0.14	0.09	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.08	0.26	0.24	0.08	0.30	0.21	0.12	0.17	0.17	0.16	0.07	0.09
s, saturation flow rate [veh/h]	1781	6792	1589	3459	5094	1589	3459	1870	1770	3459	3560	1589
c, Capacity [veh/h]	162	3588	840	321	2702	843	453	266	252	328	378	169
d1, Uniform Delay [s]	70.88	23.77	23.18	70.60	24.94	21.95	67.60	67.77	67.77	71.50	67.68	69.50
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.50	0.50	0.19	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.29	0.49	1.79	2.50	0.87	1.35	2.61	106.79	108.24	317.14	0.66	5.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.49	0.46	0.85	0.57	0.39	0.90	1.16	1.16	1.69	0.64	0.87
d, Delay for Lane Group [s/veh]	76.17	24.26	24.98	73.10	25.81	23.31	70.21	174.56	176.01	388.64	68.34	74.58
Lane Group LOS	E	C	C	E	C	C	E	F	F	F	E	E
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.86	10.77	9.43	5.51	12.69	7.36	8.27	18.66	17.76	21.14	4.71	6.08
50th-Percentile Queue Length [ft/ln]	146.59	269.16	235.79	137.66	317.31	183.91	206.85	466.50	444.01	528.62	117.80	152.05
95th-Percentile Queue Length [veh/ln]	9.84	16.15	14.47	9.35	18.54	11.80	12.99	27.59	26.43	33.61	8.27	10.13
95th-Percentile Queue Length [ft/ln]	245.88	403.69	361.70	233.87	463.38	295.11	324.78	689.78	660.77	840.33	206.80	253.16

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	76.17	76.17	24.26	24.98	73.10	73.10	25.81	23.31	70.21	70.21	175.1	176.0	388.64	68.34	74.58
Movement LOS	E	E	C	C	E	E	C	C	E	E	F	F	F	E	E
d_A, Approach Delay [s/veh]	27.55				31.49				132.95				258.36		
Approach LOS	C				C				F				F		
d_I, Intersection Delay [s/veh]	79.60														
Intersection LOS	E														
Intersection V/C	0.786														

Emissions

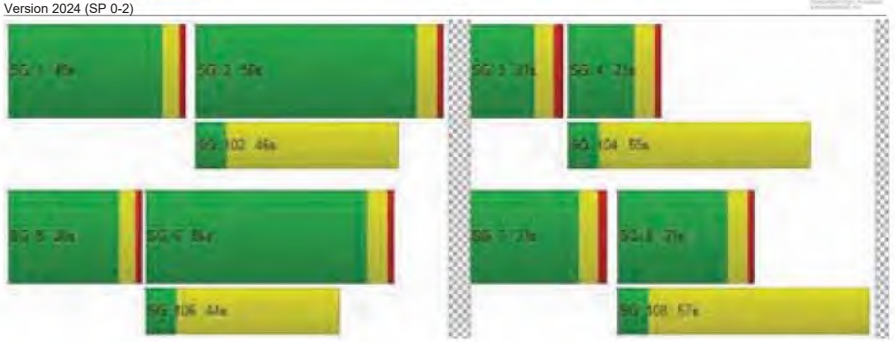
Vehicle Miles Traveled [mph]	55.74	704.35	152.89	61.17	342.67	73.22	101.33	77.19	73.05	58.09	25.08	15.25
Stops [stops/h]	133.60	981.26	214.89	250.93	867.59	167.61	377.04	425.16	404.67	963.56	214.73	138.58
Fuel consumption [US gal/h]	5.20	43.15	9.43	9.29	30.60	6.15	12.05	16.51	15.73	51.68	5.56	3.61
CO [g/h]	363.67	3016.20	659.37	649.50	2138.63	429.85	842.60	1154.14	1099.23	3612.24	388.37	252.27
NOx [g/h]	70.76	586.84	128.29	126.37	416.10	83.63	163.94	224.55	213.87	702.81	75.56	49.08
VOC [g/h]	84.28	699.03	152.81	150.53	495.65	99.62	195.28	267.48	254.76	837.17	90.01	58.47

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	68.38	68.38	68.38	68.38
l_p,int, Pedestrian LOS Score for Intersectio	3.599	3.859	2.837	3.026
Crosswalk LOS	D	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	637	637	194	320
d_b, Bicycle Delay [s]	36.71	36.71	64.44	55.73
l_b,int, Bicycle LOS Score for Intersection	2.566	2.657	2.088	2.385
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	80.0
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.069

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	11	1588	30	0	34	1590	454	703	9	27	1	6	19
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-36	0	0	0	7	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	9	0	0	0	136	0	0	8	0	0	6
Total Hourly Volume [veh/h]	1	11	1552	21	0	34	1597	318	703	9	19	1	6	13
Peak Hour Factor	1.000	0.890	0.890	0.870	1.000	0.870	0.890	0.890	0.8900	0.8700	0.8900	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	436	6	0	10	449	89	197	3	5	0	2	4
Total Analysis Volume [veh/h]	1	12	1744	24	0	39	1794	357	790	10	21	1	7	15
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	112
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	12	40	0	0	15	40	0	0	20	0	0	20	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	12	0	0	0	20	0	0	20	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	0	0	18	46	0	0	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	82	82	82	82	82	82	82	82	82
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	40	40	2	41	41	20	20	2
g / C, Green / Cycle	0.02	0.49	0.49	0.03	0.50	0.50	0.24	0.24	0.03
(v / s)_i Volume / Saturation Flow Rate	0.01	0.47	0.47	0.02	0.58	0.61	0.23	0.23	0.01
s, saturation flow rate [veh/h]	1781	1870	1861	1781	1870	1767	1781	1772	1674
c, Capacity [veh/h]	30	905	901	52	928	877	431	429	45
d1, Uniform Delay [s]	40.22	20.86	20.92	39.82	20.81	20.81	30.85	30.87	39.66
k, delay calibration	0.04	0.42	0.42	0.04	0.50	0.50	0.40	0.40	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.61	22.50	23.28	8.10	83.61	112.17	28.58	29.15	3.31
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.98	0.98	0.76	1.16	1.23	0.95	0.96	0.51
d, Delay for Lane Group [s/veh]	43.83	43.36	44.20	47.92	104.42	132.98	59.43	60.02	42.97
Lane Group LOS	D	D	D	D	F	F	E	E	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.29	20.62	20.81	0.84	35.37	40.37	11.15	11.19	0.49
50th-Percentile Queue Length [ft/ln]	7.19	515.47	520.19	21.08	884.31	1009.23	278.83	279.72	12.36
95th-Percentile Queue Length [veh/ln]	0.52	28.07	28.29	1.52	50.29	58.69	16.63	16.67	0.89
95th-Percentile Queue Length [ft/ln]	12.94	701.64	707.21	37.95	1257.32	1467.16	415.76	416.86	22.25

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.83	43.83	43.77	44.20	47.92	47.92	115.8	132.9	59.71	60.02	60.02	42.97	42.97	42.97
Movement LOS	D	D	D	D	D	D	F	F	E	E	E	D	D	D
d_A, Approach Delay [s/veh]	43.78				117.44				59.72			42.97		
Approach LOS	D				F				E			D		
d_I, Intersection Delay [s/veh]	80.00													
Intersection LOS	E													
Intersection V/C	1.069													

Emissions

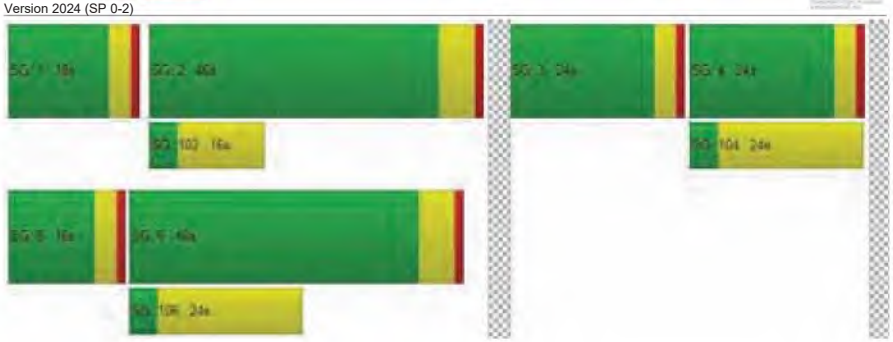
Vehicle Miles Traveled [mph]	4.60	312.98	312.52	15.53	428.22	428.22	99.04	98.78	0.44
Stops [stops/h]	12.55	900.19	908.43	36.82	1544.31	1762.46	486.94	488.48	21.59
Fuel consumption [US gal/h]	0.37	25.66	25.83	1.58	65.86	76.16	11.74	11.77	0.34
CO [g/h]	26.19	1793.88	1805.41	110.69	4603.67	5323.69	820.51	822.84	23.65
NOx [g/h]	5.09	349.02	351.27	21.54	895.71	1035.80	159.64	160.10	4.60
VOC [g/h]	6.07	415.75	418.42	25.65	1066.94	1233.82	190.16	190.70	5.48

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	33.62	0.00	33.62	33.62
l_p,int, Pedestrian LOS Score for Intersectio	3.016	0.000	2.386	1.776
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	970	970	485	485
d_b, Bicycle Delay [s]	10.93	10.93	23.65	23.65
l_b,int, Bicycle LOS Score for Intersection	3.036	3.446	2.927	1.607
Bicycle LOS	C	C	C	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Latrobe Rd/Suncast Ln

Control Type:	Signalized	Delay (sec / veh):	22.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.875

Intersection Setup

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Approach	Northbound			Southbound		Eastbound	
Lane Configuration							
Turning Movement	U-turn	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			No		Yes	

Volumes

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Base Volume Input [veh/h]	0	90	1321	1429	190	309	178
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-1	-36	7	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	57	0	53
Total Hourly Volume [veh/h]	0	89	1285	1436	133	309	125
Peak Hour Factor	1.0000	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	25	361	403	37	87	35
Total Analysis Volume [veh/h]	0	100	1444	1613	149	347	140
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permissive	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	5	2	6	0	3	0
Auxiliary Signal Groups							
Maximum Green [s]	0	12	40	40	0	20	0
Amber [s]	0.0	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No	No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	46	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-
Minimum Green [s]	0	5	5	5	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall		No	No	No		No	
Maximum Recall		No	No	No		No	
Pedestrian Recall		No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	L	R
C, Cycle Length [s]	76	76	76	76	76	76
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	6	49	39	39	17	17
g / C, Green / Cycle	0.07	0.64	0.52	0.52	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.06	0.41	0.47	0.49	0.19	0.09
s, saturation flow rate [veh/h]	1781	3560	1870	1816	1781	1589
c, Capacity [veh/h]	131	2295	970	942	399	356
d1, Uniform Delay [s]	34.58	8.08	16.66	17.12	28.44	25.11
k, delay calibration	0.04	0.15	0.37	0.39	0.24	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.48	0.41	10.84	14.41	12.21	0.71
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.63	0.91	0.94	0.87	0.39
d, Delay for Lane Group [s/veh]	38.06	8.49	27.50	31.52	40.66	25.82
Lane Group LOS	D	A	C	C	D	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.89	5.72	15.00	16.17	7.16	2.14
50th-Percentile Queue Length [ft/ln]	47.25	143.00	374.90	404.37	178.99	53.46
95th-Percentile Queue Length [veh/ln]	3.40	9.64	21.35	22.77	11.55	3.85
95th-Percentile Queue Length [ft/ln]	85.05	241.05	533.68	569.26	288.69	96.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.06	38.06	8.49	29.33	31.52	40.66	25.82
Movement LOS	D	D	A	C	C	D	C
d_A, Approach Delay [s/veh]	10.40			29.51		36.39	
Approach LOS	B			C		D	
d_I, Intersection Delay [s/veh]	22.62						
Intersection LOS	C						
Intersection V/C	0.875						

Emissions

Vehicle Miles Traveled [mph]	69.56	1004.38	311.69	311.69	117.08	47.24
Stops [stops/h]	89.71	543.04	711.87	767.82	339.86	101.51
Fuel consumption [US gal/h]	4.13	46.84	21.69	22.72	9.57	3.24
CO [g/h]	288.94	3274.22	1516.44	1588.47	668.81	226.54
NOx [g/h]	56.22	637.04	295.04	309.06	130.13	44.08
VOC [g/h]	66.96	758.83	351.45	368.14	155.00	52.50

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	30.34	0.00	30.34
l_p,int, Pedestrian LOS Score for Intersectio	2.947	0.000	2.285
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1055	1055	527
d_b, Bicycle Delay [s]	8.47	8.47	20.56
l_b,int, Bicycle LOS Score for Intersection	2.833	3.060	1.560
Bicycle LOS	C	C	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	132.3
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.102

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	108	575	28	352	446	809	686	216	57	68	155	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-5	-15	-3	0	3	4	-22	-4	1	1	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	244	0	0	17	0	0	45
Total Hourly Volume [veh/h]	103	560	17	352	449	569	664	212	41	69	156	105
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	154	5	97	123	156	182	58	11	19	43	29
Total Analysis Volume [veh/h]	113	615	19	387	493	625	730	233	45	76	171	115
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Cycle Length [s]	77	77	77	77	77	77	77	77	77	77
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	6	19	19	12	25	25	15	15	12	12
g / C, Green / Cycle	0.08	0.25	0.25	0.16	0.32	0.32	0.19	0.19	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.06	0.17	0.17	0.22	0.26	0.39	0.28	0.28	0.13	0.07
s, saturation flow rate [veh/h]	1781	1870	1850	1781	1870	1589	1781	1801	1842	1589
c, Capacity [veh/h]	145	467	462	276	604	513	345	349	293	253
d1, Uniform Delay [s]	34.86	26.28	26.28	32.71	24.10	26.21	31.21	31.21	31.63	29.52
k, delay calibration	0.04	0.04	0.04	0.50	0.24	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.34	0.66	0.67	201.35	6.02	114.74	222.72	215.48	2.57	0.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.68	0.68	1.40	0.82	1.22	1.46	1.44	0.84	0.46
d, Delay for Lane Group [s/veh]	38.20	26.94	26.95	234.06	30.12	140.95	253.93	246.69	34.20	30.00
Lane Group LOS	D	C	C	F	C	F	F	F	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.17	5.17	5.12	20.05	8.05	24.33	27.52	27.13	4.54	1.92
50th-Percentile Queue Length [ft/ln]	54.20	129.24	127.99	501.30	201.21	608.16	688.01	678.30	113.57	47.92
95th-Percentile Queue Length [veh/ln]	3.90	8.90	8.83	31.44	12.70	36.41	42.64	41.96	8.04	3.45
95th-Percentile Queue Length [ft/ln]	97.56	222.46	220.76	786.08	317.52	910.33	1065.99	1048.91	200.95	86.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.20	26.94	26.95	234.06	30.12	140.95	251.69	246.69	246.69	34.20	34.20	30.00
Movement LOS	D	C	C	F	C	F	F	F	F	C	C	C
d_A, Approach Delay [s/veh]	28.65			128.59			250.31			32.86		
Approach LOS	C			F			F			C		
d_I, Intersection Delay [s/veh]	132.29											
Intersection LOS	F											
Intersection V/C	1.102											

Emissions

Vehicle Miles Traveled [mph]	65.26	183.99	182.16	269.18	342.91	434.72	37.92	37.92	27.32	12.72
Stops [stops/h]	100.94	240.70	238.37	933.60	374.73	1132.63	1281.33	1263.24	211.50	89.24
Fuel consumption [US gal/h]	4.12	10.65	10.55	44.78	21.45	53.50	34.68	33.84	4.01	1.72
CO [g/h]	288.18	744.48	737.14	3129.83	1499.59	3740.00	2424.11	2365.23	280.44	120.14
NOx [g/h]	56.07	144.85	143.42	608.95	291.77	727.67	471.64	460.19	54.56	23.37
VOC [g/h]	66.79	172.54	170.84	725.37	347.55	866.78	561.81	548.16	64.99	27.84

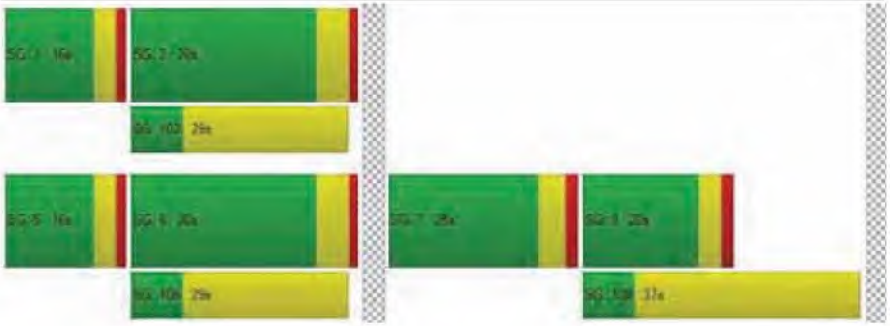
Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	28.44	0.00	28.44	28.44
l_p,int, Pedestrian LOS Score for Intersectio	2.573	0.000	2.664	2.338
Crosswalk LOS	B	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	639	639	401	517
d_b, Bicycle Delay [s]	17.91	17.91	24.71	21.25
l_b,int, Bicycle LOS Score for Intersection	2.182	3.003	3.251	2.231
Bicycle LOS	B	C	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	19.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.785

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	148	314	452	119	397	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	0	0	4	-23	-3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	37	0	0
Total Hourly Volume [veh/h]	149	314	452	86	374	117
Peak Hour Factor	0.9000	0.9000	0.9000	0.7900	0.7900	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	87	126	27	118	33
Total Analysis Volume [veh/h]	166	349	502	109	473	130
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	164
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	50	50	50	0	50	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	54	56	56	0	54	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	7	31	20	20	19	19
g / C, Green / Cycle	0.12	0.52	0.33	0.33	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.09	0.19	0.27	0.07	0.27	0.08
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1589
c, Capacity [veh/h]	213	969	620	527	560	500
d1, Uniform Delay [s]	25.58	8.54	18.28	14.35	19.14	15.31
k, delay calibration	0.04	0.15	0.15	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.32	0.32	3.64	0.27	3.57	0.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.36	0.81	0.21	0.84	0.26
d, Delay for Lane Group [s/veh]	27.90	8.86	21.92	14.63	22.72	15.58
Lane Group LOS	C	A	C	B	C	B
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.07	1.79	5.48	0.87	6.02	1.24
50th-Percentile Queue Length [ft/ln]	51.87	44.78	136.94	21.68	150.57	30.99
95th-Percentile Queue Length [veh/ln]	3.73	3.22	9.32	1.56	10.05	2.23
95th-Percentile Queue Length [ft/ln]	93.37	80.61	232.90	39.03	251.19	55.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.90	8.86	21.92	14.63	22.72	15.58
Movement LOS	C	A	C	B	C	B
d_A, Approach Delay [s/veh]	15.00		20.62		21.18	
Approach LOS	B		C		C	
d_I, Intersection Delay [s/veh]	19.14					
Intersection LOS	B					
Intersection V/C	0.785					

Emissions

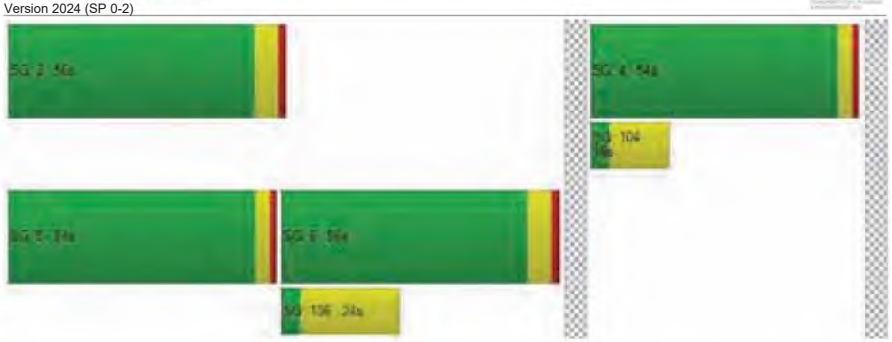
Vehicle Miles Traveled [mph]	20.48	43.06	289.92	62.95	111.09	30.53
Stops [stops/h]	125.08	107.99	330.21	52.28	363.08	74.73
Fuel consumption [US gal/h]	3.95	4.08	18.07	3.40	8.77	2.08
CO [g/h]	276.16	284.89	1263.14	237.76	612.75	145.54
NOx [g/h]	53.73	55.43	245.76	46.26	119.22	28.32
VOC [g/h]	64.00	66.03	292.75	55.10	142.01	33.73

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.39	0.00	22.39
l_p,int, Pedestrian LOS Score for Intersectio	2.606	0.000	2.220
Crosswalk LOS	B	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1675	1675	1675
d_b, Bicycle Delay [s]	0.79	0.79	0.79
l_b,int, Bicycle LOS Score for Intersection	2.409	2.629	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	24.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	413	0	25	547	0	0	0	0	2	0	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	0	0	-3	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	414	0	25	544	0	0	0	0	2	0	49
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	113	0	6	148	0	0	0	0	1	0	12
Total Analysis Volume [veh/h]	0	450	0	25	591	0	0	0	0	2	0	49
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			Yes	Yes
Storage Area [veh]	0	0	1	1
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.08
d_M, Delay for Movement [s/veh]	8.66	0.00	0.00	8.27	0.00	0.00	26.89	22.34	12.10	24.87	22.85	11.42
Movement LOS	A	A	A	A	A	A	D	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.04	0.04	0.04	0.00	0.00	0.00	0.26	0.26	0.26
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	1.06	1.06	1.06	0.00	0.00	0.00	6.60	6.60	6.60
d_A, Approach Delay [s/veh]	0.00			0.34			20.44			11.94		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	0.73											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Two-way stop	Delay (sec / veh):	35.9
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.355

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	314	19	123	426	0	0	0	0	59	0	99
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	0	0	-3	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	315	19	123	423	0	0	0	0	59	0	99
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	85	5	33	114	0	0	0	0	16	0	27
Total Analysis Volume [veh/h]	0	339	20	132	455	0	0	0	0	63	0	106
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.35	0.00	0.15
d_M, Delay for Movement [s/veh]	8.26	0.00	0.00	8.37	0.00	0.00	31.02	23.50	10.95	35.92	33.89	20.83
Movement LOS	A	A	A	A	A	A	D	C	B	E	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.00	2.73	2.73	2.73
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	9.25	0.00	0.00	0.00	0.00	0.00	68.24	68.24	68.24
d_A, Approach Delay [s/veh]	0.00			1.88			21.82			26.45		
Approach LOS	A			A			C			D		
d_I, Intersection Delay [s/veh]	5.00											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	27.742

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	114	790	168	55	1	886	185
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-9	-26	1	1	0	5	-5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	105	764	169	56	1	891	180
Peak Hour Factor	1.0000	0.8800	0.8800	0.8800	0.8800	1.0000	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	30	217	48	16	0	253	51
Total Analysis Volume [veh/h]	0	119	868	192	64	1	1013	205
Pedestrian Volume [ped/h]	0			0		0		

Intersection Settings

Priority Scheme	Stop		Free		Free		
Flared Lane	No						
Storage Area [veh]	0		0		0		
Two-Stage Gap Acceptance	No						
Number of Storage Spaces in Median	0		0		0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	27.74	1.06	0.00	0.00	0.00	0.77	0.00
d_M, Delay for Movement [s/veh]	10000.00	10000.00	10000.00	0.00	0.00	10000.00	14.29	0.00
Movement LOS	F	F	F	A	A	F	B	A
95th-Percentile Queue Length [veh/ln]	122.12	122.12	122.12	0.00	0.00	6.98	6.98	6.98
95th-Percentile Queue Length [ft/ln]	3053.07	3053.07	3053.07	0.00	0.00	174.39	174.39	174.39
d_A, Approach Delay [s/veh]	10000.00			0.00		20.08		
Approach LOS	F			A		C		
d_I, Intersection Delay [s/veh]	4018.88							
Intersection LOS	F							

Intersection Level Of Service Report
Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Control Type:	All-way stop	Delay (sec / veh):	135.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.351

Intersection Setup

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Base Volume Input [veh/h]	49	466	87	0	33	476	32	39	34	32	218	16	66
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	7	-37	-26	0	0	5	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	49	466	87	0	33	476	39	2	8	32	218	21	66
Peak Hour Factor	0.8300	0.8300	0.8300	1.000	0.790	0.830	0.830	0.8300	0.8300	0.8300	0.8300	0.8300	0.7900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	140	26	0	10	143	12	1	2	10	66	6	21
Total Analysis Volume [veh/h]	59	561	105	0	42	573	47	2	10	39	263	25	84
Pedestrian Volume [ped/h]	0			0				0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	725	662	423	491
Degree of Utilization, x	1.35	1.24	0.12	0.76

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	32.01	25.71	0.41	6.53
95th-Percentile Queue Length [ft]	800.34	642.71	10.21	163.15
Approach Delay [s/veh]	190.04	145.74	12.69	29.82
Approach LOS	F	F	B	D
Intersection Delay [s/veh]	135.91			
Intersection LOS	F			

Intersection Level Of Service Report
Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	21.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.374

Intersection Setup

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00			30.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	No		No			No		

Volumes

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Base Volume Input [veh/h]	109	80	0	143	180	2	109	195
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	0	0	0	0	-13	-1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	109	82	0	143	180	2	96	194
Peak Hour Factor	0.8400	0.8400	1.0000	0.8400	0.8400	1.0000	0.8400	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	24	0	43	54	1	29	58
Total Analysis Volume [veh/h]	130	98	0	170	214	2	114	231
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Priority Scheme	Stop		Free			Free		
Flared Lane								
Storage Area [veh]	0		0			0		
Two-Stage Gap Acceptance	No							
Number of Storage Spaces in Median	0		0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.37	0.13	0.00	0.00	0.00	0.00	0.10	0.00
d_M, Delay for Movement [s/veh]	21.42	10.42	9.41	0.00	0.00	11.72	8.41	0.00
Movement LOS	C	B	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	1.69	0.44	0.00	0.00	0.00	0.33	0.33	0.00
95th-Percentile Queue Length [ft/ln]	42.21	11.01	0.00	0.00	0.00	8.37	8.37	0.00
d_A, Approach Delay [s/veh]	16.69		0.00			2.83		
Approach LOS	C		A			A		
d_I, Intersection Delay [s/veh]	4.99							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 16: Carson Crossing Rd/Calypso Cir.

Control Type:	Two-way stop	Delay (sec / veh):	20.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.308

Intersection Setup

Name			Carson Crossing Rd		Carson Crossing Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	190.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			Carson Crossing Rd		Carson Crossing Rd	
Base Volume Input [veh/h]	107	158	87	152	170	174
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	2	0	0	-13
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	107	158	89	152	170	161
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	43	24	41	46	44
Total Analysis Volume [veh/h]	116	172	97	165	185	175
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.31	0.18	0.00	0.00	0.14	0.00
d_M, Delay for Movement [s/veh]	20.23	14.42	0.00	0.00	8.22	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.67	2.67	0.00	0.00	0.49	0.00
95th-Percentile Queue Length [ft/ln]	66.69	66.69	0.00	0.00	12.37	0.00
d_A, Approach Delay [s/veh]	16.76		0.00		4.22	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	6.98					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 17: Carson Crossing Rd/Four Seasons Dr

Control Type:	All-way stop	Delay (sec / veh):	8.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.147

Intersection Setup

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	500.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	500.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Base Volume Input [veh/h]	199	12	27	171	0	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-13	0	0	2	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	186	12	27	173	0	3
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	3	7	47	0	1
Total Analysis Volume [veh/h]	202	13	29	188	0	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	730	743	692	766	766	744
Degree of Utilization, x	0.15	0.14	0.04	0.12	0.12	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.51	0.50	0.13	0.42	0.42	0.01
95th-Percentile Queue Length [ft]	12.86	12.61	3.27	10.44	10.44	0.30
Approach Delay [s/veh]	8.42		8.07			7.86
Approach LOS	A		A			A
Intersection Delay [s/veh]	8.24					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	411.5
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.659

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	172	0	29	7	1	21	5	578	115	81	536	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-13	0	0	0	0	0	0	0	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	159	0	29	7	1	21	5	578	117	81	536	11
Peak Hour Factor	0.9700	1.0000	0.9300	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9300	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	0	8	2	0	5	1	149	30	22	138	3
Total Analysis Volume [veh/h]	164	0	31	7	1	22	5	596	121	87	553	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	1.66	0.00	0.07	0.07	0.01	0.04	0.00	0.01	0.00	0.10	0.01	0.00
d_M, Delay for Movement [s/veh]	411.55	34.33	13.29	43.43	38.07	13.80	8.59	0.00	0.00	9.52	0.00	0.00
Movement LOS	F	D	B	E	E	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	12.91	0.21	0.21	0.41	0.41	0.41	0.01	0.00	0.00	0.33	0.00	0.00
95th-Percentile Queue Length [ft/ln]	322.72	5.33	5.33	10.18	10.18	10.18	0.37	0.00	0.00	8.16	0.00	0.00
d_A, Approach Delay [s/veh]	348.24			21.52			0.06			1.27		
Approach LOS	F			C			A			A		
d_I, Intersection Delay [s/veh]	43.44											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 19: White Rock Rd/Windfield Way

Control Type:	Signalized	Delay (sec / veh):	32.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.581

Intersection Setup

Name	Windfield Way						White Rock Rd			White Rock Rd			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00			
Grade [%]	0.00			0.00			0.00			0.00			
Curb Present	No			No			No			No			
Crosswalk	Yes			Yes			Yes			No			

Volumes

Name	Windfield Way						White Rock Rd			White Rock Rd			
Base Volume Input [veh/h]	278	5	310	5	5	5	5	663	84	14	225	542	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	93	0	0	0	0	0	25	0	0	0	0
Total Hourly Volume [veh/h]	278	5	217	5	5	5	5	663	59	14	225	542	5
Peak Hour Factor	0.9400	1.0000	0.9400	1.0000	1.0000	1.0000	1.0000	0.9400	0.9400	1.000	0.940	0.940	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	74	1	58	1	1	1	1	176	16	4	60	144	1
Total Analysis Volume [veh/h]	296	5	231	5	5	5	5	705	63	14	239	577	5
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	73.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi
Signal Group	3	8	0	7	4	0	5	2	0	0	1	6	0
Auxiliary Signal Groups													
Maximum Green [s]	25	25	0	10	10	0	9	19	0	0	44	54	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	2.0	1.0	0.0	0.0	2.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	26	0	0	13	0	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	245.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	15	15	0	15	25	0	0	50	60	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	3	3	0	5	3	0	5	7	0	0	3	7	0
Vehicle Extension [s]	1.0	1.0	0.0	3.0	1.0	0.0	3.0	3.6	0.0	0.0	1.0	3.6	0.0
Minimum Recall	No	No		No	No		No	Yes			No	Yes	
Maximum Recall	No	No		No	No		No	No			No	No	
Pedestrian Recall	No	No		No	No		No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	22	22	1	1	1	57	57	19	75	75
g / C, Green / Cycle	0.18	0.18	0.01	0.01	0.01	0.47	0.47	0.16	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.17	0.15	0.00	0.01	0.00	0.21	0.21	0.14	0.16	0.16
s, saturation flow rate [veh/h]	1781	1595	1781	1718	1781	1870	1817	1781	1870	1864
c, Capacity [veh/h]	321	289	12	13	12	881	856	280	1162	1159
d1, Uniform Delay [s]	48.33	47.22	59.33	59.43	59.34	21.19	21.20	49.66	10.18	10.18
k, delay calibration	0.24	0.04	0.11	0.04	0.11	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	19.74	2.17	19.50	27.26	19.95	1.61	1.66	4.34	0.52	0.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.82	0.40	0.76	0.40	0.44	0.44	0.90	0.25	0.25
d, Delay for Lane Group [s/veh]	68.07	49.39	78.83	86.69	79.29	22.80	22.86	53.99	10.70	10.70
Lane Group LOS	E	D	E	F	E	C	C	D	B	B
Critical Lane Group	Yes	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	10.44	6.94	0.22	0.40	0.22	7.63	7.44	7.77	3.52	3.51
50th-Percentile Queue Length [ft/ln]	260.93	173.40	5.48	10.09	5.50	190.84	185.96	194.31	87.98	87.74
95th-Percentile Queue Length [veh/ln]	15.74	11.25	0.39	0.73	0.40	12.16	11.91	12.34	6.33	6.32
95th-Percentile Queue Length [ft/ln]	393.38	281.37	9.86	18.17	9.90	304.11	297.78	308.62	158.37	157.93

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	68.07	49.39	49.39	78.83	86.69	86.69	79.29	22.83	22.86	53.99	53.99	10.70	10.70
Movement LOS	E	D	D	E	F	F	E	C	C	D	D	B	B
d_A, Approach Delay [s/veh]	59.78			84.07			23.20			23.81			
Approach LOS	E			F			C			C			
d_I, Intersection Delay [s/veh]	32.89												
Intersection LOS	C												
Intersection V/C	0.581												

Emissions

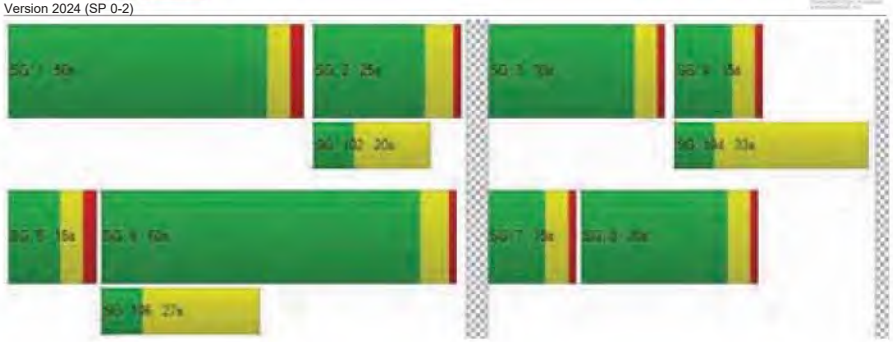
Vehicle Miles Traveled [mph]	114.05	90.93	0.23	0.46	4.21	327.63	318.66	63.14	72.73	72.52
Stops [stops/h]	313.11	208.08	6.57	12.11	6.60	229.00	223.15	233.18	105.58	105.28
Fuel consumption [US gal/h]	10.53	7.26	0.13	0.26	0.29	16.56	16.11	6.67	4.21	4.20
CO [g/h]	735.70	507.80	8.80	18.32	20.29	1157.47	1126.28	466.03	294.41	293.55
NOx [g/h]	143.14	98.80	1.71	3.56	3.95	225.20	219.13	90.67	57.28	57.11
VOC [g/h]	170.51	117.69	2.04	4.25	4.70	268.25	261.03	108.01	68.23	68.03

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.397	1.964	2.676	0.000
Crosswalk LOS	B	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	417	167	317	900
d_b, Bicycle Delay [s]	37.60	50.42	42.50	18.15
l_b,int, Bicycle LOS Score for Intersection	2.591	1.584	2.218	2.051
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 20: White Rock Rd/Post St

Control Type:	Signalized	Delay (sec / veh):	67.2
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.603

Intersection Setup

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Approach	Northbound			Southbound			Eastbound				Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0	120.00	100.00	400.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00				30.00		
Grade [%]	0.00			0.00			0.00				0.00		
Curb Present	No			No			No				No		
Crosswalk	Yes			Yes			Yes				No		

Volumes

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	69	16	29	189	15	238	3	218	967	55	86	623	178
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	-2	-6	0	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	9	0	0	71	0	0	0	17	0	0	53
Total Hourly Volume [veh/h]	69	16	20	189	15	167	3	216	961	38	86	624	125
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	1.000	0.910	0.860	0.910	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	4	5	52	4	46	1	59	279	10	24	171	34
Total Analysis Volume [veh/h]	76	18	22	208	16	184	3	237	1117	42	95	686	137
Presence of On-Street Parking	No		No	No		No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0				0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0				0		
v_co, Outbound Pedestrian Volume crossing	0			0			0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0				0		
Bicycle Volume [bicycles/h]	0			0			0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	55.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups													
Maximum Green [s]	21	62	0	8	48	0	0	14	31	0	16	34	0
Amber [s]	3.5	5.0	0.0	3.5	5.0	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.7	1.0	0.0	1.0	1.0	0.0	0.0	2.0	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	32	0	0	0	21	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.2	4.0	0.0	2.5	4.0	0.0	0.0	3.5	2.5	0.0	3.0	2.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	100.0	0.0	100.0	100.0	0.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	0	13	54	0	0	20	36	0	21	39	0
Lead / Lag	Lead	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	3	7	0	3	7	0	0	3	3	0	3	3	0
Vehicle Extension [s]	1.0	3.6	0.0	1.0	3.6	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No			No	Yes		No	Yes	
Maximum Recall	No	No		No	No			No	No		No	No	
Pedestrian Recall	No	No		No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	5.20	6.00	4.50	6.00	5.50	4.50	4.50	5.00	4.50	4.50
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.20	4.00	2.50	4.00	3.50	2.50	2.50	3.00	2.50	2.50
g_i, Effective Green Time [s]	8	20	9	20	21	83	83	9	71	71
g / C, Green / Cycle	0.05	0.14	0.06	0.14	0.15	0.59	0.59	0.07	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.04	0.02	0.12	0.12	0.13	0.31	0.03	0.05	0.23	0.23
s, saturation flow rate [veh/h]	1781	1705	1781	1609	1781	3560	1589	1781	1870	1763
c, Capacity [veh/h]	96	240	108	229	261	2101	938	117	945	891
d1, Uniform Delay [s]	65.45	52.93	65.75	58.78	58.90	17.13	12.08	64.56	22.14	22.14
k, delay calibration	0.04	0.13	0.50	0.13	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.39	0.40	447.82	11.99	5.39	0.97	0.09	5.05	1.54	1.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.17	1.92	0.87	0.92	0.53	0.04	0.81	0.45	0.45
d, Delay for Lane Group [s/veh]	70.84	53.34	513.57	70.77	64.28	18.10	12.17	69.61	23.67	23.77
Lane Group LOS	E	D	F	E	E	B	B	E	C	C
Critical Lane Group	Yes	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.84	1.28	17.32	7.72	8.79	10.90	0.59	3.52	9.36	8.85
50th-Percentile Queue Length [ft/ln]	70.90	31.95	433.09	193.05	219.75	272.39	14.65	88.04	234.01	221.28
95th-Percentile Queue Length [veh/ln]	5.11	2.30	28.06	12.28	13.65	16.31	1.05	6.34	14.38	13.73
95th-Percentile Queue Length [ft/ln]	127.63	57.52	701.52	306.99	341.30	407.73	26.37	158.46	359.45	343.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	70.84	53.34	53.34	513.57	70.77	70.77	64.28	64.28	18.10	12.17	69.61	23.71	23.77
Movement LOS	E	D	D	F	E	E	E	E	B	B	E	C	C
d_A, Approach Delay [s/veh]	64.81			296.51			25.85				28.47		
Approach LOS	E			F			C				C		
d_I, Intersection Delay [s/veh]	67.15												
Intersection LOS	E												
Intersection V/C	0.603												

Emissions

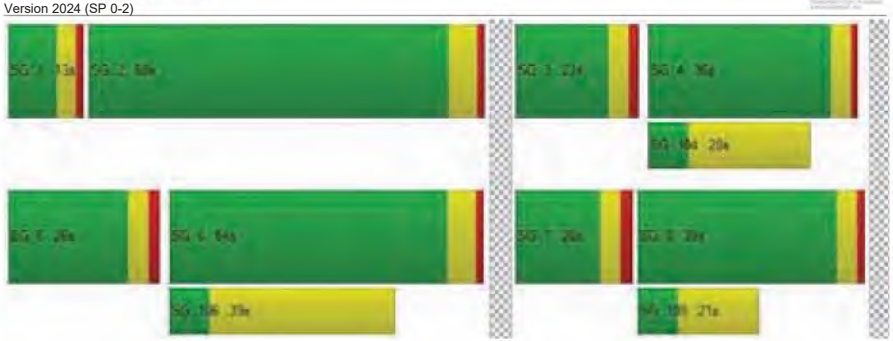
Vehicle Miles Traveled [mph]	3.80	2.00	9.67	9.30	25.08	116.71	4.39	33.26	148.31	139.87
Stops [stops/h]	72.93	32.87	445.46	198.57	226.03	560.35	15.07	90.55	240.70	227.61
Fuel consumption [US gal/h]	1.65	0.70	24.59	4.36	5.42	12.01	0.37	3.22	9.48	8.95
CO [g/h]	115.68	48.80	1719.00	304.74	378.88	839.85	25.72	224.75	662.35	625.43
NOx [g/h]	22.51	9.49	334.45	59.29	73.72	163.40	5.00	43.73	128.87	121.69
VOC [g/h]	26.81	11.31	398.39	70.63	87.81	194.64	5.96	52.09	153.51	144.95

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	59.43	59.43	59.43	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.070	2.363	2.894	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	886	686	450	493
d_b, Bicycle Delay [s]	21.73	30.23	42.04	39.75
l_b,int, Bicycle LOS Score for Intersection	1.766	2.350	2.532	2.361
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	259.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.375

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	102	74	453	315	125	60	66	907	231	350	734	187
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-1	-3	0	0	0	0	-6	0	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	135	0	0	18	0	0	69	0	0	56
Total Hourly Volume [veh/h]	102	73	315	315	125	42	66	901	162	350	735	131
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	19	81	81	32	11	17	232	42	90	189	34
Total Analysis Volume [veh/h]	105	75	325	325	129	43	68	929	167	361	758	135
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	0	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	35	0	0	40	0	25	45	0	25	45	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	18	0	0	17	0	0	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	0	0	44	0	29	50	0	29	51	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	0.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	153	153	153	153	153	153	153	153
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	3.50	5.30	3.50	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	1.50	3.30	1.50	4.00
g_i, Effective Green Time [s]	35	35	31	31	7	45	25	62
g / C, Green / Cycle	0.23	0.23	0.20	0.20	0.05	0.29	0.16	0.40
(v / s)_i Volume / Saturation Flow Rate	0.06	0.24	0.18	0.10	0.04	0.60	0.20	0.49
s, saturation flow rate [veh/h]	1781	1635	1781	1791	1781	1821	1781	1821
c, Capacity [veh/h]	407	374	359	361	88	535	291	735
d1, Uniform Delay [s]	48.39	59.04	59.67	53.96	71.94	54.04	64.04	45.65
k, delay calibration	0.13	0.50	0.25	0.13	0.04	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.41	66.30	17.22	1.22	5.44	477.68	134.26	108.96
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.26	1.07	0.90	0.48	0.78	2.05	1.24	1.21
d, Delay for Lane Group [s/veh]	48.81	125.34	76.88	55.18	77.38	531.71	198.30	154.61
Lane Group LOS	D	F	E	E	E	F	F	F
Critical Lane Group	No	Yes	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.38	21.38	14.07	6.03	2.79	91.61	22.21	49.91
50th-Percentile Queue Length [ft/ln]	84.58	534.59	351.64	150.80	69.68	2290.25	555.21	1247.85
95th-Percentile Queue Length [veh/ln]	6.09	30.12	20.22	10.06	5.02	143.54	33.09	70.23
95th-Percentile Queue Length [ft/ln]	152.25	753.06	505.41	251.50	125.43	3588.62	827.37	1755.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.81	125.34	125.34	76.88	55.18	55.18	77.38	531.71	531.71	198.30	154.61	154.61
Movement LOS	D	F	F	E	E	E	E	F	F	F	F	F
d_A, Approach Delay [s/veh]	109.43			69.37			505.17			167.18		
Approach LOS	F			E			F			F		
d_I, Intersection Delay [s/veh]	259.48											
Intersection LOS	F											
Intersection V/C	1.375											

Emissions

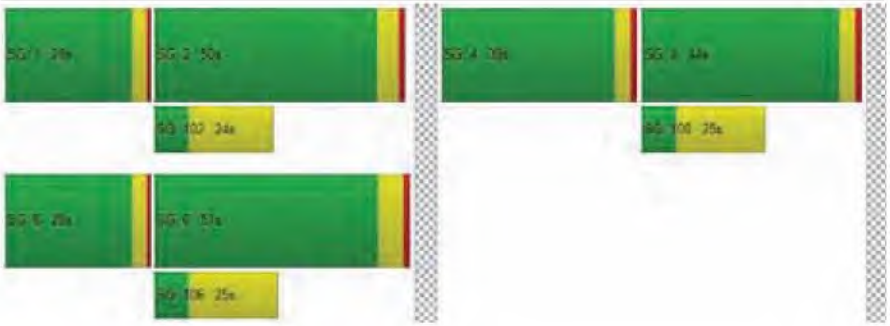
Vehicle Miles Traveled [mph]	180.67	688.26	65.89	34.87	23.81	383.77	162.89	402.94
Stops [stops/h]	79.59	503.03	330.89	141.90	65.57	2155.06	522.44	1174.19
Fuel consumption [US gal/h]	8.92	41.31	9.62	4.15	2.41	146.27	24.16	51.17
CO [g/h]	623.50	2887.78	672.77	290.12	168.68	10224.02	1688.57	3576.44
NOx [g/h]	121.31	561.86	130.90	56.45	32.82	1989.22	328.53	695.85
VOC [g/h]	144.50	669.27	155.92	67.24	39.09	2369.52	391.34	828.87

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	65.91	65.91	65.91	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.601	2.267	2.765	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	455	520	584	588
d_b, Bicycle Delay [s]	45.67	41.89	38.34	38.13
l_b,int, Bicycle LOS Score for Intersection	2.616	2.409	3.594	3.721
Bicycle LOS	B	B	D	D

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 22: White Rock Rd/Clarksville Crossing

Control Type:	Signalized	Delay (sec / veh):	37.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.901

Intersection Setup

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	180.00	460.00	100.00	100.00	290.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

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Volumes

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	0	0	2	80	0	334	8	1666	1	0	937	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	-9	0	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	2	80	0	334	8	1657	1	0	938	2
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.9600	0.7800	0.7800	0.9600	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	26	0	107	3	432	0	0	244	1
Total Analysis Volume [veh/h]	0	0	3	103	0	428	10	1726	1	0	977	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	20	0	0	20	0	20	50	0	20	50	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	5.0	0.0	4.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	5.0	0.0	3.0	5.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	R
C, Cycle Length [s]	86	86	86	86	86	86	86	86	86	86
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	7.00	7.00	5.00	7.00	7.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	5.00	5.00	3.00	5.00	5.00
g_i, Effective Green Time [s]	0	0	20	20	1	44	44	0	42	42
g / C, Green / Cycle	0.00	0.00	0.23	0.23	0.01	0.51	0.51	0.00	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.06	0.27	0.01	0.46	0.46	0.00	0.27	0.00
s, saturation flow rate [veh/h]	1870	1589	1781	1589	1781	1870	1870	1781	3560	1589
c, Capacity [veh/h]	8	7	414	370	22	948	948	0	1761	786
d1, Uniform Delay [s]	0.00	42.69	26.85	32.97	42.13	19.40	19.41	0.00	15.13	11.00
k, delay calibration	0.11	0.11	0.11	0.50	0.11	0.28	0.28	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	41.72	0.31	96.82	13.39	8.94	8.95	0.00	0.27	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.45	0.25	1.16	0.45	0.91	0.91	0.00	0.55	0.00
d, Delay for Lane Group [s/veh]	0.00	84.41	27.16	129.79	55.52	28.34	28.35	0.00	15.40	11.00
Lane Group LOS	A	F	C	F	E	C	C	A	B	B
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.00	0.14	1.72	17.38	0.29	16.60	16.61	0.00	6.25	0.03
50th-Percentile Queue Length [ft/ln]	0.00	3.48	43.02	434.50	7.27	415.08	415.16	0.00	156.14	0.70
95th-Percentile Queue Length [veh/ln]	0.00	0.25	3.10	26.17	0.52	23.29	23.29	0.00	10.34	0.05
95th-Percentile Queue Length [ft/ln]	0.00	6.27	77.43	654.34	13.09	582.15	582.24	0.00	258.61	1.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	84.41	27.16	27.16	129.79	55.52	28.35	28.35	0.00	15.40	11.00
Movement LOS	A	A	F	C	C	F	E	C	C	A	B	B
d_A, Approach Delay [s/veh]	84.41			109.88			28.50			15.39		
Approach LOS	F			F			C			B		
d_I, Intersection Delay [s/veh]	37.89											
Intersection LOS	D											
Intersection V/C	0.901											

Emissions

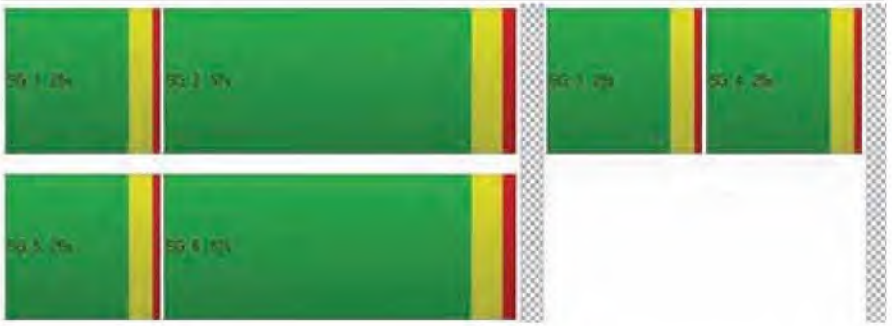
Vehicle Miles Traveled [mph]	0.00	0.15	48.86	203.03	4.51	389.65	389.62	0.00	170.43	0.52
Stops [stops/h]	0.00	5.84	72.14	728.64	12.20	696.08	696.22	0.00	523.70	1.17
Fuel consumption [US gal/h]	0.00	0.09	2.98	23.69	0.37	24.87	24.87	0.00	12.97	0.03
CO [g/h]	0.00	6.29	208.25	1655.70	25.59	1738.16	1738.28	0.00	906.75	2.43
NOx [g/h]	0.00	1.22	40.52	322.14	4.98	338.18	338.21	0.00	176.42	0.47
VOC [g/h]	0.00	1.46	48.26	383.72	5.93	402.84	402.86	0.00	210.15	0.56

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	466	466	1165	1165
d_b, Bicycle Delay [s]	25.26	25.26	7.49	7.49
l_b,int, Bicycle LOS Score for Intersection	1.565	2.436	2.993	2.368
Bicycle LOS	A	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 23: White Rock Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	49.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.775

Intersection Setup

Name	White Rock Rd		White Rock Rd		US 50 EB	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	1	0	1
Entry Pocket Length [ft]	500.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

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Volumes

Name	White Rock Rd		White Rock Rd		US 50 EB	
Base Volume Input [veh/h]	995	753	861	261	511	78
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-7	-2	1	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	12
Total Hourly Volume [veh/h]	988	751	862	261	511	66
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	247	188	216	65	128	17
Total Analysis Volume [veh/h]	988	751	862	261	511	66
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	21	61	32	0	16	0
Amber [s]	3.7	4.8	4.8	0.0	4.8	0.0
All red [s]	0.5	2.0	2.0	0.0	1.0	0.0
Walk [s]	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.2	4.8	4.8	0.0	3.8	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	39	0	22	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	8	9	9	0	8	0
Vehicle Extension [s]	2.0	1.0	1.0	0.0	2.0	0.0
Minimum Recall	No	Yes	Yes		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80
g_i, Effective Green Time [s]	22	63	37	37	15	15	15
g / C, Green / Cycle	0.24	0.70	0.41	0.41	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.29	0.21	0.24	0.16	0.14	0.14	0.04
s, saturation flow rate [veh/h]	3459	3560	3560	1589	1781	1781	1589
c, Capacity [veh/h]	838	2476	1447	646	293	293	262
d1, Uniform Delay [s]	34.10	5.29	20.92	18.97	36.66	36.66	32.76
k, delay calibration	0.07	0.50	0.50	0.50	0.17	0.17	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	82.72	0.32	1.81	1.88	11.98	11.98	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.18	0.30	0.60	0.40	0.87	0.87	0.25
d, Delay for Lane Group [s/veh]	116.82	5.61	22.73	20.84	48.64	48.64	32.95
Lane Group LOS	F	A	C	C	D	D	C
Critical Lane Group	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	18.50	2.36	7.16	4.07	6.35	6.35	1.25
50th-Percentile Queue Length [ft/ln]	462.56	58.98	179.03	101.72	158.65	158.65	31.33
95th-Percentile Queue Length [veh/ln]	27.92	4.25	11.55	7.32	10.48	10.48	2.26
95th-Percentile Queue Length [ft/ln]	697.92	106.16	288.75	183.09	261.94	261.94	56.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	116.82	5.61	22.73	20.84	48.64	32.95
Movement LOS	F	A	C	C	D	C
d_A, Approach Delay [s/veh]	68.79		22.29		46.85	
Approach LOS	E		C		D	
d_I, Intersection Delay [s/veh]	49.93					
Intersection LOS	D					
Intersection V/C	0.775					

Emissions

Vehicle Miles Traveled [mph]	172.35	131.01	152.75	46.25	15.47	15.47	4.00
Stops [stops/h]	1480.19	188.74	572.89	162.75	253.85	253.85	50.13
Fuel consumption [US gal/h]	38.76	7.29	13.44	3.91	4.57	4.57	0.88
CO [g/h]	2709.12	509.80	939.53	273.33	319.34	319.34	61.79
NOx [g/h]	527.10	99.19	182.80	53.18	62.13	62.13	12.02
VOC [g/h]	627.86	118.15	217.74	63.35	74.01	74.01	14.32

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1360	716	360
d_b, Bicycle Delay [s]	4.61	18.56	30.26
l_b,int, Bicycle LOS Score for Intersection	2.994	2.486	2.531
Bicycle LOS	C	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 24: Silva Valley Pkwy/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	23.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.686

Intersection Setup

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Approach	Northbound				Southbound			Westbound			Northeastbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	550.0	100.0	100.0	100.0	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No					
Crosswalk	No				No			No			No		

Volumes

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Base Volume Input [veh/h]	1	152	1111	0	0	559	236	562	1	263	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-2	0	0	0	0	1	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	47	0	0	30	0	0	0
Total Hourly Volume [veh/h]	1	152	1109	0	0	559	189	563	1	233	0	0	0
Peak Hour Factor	1.000	0.790	0.790	1.000	1.0000	0.7900	0.7900	0.7900	0.7900	0.7900	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	48	351	0	0	177	60	178	0	74	0	0	0
Total Analysis Volume [veh/h]	1	192	1404	0	0	708	239	713	1	295	0	0	0
Presence of On-Street Parking	No			No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	6	0	0	8	0	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	20	54	0	0	26	0	0	23	0	0	0	0
Amber [s]	0.0	3.7	4.8	0.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0
All red [s]	0.0	0.5	2.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	4.8	0.0	0.0	4.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	61	0	0	33	0	0	29	0	0	0	0
Lead / Lag	-	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	8	8	0	0	8	0	0	8	0	0	0	0
Vehicle Extension [s]	0.0	2.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No	Yes			Yes			No				
Maximum Recall		No	No			No			No				
Pedestrian Recall		No	No			No			No				

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	R	
C, Cycle Length [s]	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80	
g_i, Effective Green Time [s]	12	57	42	42	20	20	20	
g / C, Green / Cycle	0.13	0.64	0.46	0.46	0.22	0.22	0.22	
(v / s)_i Volume / Saturation Flow Rate	0.11	0.39	0.20	0.15	0.20	0.20	0.19	
s, saturation flow rate [veh/h]	1781	3560	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	231	2274	1646	735	394	394	352	
d1, Uniform Delay [s]	38.24	9.70	16.24	15.31	34.12	34.12	33.50	
k, delay calibration	0.04	0.50	0.50	0.50	0.13	0.13	0.09	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	3.07	1.27	0.82	1.18	9.52	9.50	4.60	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.84	0.62	0.43	0.33	0.91	0.91	0.84	
d, Delay for Lane Group [s/veh]	41.30	10.97	17.06	16.49	43.63	43.62	38.10	
Lane Group LOS	D	B	B	B	D	D	D	
Critical Lane Group	No	Yes	No	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	4.28	7.53	4.85	3.21	8.45	8.44	6.46	
50th-Percentile Queue Length [ft/ln]	107.12	188.20	121.19	80.16	211.16	211.12	161.41	
95th-Percentile Queue Length [veh/ln]	7.68	12.03	8.46	5.77	13.21	13.21	10.62	
95th-Percentile Queue Length [ft/ln]	191.99	300.69	211.47	144.29	330.32	330.26	265.58	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.30	41.30	10.97	0.00	0.00	17.06	16.49	43.63	43.62	38.10	0.00	0.00	0.00
Movement LOS	D	D	B			B	B	D	D	D			
d_A, Approach Delay [s/veh]	14.64				16.92			42.01			0.00		
Approach LOS	B				B			D			A		
d_I, Intersection Delay [s/veh]	23.02												
Intersection LOS	C												
Intersection V/C	0.686												

Emissions

Vehicle Miles Traveled [mph]	34.20	248.80	96.81	32.68	12.37	12.37	10.22
Stops [stops/h]	171.39	602.24	387.82	128.26	337.85	337.78	258.25
Fuel consumption [US gal/h]	3.98	16.71	8.59	2.86	5.55	5.54	4.13
CO [g/h]	277.99	1167.68	600.17	199.63	387.63	387.52	288.99
NOx [g/h]	54.09	227.19	116.77	38.84	75.42	75.40	56.23
VOC [g/h]	64.43	270.62	139.10	46.27	89.84	89.81	66.98

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1204	582	516	0
d_b, Bicycle Delay [s]	7.12	22.61	24.79	45.00
l_b,int, Bicycle LOS Score for Intersection	2.876	2.380	3.274	4.132
Bicycle LOS	C	B	C	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 25: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Base Volume Input [veh/h]	0	413	549	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	-3	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	414	546	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	104	137	0	0	0
Total Analysis Volume [veh/h]	0	414	546	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

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Version 2024 (SP 0-2)
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Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	11.70
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		11.70	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Scenario 2: 2 2033 PM with CCSP, No Project
Vistro File: C:\...\PM 918 DU 20240212.vistro
Report File: C:\...\8 2033 PM no Proj.pdf
2/14/2024

Intersection Level Of Service Report
Intersection 26: Latrobe/Wetsl-Oviatt

Control Type:	Two-way stop	Delay (sec / veh):	15.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.074

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Base Volume Input [veh/h]	0	306	465	20	27	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	-3	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	307	462	20	27	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	77	116	5	7	0
Total Analysis Volume [veh/h]	0	307	462	20	27	0
Pedestrian Volume [ped/h]	0		0		0	

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Version 2024 (SP 0-2)
Report File: C:\...\8 2033 PM no Proj.pdf
TKEAR

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					Yes	
Storage Area [veh]	0		0		1	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.07	0.00
d_M, Delay for Movement [s/veh]	8.33	0.00	0.00	0.00	15.67	11.87
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.24	0.24
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	5.97	5.97
d_A, Approach Delay [s/veh]	0.00		0.00		15.67	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.52					
Intersection LOS	C					

Scenario 2: 2 2033 PM with CCSP, No Project
Vistro File: C:\...\PM 918 DU 20240212.vistro
Report File: C:\...\8 2033 PM no Proj.pdf
2/14/2024

Intersection Level Of Service Report
Intersection 27: Latrobe/S. Shingle

Control Type:	Two-way stop	Delay (sec / veh):	19.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.147

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Base Volume Input [veh/h]	0	185	66	45	288	40	10	37	2	47	20	84
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	0	0	-3	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	186	66	45	285	40	10	37	2	47	20	84
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	48	17	12	73	10	3	10	1	12	5	22
Total Analysis Volume [veh/h]	0	192	68	46	294	41	10	38	2	48	21	87
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free		Free		Stop		Stop	
Flared Lane					No		No	
Storage Area [veh]	0		0		0		0	
Two-Stage Gap Acceptance					No		No	
Number of Storage Spaces in Median	0		0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.00	0.00	0.03	0.10	0.00	0.15	0.06	0.11
d_M, Delay for Movement [s/veh]	7.94	0.00	0.00	7.81	0.00	0.00	19.01	16.58	11.63	19.22	17.93	12.62
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.08	0.08	0.08	0.49	0.49	0.49	1.31	1.31	1.31
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.02	2.02	2.02	12.22	12.22	12.22	32.81	32.81	32.81
d_A, Approach Delay [s/veh]	0.00			0.94			16.87			15.37		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	4.25											
Intersection LOS	C											

Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	414	569	51	0
2	402	552	49	0
3	393	541	48	0
4	368	506	45	0
5	327	450	40	0
6	323	444	40	0
7	319	438	39	0
8	290	398	36	0
9	286	393	35	0
10	282	387	35	0
11	244	336	30	0
12	228	313	28	0
13	224	307	28	0
14	166	228	20	0
15	166	228	20	0
16	116	159	14	0
17	66	91	8	0
18	66	91	8	0
19	37	51	5	0
20	21	28	3	0
21	12	17	2	0
22	4	6	1	0
23	4	6	1	0
24	4	6	1	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	983	1	51	No	No	No	No	No	No	No	Yes	No	No
2	1	954	1	49	No	No	No	No	No	No	No	Yes	No	No
3	1	934	1	48	No	No	No	No	No	No	No	Yes	No	No
4	1	874	1	45	No	No	No	No	No	No	No	Yes	No	No
5	1	777	1	40	No	No	No	No	No	No	No	No	No	No
6	1	767	1	40	No	No	No	No	No	No	No	No	No	No
7	1	757	1	39	No	No	No	No	No	No	No	No	No	No
8	1	688	1	36	No	No	No	No	No	No	No	No	No	No
9	1	679	1	35	No	No	No	No	No	No	No	No	No	No
10	1	669	1	35	No	No	No	No	No	No	No	No	No	No
11	1	580	1	30	No	No	No	No	No	No	No	No	No	No
12	1	541	1	28	No	No	No	No	No	No	No	No	No	No
13	1	531	1	28	No	No	No	No	No	No	No	No	No	No
14	1	394	1	20	No	No	No	No	No	No	No	No	No	No
15	1	394	1	20	No	No	No	No	No	No	No	No	No	No
16	1	275	1	14	No	No	No	No	No	No	No	No	No	No
17	1	157	1	8	No	No	No	No	No	No	No	No	No	No
18	1	157	1	8	No	No	No	No	No	No	No	No	No	No
19	1	88	1	5	No	No	No	No	No	No	No	No	No	No
20	1	49	1	3	No	No	No	No	No	No	No	No	No	No
21	1	29	1	2	No	No	No	No	No	No	No	No	No	No
22	1	10	1	1	No	No	No	No	No	No	No	No	No	No
23	1	10	1	1	No	No	No	No	No	No	No	No	No	No
24	1	10	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	4	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	11.9	20.4
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:10	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	51	0
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1034	1034
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 12: Latrobe Rd/Royal Oaks Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	334	546	158	0
2	324	530	153	0
3	317	519	150	0
4	297	486	141	0
5	264	431	125	0
6	261	426	123	0
7	257	420	122	0
8	234	382	111	0
9	230	377	109	0
10	227	371	107	0
11	197	322	93	0
12	184	300	87	0
13	180	295	85	0
14	134	218	63	0
15	134	218	63	0
16	94	153	44	0
17	53	87	25	0
18	53	87	25	0
19	30	49	14	0
20	17	27	8	0
21	10	16	5	0
22	3	5	2	0
23	3	5	2	0
24	3	5	2	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	880	1	158	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
2	2	854	1	153	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
3	2	836	1	150	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
4	2	783	1	141	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
5	2	695	1	125	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
6	2	687	1	123	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
7	2	677	1	122	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
8	2	616	1	111	No	No	Yes	Yes	No	No	No	Yes	No	No
9	2	607	1	109	No	No	Yes	Yes	No	No	No	Yes	No	No
10	2	598	1	107	No	No	Yes	Yes	No	No	No	Yes	No	No
11	2	519	1	93	No	No	No	Yes	No	No	No	Yes	No	No
12	2	484	1	87	No	No	No	Yes	No	No	No	No	No	No
13	2	475	1	85	No	No	No	Yes	No	No	No	No	No	No
14	2	352	1	63	No	No	No	No	No	No	No	No	No	No
15	2	352	1	63	No	No	No	No	No	No	No	No	No	No
16	2	247	1	44	No	No	No	No	No	No	No	No	No	No
17	2	140	1	25	No	No	No	No	No	No	No	No	No	No
18	2	140	1	25	No	No	No	No	No	No	No	No	No	No
19	2	79	1	14	No	No	No	No	No	No	No	No	No	No
20	2	44	1	8	No	No	No	No	No	No	No	No	No	No
21	2	26	1	5	No	No	No	No	No	No	No	No	No	No
22	2	8	1	2	No	No	No	No	No	No	No	No	No	No
23	2	8	1	2	No	No	No	No	No	No	No	No	No	No
24	2	8	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					3	7	10	13	0	4	7	11	7	2

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	26.5	21.8
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:09	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	158	0
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1038	1038
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 13: Golden Foothill/Robert J Mathews

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	1072	225	869
2	1040	218	843
3	1018	214	826
4	954	200	773
5	847	178	687
6	836	176	678
7	825	173	669
8	750	158	608
9	740	155	600
10	729	153	591
11	632	133	513
12	590	124	478
13	579	122	469
14	429	90	348
15	429	90	348
16	300	63	243
17	172	36	139
18	172	36	139
19	96	20	78
20	54	11	43
21	32	7	26
22	11	2	9
23	11	2	9
24	11	2	9

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1297	1	869	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1258	1	843	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1232	1	826	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1154	1	773	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	1025	1	687	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	1012	1	678	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1	998	1	669	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	1	908	1	608	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	1	895	1	600	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	1	882	1	591	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	1	765	1	513	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	1	714	1	478	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
13	1	701	1	469	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
14	1	519	1	348	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No
15	1	519	1	348	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No
16	1	363	1	243	No	No	Yes	Yes	No	No	No	No	No	No
17	1	208	1	139	No	No	No	No	No	No	No	No	No	No
18	1	208	1	139	No	No	No	No	No	No	No	No	No	No
19	1	116	1	78	No	No	No	No	No	No	No	No	No	No
20	1	65	1	43	No	No	No	No	No	No	No	No	No	No
21	1	39	1	26	No	No	No	No	No	No	No	No	No	No
22	1	13	1	9	No	No	No	No	No	No	No	No	No	No
23	1	13	1	9	No	No	No	No	No	No	No	No	No	No
24	1	13	1	9	No	No	No	No	No	No	No	No	No	No
Hours Met					15	15	16	16	11	13	13	15	15	13

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	10000
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2413:53
Delay Condition Met	Yes
Volume on Minor Street Approach During Same Hour	869
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	2166
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	Yes
Warrant Met for Intersection	**Yes**

Signal Warrants Report For Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	602	548	305	42
2	584	532	296	41
3	572	521	290	40
4	536	488	271	37
5	476	433	241	33
6	470	427	238	33
7	464	422	235	32
8	421	384	214	29
9	415	378	210	29
10	409	373	207	29
11	355	323	180	25
12	331	301	168	23
13	325	296	165	23
14	241	219	122	17
15	241	219	122	17
16	169	153	85	12
17	96	88	49	7
18	96	88	49	7
19	54	49	27	4
20	30	27	15	2
21	18	16	9	1
22	6	5	3	0
23	6	5	3	0
24	6	5	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1150	1	305	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1116	1	296	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1093	1	290	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1024	1	271	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
5	1	909	1	241	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
6	1	897	1	238	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
7	1	886	1	235	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
8	1	805	1	214	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
9	1	793	1	210	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
10	1	782	1	207	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
11	1	678	1	180	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
12	1	632	1	168	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
13	1	621	1	165	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
14	1	460	1	122	No	Yes	Yes	Yes	No	No	No	Yes	No	No
15	1	460	1	122	No	Yes	Yes	Yes	No	No	No	Yes	No	No
16	1	322	1	85	No	No	No	Yes	No	No	No	No	No	No
17	1	184	1	49	No	No	No	No	No	No	No	No	No	No
18	1	184	1	49	No	No	No	No	No	No	No	No	No	No
19	1	103	1	27	No	No	No	No	No	No	No	No	No	No
20	1	57	1	15	No	No	No	No	No	No	No	No	No	No
21	1	34	1	9	No	No	No	No	No	No	No	No	No	No
22	1	11	1	3	No	No	No	No	No	No	No	No	No	No
23	1	11	1	3	No	No	No	No	No	No	No	No	No	No
24	1	11	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					13	15	15	16	10	13	13	15	10	3

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	29.8	12.7
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2:31	0:08
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	305	42
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1497	1497
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	292	323	191
2	283	313	185
3	277	307	181
4	260	287	170
5	231	255	151
6	228	252	149
7	225	249	147
8	204	226	134
9	201	223	132
10	199	220	130
11	172	191	113
12	161	178	105
13	158	174	103
14	117	129	76
15	117	129	76
16	82	90	53
17	47	52	31
18	47	52	31
19	26	29	17
20	15	16	10
21	9	10	6
22	3	3	2
23	3	3	2
24	3	3	2

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	615	2	191	No	Yes	Yes	Yes	No	No	No	Yes	No	No
2	2	596	2	185	No	Yes	Yes	Yes	No	No	No	Yes	No	No
3	2	584	2	181	No	Yes	Yes	Yes	No	No	No	Yes	No	No
4	2	547	2	170	No	Yes	Yes	Yes	No	No	No	Yes	No	No
5	2	486	2	151	No	No	Yes	Yes	No	No	No	No	No	No
6	2	480	2	149	No	No	Yes	Yes	No	No	No	No	No	No
7	2	474	2	147	No	No	Yes	Yes	No	No	No	No	No	No
8	2	430	2	134	No	No	No	Yes	No	No	No	No	No	No
9	2	424	2	132	No	No	No	Yes	No	No	No	No	No	No
10	2	419	2	130	No	No	No	Yes	No	No	No	No	No	No
11	2	363	2	113	No	No	No	Yes	No	No	No	No	No	No
12	2	339	2	105	No	No	No	No	No	No	No	No	No	No
13	2	332	2	103	No	No	No	No	No	No	No	No	No	No
14	2	246	2	76	No	No	No	No	No	No	No	No	No	No
15	2	246	2	76	No	No	No	No	No	No	No	No	No	No
16	2	172	2	53	No	No	No	No	No	No	No	No	No	No
17	2	99	2	31	No	No	No	No	No	No	No	No	No	No
18	2	99	2	31	No	No	No	No	No	No	No	No	No	No
19	2	55	2	17	No	No	No	No	No	No	No	No	No	No
20	2	31	2	10	No	No	No	No	No	No	No	No	No	No
21	2	19	2	6	No	No	No	No	No	No	No	No	No	No
22	2	6	2	2	No	No	No	No	No	No	No	No	No	No
23	2	6	2	2	No	No	No	No	No	No	No	No	No	No
24	2	6	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	11	0	0	0	4	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.7
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:53
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	191
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	806
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 16: Carson Crossing Rd/Calypso Cir.

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	331	241	265
2	321	234	257
3	314	229	252
4	295	214	236
5	261	190	209
6	258	188	207
7	255	186	204
8	232	169	186
9	228	166	183
10	225	164	180
11	195	142	156
12	182	133	146
13	179	130	143
14	132	96	106
15	132	96	106
16	93	67	74
17	53	39	42
18	53	39	42
19	30	22	24
20	17	12	13
21	10	7	8
22	3	2	3
23	3	2	3
24	3	2	3

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	572	1	265	No	Yes	Yes	Yes	No	No	No	Yes	No	No
2	2	555	1	257	No	Yes	Yes	Yes	No	No	No	Yes	No	No
3	2	543	1	252	No	Yes	Yes	Yes	No	No	No	Yes	No	No
4	2	509	1	236	No	Yes	Yes	Yes	No	No	No	Yes	No	No
5	2	451	1	209	No	No	Yes	Yes	No	No	No	No	No	No
6	2	446	1	207	No	No	Yes	Yes	No	No	No	No	No	No
7	2	441	1	204	No	No	Yes	Yes	No	No	No	No	No	No
8	2	401	1	186	No	No	No	Yes	No	No	No	No	No	No
9	2	394	1	183	No	No	No	Yes	No	No	No	No	No	No
10	2	389	1	180	No	No	No	Yes	No	No	No	No	No	No
11	2	337	1	156	No	No	No	Yes	No	No	No	No	No	No
12	2	315	1	146	No	No	No	No	No	No	No	No	No	No
13	2	309	1	143	No	No	No	No	No	No	No	No	No	No
14	2	228	1	106	No	No	No	No	No	No	No	No	No	No
15	2	228	1	106	No	No	No	No	No	No	No	No	No	No
16	2	160	1	74	No	No	No	No	No	No	No	No	No	No
17	2	92	1	42	No	No	No	No	No	No	No	No	No	No
18	2	92	1	42	No	No	No	No	No	No	No	No	No	No
19	2	52	1	24	No	No	No	No	No	No	No	No	No	No
20	2	29	1	13	No	No	No	No	No	No	No	No	No	No
21	2	17	1	8	No	No	No	No	No	No	No	No	No	No
22	2	5	1	3	No	No	No	No	No	No	No	No	No	No
23	2	5	1	3	No	No	No	No	No	No	No	No	No	No
24	2	5	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	11	0	0	0	4	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.8
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:14
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	265
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	837
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 17: Carson Crossing Rd/Four Seasons Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	198	200	3
2	192	194	3
3	188	190	3
4	176	178	3
5	156	158	2
6	154	156	2
7	152	154	2
8	139	140	2
9	137	138	2
10	135	136	2
11	117	118	2
12	109	110	2
13	107	108	2
14	79	80	1
15	79	80	1
16	55	56	1
17	32	32	0
18	32	32	0
19	18	18	0
20	10	10	0
21	6	6	0
22	2	2	0
23	2	2	0
24	2	2	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	398	1	3	No	No	No	No	No	No	No	No	No	No
2	3	386	1	3	No	No	No	No	No	No	No	No	No	No
3	3	378	1	3	No	No	No	No	No	No	No	No	No	No
4	3	354	1	3	No	No	No	No	No	No	No	No	No	No
5	3	314	1	2	No	No	No	No	No	No	No	No	No	No
6	3	310	1	2	No	No	No	No	No	No	No	No	No	No
7	3	306	1	2	No	No	No	No	No	No	No	No	No	No
8	3	279	1	2	No	No	No	No	No	No	No	No	No	No
9	3	275	1	2	No	No	No	No	No	No	No	No	No	No
10	3	271	1	2	No	No	No	No	No	No	No	No	No	No
11	3	235	1	2	No	No	No	No	No	No	No	No	No	No
12	3	219	1	2	No	No	No	No	No	No	No	No	No	No
13	3	215	1	2	No	No	No	No	No	No	No	No	No	No
14	3	159	1	1	No	No	No	No	No	No	No	No	No	No
15	3	159	1	1	No	No	No	No	No	No	No	No	No	No
16	3	111	1	1	No	No	No	No	No	No	No	No	No	No
17	3	64	1	0	No	No	No	No	No	No	No	No	No	No
18	3	64	1	0	No	No	No	No	No	No	No	No	No	No
19	3	36	1	0	No	No	No	No	No	No	No	No	No	No
20	3	20	1	0	No	No	No	No	No	No	No	No	No	No
21	3	12	1	0	No	No	No	No	No	No	No	No	No	No
22	3	4	1	0	No	No	No	No	No	No	No	No	No	No
23	3	4	1	0	No	No	No	No	No	No	No	No	No	No
24	3	4	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	7.9
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	3
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	401
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 18: White Rock Rd/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	628	700	188	29
2	609	679	182	28
3	597	665	179	28
4	559	623	167	26
5	496	553	149	23
6	490	546	147	23
7	484	539	145	22
8	440	490	132	20
9	433	483	130	20
10	427	476	128	20
11	371	413	111	17
12	345	385	103	16
13	339	378	102	16
14	251	280	75	12
15	251	280	75	12
16	176	196	53	8
17	100	112	30	5
18	100	112	30	5
19	57	63	17	3
20	31	35	9	1
21	19	21	6	1
22	6	7	2	0
23	6	7	2	0
24	6	7	2	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1328	2	188	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
2	2	1288	2	182	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
3	2	1262	2	179	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
4	2	1182	2	167	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
5	2	1049	2	149	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
6	2	1036	2	147	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
7	2	1023	2	145	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
8	2	930	2	132	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
9	2	916	2	130	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
10	2	903	2	128	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
11	2	784	2	111	No	No	No	No	No	Yes	Yes	Yes	No	No
12	2	730	2	103	No	No	No	No	No	Yes	Yes	Yes	No	No
13	2	717	2	102	No	No	No	No	No	No	Yes	Yes	No	No
14	2	531	2	75	No	No	No	No	No	No	No	Yes	No	No
15	2	531	2	75	No	No	No	No	No	No	No	Yes	No	No
16	2	372	2	53	No	No	No	No	No	No	No	No	No	No
17	2	212	2	30	No	No	No	No	No	No	No	No	No	No
18	2	212	2	30	No	No	No	No	No	No	No	No	No	No
19	2	120	2	17	No	No	No	No	No	No	No	No	No	No
20	2	66	2	9	No	No	No	No	No	No	No	No	No	No
21	2	40	2	6	No	No	No	No	No	No	No	No	No	No
22	2	13	2	2	No	No	No	No	No	No	No	No	No	No
23	2	13	2	2	No	No	No	No	No	No	No	No	No	No
24	2	13	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	10	10	12	13	15	4	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	348.2	21.5
Number of Lanes on Minor Street Approach	2	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	18:11	0:10
Delay Condition Met	Yes	No
Volume on Minor Street Approach During Same Hour	188	29
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1545	1545
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	Yes	No
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 25: New Intersection

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	414	546	0
2	402	530	0
3	393	519	0
4	368	486	0
5	327	431	0
6	323	426	0
7	319	420	0
8	290	382	0
9	286	377	0
10	282	371	0
11	244	322	0
12	228	300	0
13	224	295	0
14	166	218	0
15	166	218	0
16	116	153	0
17	66	87	0
18	66	87	0
19	37	49	0
20	21	27	0
21	12	16	0
22	4	5	0
23	4	5	0
24	4	5	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	960	1	0	No	No	No	No	No	No	No	No	No	No
2	1	932	1	0	No	No	No	No	No	No	No	No	No	No
3	1	912	1	0	No	No	No	No	No	No	No	No	No	No
4	1	854	1	0	No	No	No	No	No	No	No	No	No	No
5	1	758	1	0	No	No	No	No	No	No	No	No	No	No
6	1	749	1	0	No	No	No	No	No	No	No	No	No	No
7	1	739	1	0	No	No	No	No	No	No	No	No	No	No
8	1	672	1	0	No	No	No	No	No	No	No	No	No	No
9	1	663	1	0	No	No	No	No	No	No	No	No	No	No
10	1	653	1	0	No	No	No	No	No	No	No	No	No	No
11	1	566	1	0	No	No	No	No	No	No	No	No	No	No
12	1	528	1	0	No	No	No	No	No	No	No	No	No	No
13	1	519	1	0	No	No	No	No	No	No	No	No	No	No
14	1	384	1	0	No	No	No	No	No	No	No	No	No	No
15	1	384	1	0	No	No	No	No	No	No	No	No	No	No
16	1	269	1	0	No	No	No	No	No	No	No	No	No	No
17	1	153	1	0	No	No	No	No	No	No	No	No	No	No
18	1	153	1	0	No	No	No	No	No	No	No	No	No	No
19	1	86	1	0	No	No	No	No	No	No	No	No	No	No
20	1	48	1	0	No	No	No	No	No	No	No	No	No	No
21	1	28	1	0	No	No	No	No	No	No	No	No	No	No
22	1	9	1	0	No	No	No	No	No	No	No	No	No	No
23	1	9	1	0	No	No	No	No	No	No	No	No	No	No
24	1	9	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	11.7
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	960
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 26: Latrobe/Wetsl-Oviatt

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	307	482	27
2	298	468	26
3	292	458	26
4	273	429	24
5	243	381	21
6	239	376	21
7	236	371	21
8	215	337	19
9	212	333	19
10	209	328	18
11	181	284	16
12	169	265	15
13	166	260	15
14	123	193	11
15	123	193	11
16	86	135	8
17	49	77	4
18	49	77	4
19	28	43	2
20	15	24	1
21	9	14	1
22	3	5	0
23	3	5	0
24	3	5	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	789	1	27	No	No	No	No	No	No	No	No	No	No
2	1	766	1	26	No	No	No	No	No	No	No	No	No	No
3	1	750	1	26	No	No	No	No	No	No	No	No	No	No
4	1	702	1	24	No	No	No	No	No	No	No	No	No	No
5	1	624	1	21	No	No	No	No	No	No	No	No	No	No
6	1	615	1	21	No	No	No	No	No	No	No	No	No	No
7	1	607	1	21	No	No	No	No	No	No	No	No	No	No
8	1	552	1	19	No	No	No	No	No	No	No	No	No	No
9	1	545	1	19	No	No	No	No	No	No	No	No	No	No
10	1	537	1	18	No	No	No	No	No	No	No	No	No	No
11	1	465	1	16	No	No	No	No	No	No	No	No	No	No
12	1	434	1	15	No	No	No	No	No	No	No	No	No	No
13	1	426	1	15	No	No	No	No	No	No	No	No	No	No
14	1	316	1	11	No	No	No	No	No	No	No	No	No	No
15	1	316	1	11	No	No	No	No	No	No	No	No	No	No
16	1	221	1	8	No	No	No	No	No	No	No	No	No	No
17	1	126	1	4	No	No	No	No	No	No	No	No	No	No
18	1	126	1	4	No	No	No	No	No	No	No	No	No	No
19	1	71	1	2	No	No	No	No	No	No	No	No	No	No
20	1	39	1	1	No	No	No	No	No	No	No	No	No	No
21	1	23	1	1	No	No	No	No	No	No	No	No	No	No
22	1	8	1	0	No	No	No	No	No	No	No	No	No	No
23	1	8	1	0	No	No	No	No	No	No	No	No	No	No
24	1	8	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	15.7
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:07
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	27
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	816
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 27: Latrobe/S. Shingle

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	252	370	151	49
2	244	359	146	48
3	239	352	143	47
4	224	329	134	44
5	199	292	119	39
6	197	289	118	38
7	194	285	116	38
8	176	259	106	34
9	174	255	104	34
10	171	252	103	33
11	149	218	89	29
12	139	204	83	27
13	136	200	82	26
14	101	148	60	20
15	101	148	60	20
16	71	104	42	14
17	40	59	24	8
18	40	59	24	8
19	23	33	14	4
20	13	19	8	2
21	8	11	5	1
22	3	4	2	0
23	3	4	2	0
24	3	4	2	0

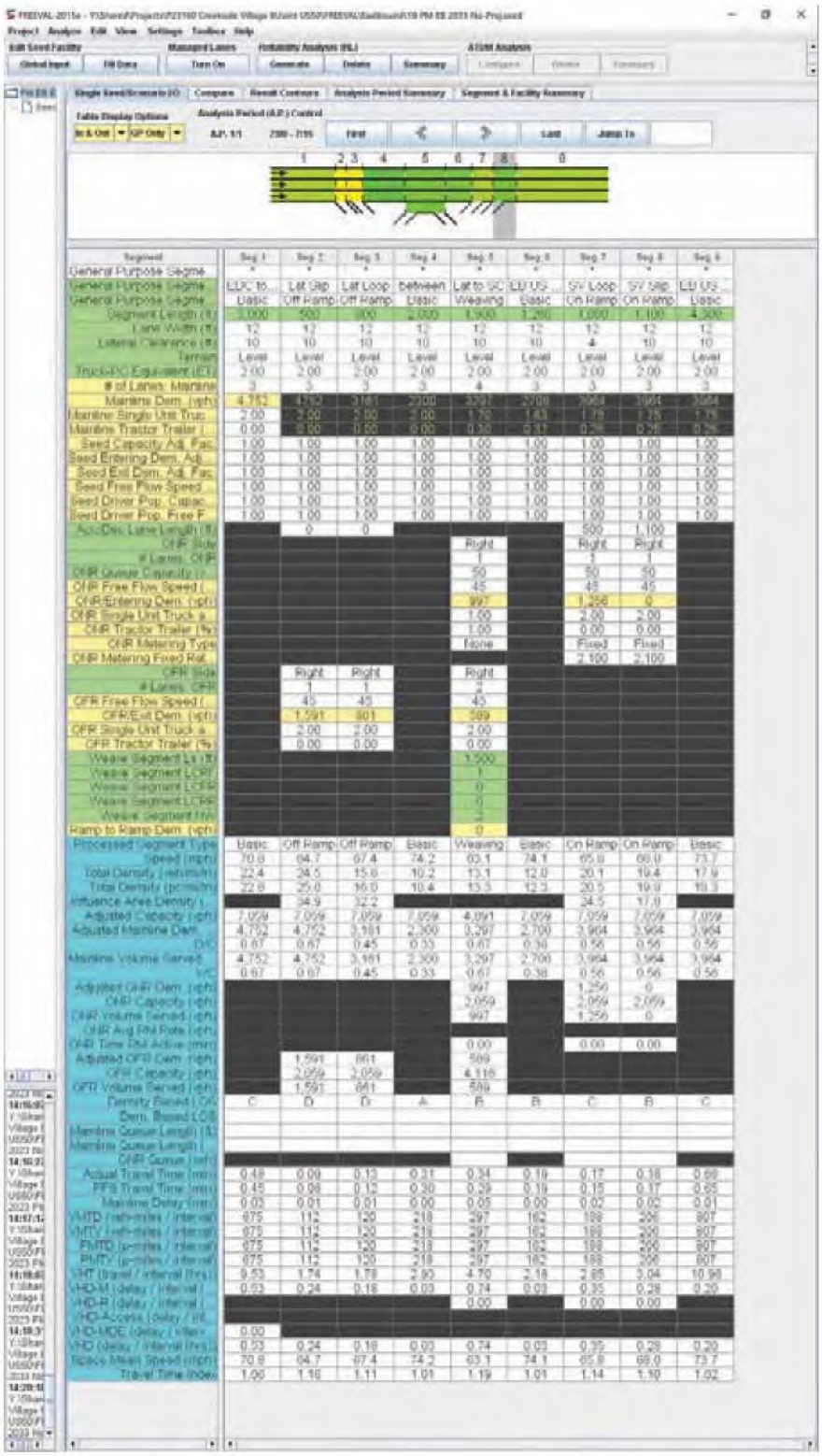
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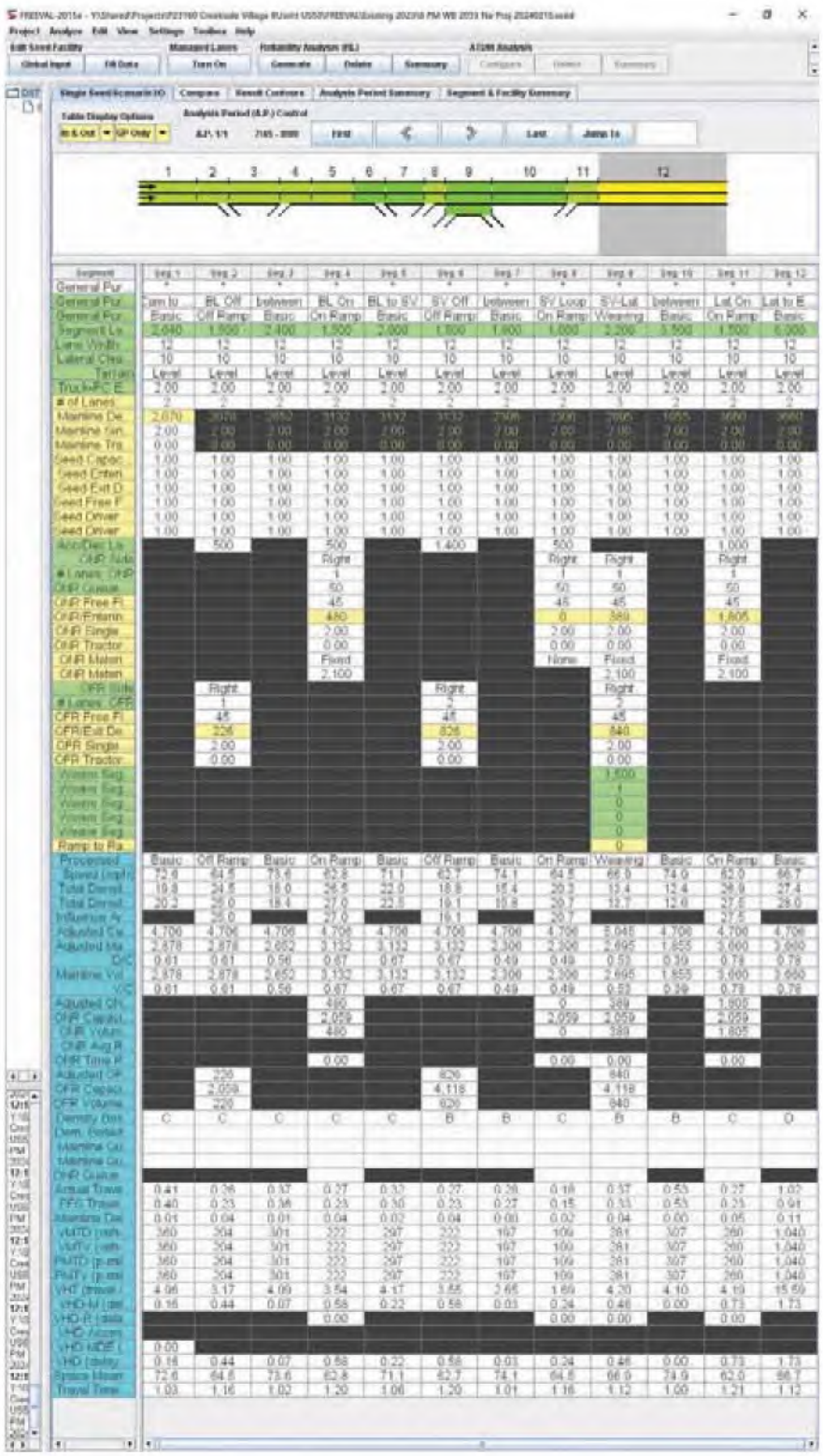
Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	622	1	151	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
2	1	603	1	146	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
3	1	591	1	143	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
4	1	553	1	134	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
5	1	491	1	119	No	No	Yes	Yes	No	No	No	Yes	No	No
6	1	486	1	118	No	No	Yes	Yes	No	No	No	Yes	No	No
7	1	479	1	116	No	No	Yes	Yes	No	No	No	Yes	No	No
8	1	435	1	106	No	No	Yes	Yes	No	No	No	Yes	No	No
9	1	429	1	104	No	No	No	Yes	No	No	No	Yes	No	No
10	1	423	1	103	No	No	No	Yes	No	No	No	Yes	No	No
11	1	367	1	89	No	No	No	Yes	No	No	No	No	No	No
12	1	343	1	83	No	No	No	No	No	No	No	No	No	No
13	1	336	1	82	No	No	No	No	No	No	No	No	No	No
14	1	249	1	60	No	No	No	No	No	No	No	No	No	No
15	1	249	1	60	No	No	No	No	No	No	No	No	No	No
16	1	175	1	42	No	No	No	No	No	No	No	No	No	No
17	1	99	1	24	No	No	No	No	No	No	No	No	No	No
18	1	99	1	24	No	No	No	No	No	No	No	No	No	No
19	1	56	1	14	No	No	No	No	No	No	No	No	No	No
20	1	32	1	8	No	No	No	No	No	No	No	No	No	No
21	1	19	1	5	No	No	No	No	No	No	No	No	No	No
22	1	7	1	2	No	No	No	No	No	No	No	No	No	No
23	1	7	1	2	No	No	No	No	No	No	No	No	No	No
24	1	7	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					1	4	8	11	0	2	4	10	4	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	15.4	16.9
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:38	0:13
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	151	49
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	822	822
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	





EPAP AM plus Project

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Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	El Dorado Hills Blvd/Serrano Pkwy	Signalized	HCM 7th Edition	SB Right	1.153	174.6	F
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	EB Right	1.408	164.3	F
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	NB Left	1.130	104.4	F
4	Latrobe Rd/US 50 EB	Signalized	HCM 7th Edition	EB Right	1.082	38.2	D
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	SB Left	1.017	42.2	D
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	NB Left	0.761	43.4	D
7	Latrobe Rd/Golden Foothill Pkwy N	Signalized	HCM 7th Edition	SB Right	1.018	79.0	E
8	Latrobe Rd/Suncast Ln	Signalized	HCM 7th Edition	EB Left	0.899	15.4	B
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	NB Right	1.152	127.5	F
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	NB Left	0.970	22.4	C
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	EB Left	1.082	291.1	F
12	Latrobe Rd/Royal Oaks Dr	Two-way stop	HCM 7th Edition	EB Left	7.295	3,003.3	F
13	Golden Foothill/Robert J Mathews	Two-way stop	HCM 7th Edition	NB Left	0.425	287.6	F
14	Investment Blvd/Robert J Mathews Pkwy	All-way stop	HCM 7th Edition	SB Thru	1.070	52.8	F
15	Golden Foothill Pkwy/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.282	17.2	C
16	Carson Crossing Rd/Calypso Cir.	Two-way stop	HCM 7th Edition	NB Left	0.208	16.0	C
17	Carson Crossing Rd/Four Seasons Dr	All-way stop	HCM 7th Edition	WB Left	0.118	8.2	A
	White Rock Rd/Carson		HCM 7th				

18	White Rock Rd/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.755	64.3	F
19	White Rock Rd/Windfield Way	Signalized	HCM 7th Edition	EB Left	0.585	29.2	C
20	White Rock Rd/Post St	Signalized	HCM 7th Edition	SB Left	0.617	39.0	D
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 7th Edition	WB Thru	1.331	260.6	F
22	White Rock Rd/Clarksville Crossing	Signalized	HCM 7th Edition	SB Right	0.855	35.1	D
23	White Rock Rd/US 50 EB	Signalized	HCM 7th Edition	EB Left	0.706	22.5	C
24	Silva Valley Pkwy/US 50 WB	Signalized	HCM 7th Edition	WB Left	1.019	68.8	E
25	New Intersection	Two-way stop	HCM 6th Edition	NB Thru	0.011	0.0	A
26	Latrobe/Wetsl-Oviatt	Two-way stop	HCM 7th Edition	EB Left	0.069	15.1	C
27	Latrobe/S. Shingle	Two-way stop	HCM 7th Edition	EB Left	0.197	24.3	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: El Dorado Hills Blvd/Serrano Pkwy

Control Type:	Signalized	Delay (sec / veh):	174.6
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.153

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	260.0	100.0	100.0	100.0	110.00	100.00	100.00	100.00	100.00	100.00	430.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No			No		
Crosswalk	No				Yes			Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Base Volume Input [veh/h]	5	232	792	301	70	1655	46	23	14	260	467	64	111
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	48	0	0	-14	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	14	0	0	78	0	0	33
Total Hourly Volume [veh/h]	5	232	840	301	70	1641	32	23	14	182	467	64	78
Peak Hour Factor	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	67	241	86	20	472	9	7	4	52	134	18	22
Total Analysis Volume [veh/h]	5	267	966	346	80	1886	37	26	16	209	537	74	90
Presence of On-Street Parking	No			No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	1	6	0	7	7	0	0	8	0
Auxiliary Signal Groups													
Maximum Green [s]	0	25	40	0	25	40	0	35	35	0	0	35	0
Amber [s]	0.0	3.0	4.7	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	12	0	0	12	0	0	0	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	100.0	245.0	0.0	100.0	100.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	29	46	0	29	46	0	39	39	0	0	39	0
Lead / Lag	-	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	3	6	0	3	3	0	3	3	0	0	3	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	4.0	0.0
Minimum Recall		No	No		No	No			No			No	
Maximum Recall		No	No		No	No			No			No	
Pedestrian Recall		No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C
C, Cycle Length [s]	128	128	128	128	128	128	128	128	128	128
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	54	54	7	40	40	20	20	29	29
g / C, Green / Cycle	0.17	0.42	0.42	0.06	0.31	0.31	0.16	0.16	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.15	0.27	0.22	0.04	0.51	0.52	0.01	0.14	0.20	0.20
s, saturation flow rate [veh/h]	1781	3560	1589	1781	1870	1857	1781	1607	1781	1744
c, Capacity [veh/h]	299	1499	669	103	581	577	279	252	405	396
d1, Uniform Delay [s]	52.59	29.59	27.56	59.83	44.34	44.34	46.44	53.21	47.95	47.99
k, delay calibration	0.25	0.04	0.17	0.04	0.50	0.50	0.04	0.04	0.29	0.29
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	20.28	0.17	0.97	4.78	301.97	307.00	0.05	4.43	14.10	14.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.64	0.52	0.78	1.65	1.67	0.09	0.89	0.87	0.88
d, Delay for Lane Group [s/veh]	72.87	29.76	28.53	64.61	346.31	351.34	46.49	57.65	62.05	62.73
Lane Group LOS	E	C	C	E	F	F	D	E	E	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	10.07	11.35	7.73	2.65	66.47	66.83	0.72	7.43	12.48	12.34
50th-Percentile Queue Length [ft/ln]	251.84	283.74	193.24	66.36	1661.78	1670.74	18.05	185.75	311.90	308.49
95th-Percentile Queue Length [veh/ln]	15.28	16.87	12.29	4.78	102.14	102.84	1.30	11.90	18.27	18.10
95th-Percentile Queue Length [ft/ln]	381.96	421.87	307.23	119.44	2553.54	2571.03	32.50	297.51	456.72	452.52

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	72.87	72.87	29.76	28.53	64.61	348.77	351.34	46.49	57.65	57.65	62.28	62.73	62.73
Movement LOS	E	E	C	C	E	F	F	D	E	E	E	E	E
d_A, Approach Delay [s/veh]	36.90				337.47			56.49			62.39		
Approach LOS	D				F			E			E		
d_I, Intersection Delay [s/veh]	174.56												
Intersection LOS	F												
Intersection V/C	1.153												

Emissions

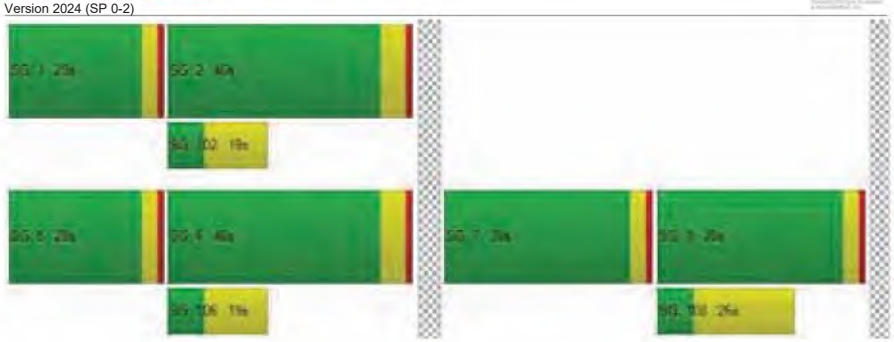
Vehicle Miles Traveled [mph]	64.96	230.71	82.64	11.76	141.36	141.36	1.11	9.61	18.50	18.18
Stops [stops/h]	282.37	636.28	216.67	74.40	1863.24	1873.29	20.24	208.27	349.71	345.89
Fuel consumption [US gal/h]	9.77	21.67	7.54	2.38	95.76	96.87	0.40	4.19	7.16	7.10
CO [g/h]	682.96	1514.74	526.73	166.36	6693.44	6770.99	28.21	292.56	500.23	495.95
NOx [g/h]	132.88	294.71	102.48	32.37	1302.30	1317.39	5.49	56.92	97.33	96.49
VOC [g/h]	158.28	351.05	122.07	38.56	1551.27	1569.24	6.54	67.80	115.93	114.94

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	53.69	53.69	53.69
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.253	2.303	2.386
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	628	628	545	545
d_b, Bicycle Delay [s]	30.24	30.24	33.98	33.98
l_b,int, Bicycle LOS Score for Intersection	2.862	3.224	2.102	2.771
Bicycle LOS	C	C	B	C

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	164.3
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.408

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	500.0	100.0	100.0	100.0	500.0	100.0	100.0	300.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	1	413	988	150	1	218	1727	441	150	61	708	33	34	191
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	25	48	0	0	0	-14	0	0	0	-6	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	45	0	0	0	132	0	0	211	0	0	57
Total Hourly Volume [veh/h]	1	438	1036	105	1	218	1713	309	150	61	491	33	34	134
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	118	278	28	0	59	460	83	40	16	132	9	9	36
Total Analysis Volume [veh/h]	1	471	1114	113	1	234	1842	332	161	66	528	35	37	144
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	0	3	8	0
Auxiliary Signal Groups														
Maximum Green [s]	0	20	50	0	0	20	50	0	20	20	0	0	20	0
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	14	0	0	0	18	0	0	0	0	0	28	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	0	24	56	0	24	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Cycle Length [s]	123	123	123	123	123	123	123	123	123	123	123
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	52	52	18	50	50	20	20	20	16	16
g / C, Green / Cycle	0.16	0.42	0.42	0.15	0.41	0.41	0.16	0.16	0.16	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.27	0.23	0.23	0.13	0.52	0.21	0.06	0.06	0.33	0.02	0.11
s, saturation flow rate [veh/h]	1781	3560	1783	1781	3560	1589	1781	1831	1589	1781	1640
c, Capacity [veh/h]	289	1497	750	262	1444	644	289	297	258	225	208
d1, Uniform Delay [s]	51.66	26.87	26.88	51.66	36.66	27.55	46.19	46.17	51.66	47.98	52.87
k, delay calibration	0.50	0.13	0.15	0.26	0.20	0.13	0.04	0.04	0.50	0.04	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	300.58	0.38	0.87	21.29	126.42	0.77	0.32	0.31	484.92	0.12	14.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.63	0.55	0.55	0.90	1.28	0.52	0.39	0.39	2.05	0.16	0.87
d, Delay for Lane Group [s/veh]	352.23	27.25	27.75	72.95	163.08	28.32	46.51	46.47	536.58	48.09	67.01
Lane Group LOS	F	C	C	E	F	C	D	D	F	D	E
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	32.78	8.70	8.83	8.49	45.72	7.18	3.12	3.18	42.66	0.97	6.32
50th-Percentile Queue Length [ft/ln]	819.38	217.41	220.69	212.30	1143.05	179.49	77.99	79.47	1066.56	24.31	157.89
95th-Percentile Queue Length [veh/ln]	50.90	13.53	13.70	13.27	66.54	11.57	5.62	5.72	67.25	1.75	10.44
95th-Percentile Queue Length [ft/ln]	1272.42	338.31	342.51	331.78	1663.49	289.35	140.39	143.04	1681.20	43.76	260.93

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	352.2	352.2	27.38	27.75	72.95	72.95	163.0	28.32	46.51	46.47	536.58	48.09	67.01	67.01
Movement LOS	F	F	C	C	E	E	F	C	D	D	F	D	E	E
d_A, Approach Delay [s/veh]	117.65				135.72				389.23			63.95		
Approach LOS	F				F				F			E		
d_I, Intersection Delay [s/veh]	164.31													
Intersection LOS	F													
Intersection V/C	1.408													

Emissions

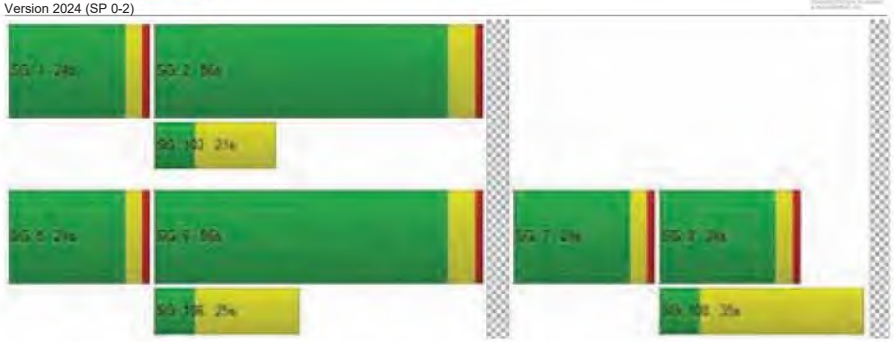
Vehicle Miles Traveled [mph]	88.83	153.79	77.12	56.13	439.93	79.29	7.01	7.15	32.93	1.71	8.83
Stops [stops/h]	957.40	508.06	257.87	248.06	2671.19	209.73	91.13	92.85	1246.22	28.41	184.49
Fuel consumption [US gal/h]	48.77	16.12	8.16	8.50	109.41	7.24	1.86	1.89	65.88	0.57	3.85
CO [g/h]	3409.27	1126.79	570.67	593.91	7647.81	505.99	129.71	132.18	4605.08	39.82	269.16
NOx [g/h]	663.32	219.23	111.03	115.55	1487.99	98.45	25.24	25.72	895.98	7.75	52.37
VOC [g/h]	790.13	261.14	132.26	137.64	1772.45	117.27	30.06	30.63	1067.27	9.23	62.38

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.11	51.11	51.11
I_p,int, Pedestrian LOS Score for Intersectio	0.000	3.636	2.919	2.274
Crosswalk LOS	F	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	816	816	325	325
d_b, Bicycle Delay [s]	21.59	21.59	43.24	43.24
I_b,int, Bicycle LOS Score for Intersection	2.518	3.463	3.154	2.010
Bicycle LOS	B	C	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	104.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.130

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	500.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1417	1188	141	3	69	1353	1044	256	92	816	171	99	105
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	88	73	16	0	0	-20	0	0	0	-13	-4	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	47	0	0	0	313	0	0	241	0	0	32
Total Hourly Volume [veh/h]	1	1505	1261	110	3	69	1333	731	256	92	562	167	99	73
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	376	315	28	1	17	333	183	64	23	141	42	25	18
Total Analysis Volume [veh/h]	1	1505	1261	110	3	69	1333	731	256	92	562	167	99	73
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	134
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	37	62	0	0	14	39	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	42	68	0	0	19	45	28	0	28	0	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	37	71	71	8	41	73	27	27	11	11	11
g / C, Green / Cycle	0.28	0.52	0.52	0.06	0.30	0.53	0.20	0.20	0.08	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.44	0.25	0.26	0.04	0.26	0.46	0.10	0.10	0.06	0.06	0.07
s, saturation flow rate [veh/h]	3459	3560	1796	1781	5094	1589	1781	1826	1781	1828	1673
c, Capacity [veh/h]	951	1846	931	99	1522	848	351	360	145	148	136
d1, Uniform Delay [s]	36.83	4.99	5.03	63.24	45.28	27.40	48.52	48.51	61.32	61.28	61.43
k, delay calibration	0.26	0.50	0.50	0.04	0.50	0.50	0.08	0.08	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	265.19	0.92	1.96	3.85	7.35	11.23	0.79	0.76	3.55	3.31	4.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.58	0.49	0.51	0.73	0.88	0.86	0.49	0.49	0.79	0.78	0.81
d, Delay for Lane Group [s/veh]	302.03	5.92	6.99	67.09	52.63	38.63	49.31	49.27	64.87	64.58	65.66
Lane Group LOS	F	A	A	E	D	D	D	D	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	48.78	2.32	2.69	2.52	14.83	21.67	5.30	5.42	4.01	4.06	3.90
50th-Percentile Queue Length [ft/ln]	1219.42	57.92	67.36	62.90	370.69	541.70	132.55	135.59	100.30	101.55	97.38
95th-Percentile Queue Length [veh/ln]	75.05	4.17	4.85	4.53	21.14	29.30	9.08	9.24	7.22	7.31	7.01
95th-Percentile Queue Length [ft/ln]	1876.31	104.25	121.24	113.23	528.57	732.55	226.96	231.07	180.55	182.79	175.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	302.0	302.0	6.22	6.99	67.09	67.09	52.63	38.63	49.30	49.27	0.00	64.78	64.98	65.66
Movement LOS	F	F	A	A	E	E	D	D	D	D		E	E	E
d_A, Approach Delay [s/veh]	161.10				48.33				18.85			65.03		
Approach LOS	F				D				B			E		
d_I, Intersection Delay [s/veh]	104.44													
Intersection LOS	F													
Intersection V/C	1.130													

Emissions

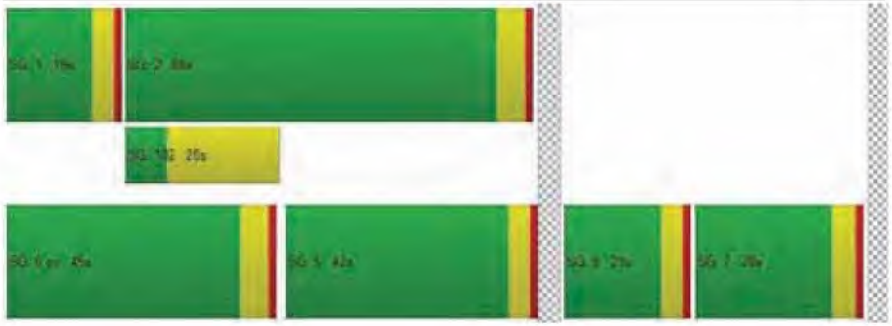
Vehicle Miles Traveled [mph]	257.93	154.08	80.73	13.55	250.86	137.57	7.95	8.14	3.62	3.67	3.49
Stops [stops/h]	2582.29	122.64	71.32	66.60	1177.49	573.57	140.35	143.56	106.20	107.53	103.10
Fuel consumption [US gal/h]	117.43	8.10	4.39	2.28	37.51	17.59	2.83	2.89	2.24	2.26	2.18
CO [g/h]	8208.09	566.42	306.75	159.05	2622.26	1229.80	197.70	202.23	156.43	158.22	152.26
NOx [g/h]	1597.00	110.20	59.68	30.95	510.20	239.27	38.47	39.35	30.43	30.78	29.62
VOC [g/h]	1902.30	131.27	71.09	36.86	607.73	285.02	45.82	46.87	36.25	36.67	35.29

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	57.44
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.364
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	915	576	337	241
d_b, Bicycle Delay [s]	20.02	34.45	47.03	52.59
l_b,int, Bicycle LOS Score for Intersection	3.167	2.869	2.134	1.866
Bicycle LOS	C	C	B	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Latrobe Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	38.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.082

Intersection Setup

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	200.00	570.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No			No		
Crosswalk	No			No				No			Yes		

Volumes

Name	Latrobe Rd			El Dorado Hills Blvd			US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Base Volume Input [veh/h]	0	2219	463	0	520	1821	0	0	1266	0	0	528
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	177	27	0	0	-37	0	0	0	-25	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	147	0	0	0	0	0	0	372	0	0	158
Total Hourly Volume [veh/h]	0	2396	343	0	520	1784	0	0	0	869	0	0	370
Peak Hour Factor	1.0000	0.8400	0.8400	1.000	0.840	0.840	1.000	1.0000	1.0000	0.8400	1.0000	1.0000	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	713	102	0	155	531	0	0	0	259	0	0	110
Total Analysis Volume [veh/h]	0	2852	408	0	619	2124	0	0	0	1035	0	0	440
Presence of On-Street Parking	No		No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	74.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	50	0	0	39	50	0	0	0	45	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No				No			
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
l2, Clearance Lost Time [s]	0.0	4.2	0.0	0.0	2.6	4.2	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	2.5	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Minimum Recall		No			No	No				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	R	
C, Cycle Length [s]	68	68	68	68	68	
L, Total Lost Time per Cycle [s]	6.20	6.20	4.60	6.20	4.60	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	4.20	4.20	2.60	4.20	2.60	
g_i, Effective Green Time [s]	32	32	25	35	22	
g / C, Green / Cycle	0.47	0.47	0.37	0.51	0.33	
(v / s)_i Volume / Saturation Flow Rate	0.48	0.47	0.35	0.31	0.37	
s, saturation flow rate [veh/h]	5094	1718	1781	6792	2813	
c, Capacity [veh/h]	2395	808	661	3476	927	
d1, Uniform Delay [s]	18.02	18.02	20.61	11.79	22.80	
k, delay calibration	0.50	0.50	0.14	0.50	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	23.92	33.91	8.51	0.81	54.00	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	1.02	1.01	0.94	0.61	1.12	
d, Delay for Lane Group [s/veh]	41.94	51.93	29.13	12.60	76.80	
Lane Group LOS	F	F	C	B	F	
Critical Lane Group	Yes	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	14.98	17.40	9.47	4.57	13.71	
50th-Percentile Queue Length [ft/ln]	374.55	435.04	236.75	114.16	342.77	
95th-Percentile Queue Length [veh/ln]	21.66	24.41	14.52	8.07	21.12	
95th-Percentile Queue Length [ft/ln]	541.39	610.18	362.92	201.77	528.02	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	43.37	51.93	29.13	29.13	12.60	0.00	0.00	0.00	76.80	0.00	0.00	0.00
Movement LOS		D	D	C	C	B				F			
d_A, Approach Delay [s/veh]		44.44			16.33				76.80			0.00	
Approach LOS		D			B				E			A	
d_I, Intersection Delay [s/veh]						38.24							
Intersection LOS						D							
Intersection V/C						1.082							

Emissions

Vehicle Miles Traveled [mph]	353.78	117.93	106.02	363.78	74.07	
Stops [stops/h]	2379.48	921.25	501.35	966.99	1451.73	
Fuel consumption [US gal/h]	62.58	24.11	13.54	29.94	27.24	
CO [g/h]	4374.32	1685.21	946.20	2092.83	1904.38	
NOx [g/h]	851.08	327.88	184.10	407.19	370.52	
VOC [g/h]	1013.79	390.56	219.29	485.03	441.36	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00	0.00
d_p, Pedestrian Delay [s]	0.00		0.00		0.00	23.89
l_p,int, Pedestrian LOS Score for Intersectio	0.000		0.000		0.000	2.272
Crosswalk LOS	F		F		F	B
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	906		1024		659	0
d_b, Bicycle Delay [s]	10.18		8.10		15.29	34.00
l_b,int, Bicycle LOS Score for Intersection	2.965		2.436		1.560	1.560
Bicycle LOS	C		B		A	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	42.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.017

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	68	1965	251	4	537	2174	372	156	9	24	1	72	32	557
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	204	19	0	0	-62	0	0	0	0	0	-2	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	81	0	0	0	112	0	0	7	0	0	0	167
Total Hourly Volume [veh/h]	1	74	2169	189	4	537	2112	260	156	9	17	1	70	32	390
Peak Hour Factor	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.9800	0.9800	0.9800	0.980	0.980	0.980	0.980
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	19	553	48	1	137	539	66	40	2	4	0	18	8	99
Total Analysis Volume [veh/h]	1	76	2213	193	4	548	2155	265	159	9	17	1	71	33	398
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	123
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	5	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	50	0	15	15	50	0	15	20	0	0	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	3.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.5	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	1.5	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	245.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	19	19	56	0	19	24	0	0	19	19	0
Lead / Lag	-	Lead	-	-	Lead	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	4	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	No			No	No			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	104	104	104	104	104	104	104	104	104	104	104	104
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	4	50	50	15	61	61	8	8	8	15	15	15
g / C, Green / Cycle	0.04	0.48	0.48	0.14	0.59	0.59	0.07	0.07	0.07	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.02	0.48	0.13	0.18	0.47	0.19	0.05	0.01	0.01	0.04	0.15	0.15
s, saturation flow rate [veh/h]	3113	4584	1431	3113	4584	1431	3113	1683	1431	1603	1464	1431
c, Capacity [veh/h]	127	2214	691	451	2691	840	227	123	104	232	212	207
d1, Uniform Delay [s]	48.86	26.77	16.01	44.30	16.68	10.85	46.91	44.75	45.05	39.67	44.30	44.30
k, delay calibration	0.04	0.04	0.04	0.09	0.04	0.04	0.08	0.08	0.08	0.08	0.45	0.45
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.72	5.29	0.08	105.05	0.22	0.08	2.89	0.19	0.54	0.56	65.94	66.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.61	1.00	0.28	1.22	0.80	0.32	0.70	0.07	0.16	0.31	1.03	1.03
d, Delay for Lane Group [s/veh]	50.59	32.06	16.09	149.36	16.90	10.93	49.80	44.94	45.58	40.23	110.24	110.93
Lane Group LOS	D	C	B	F	B	B	D	D	D	D	F	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.01	18.17	2.69	12.29	12.21	2.94	2.08	0.22	0.42	1.67	9.26	9.09
50th-Percentile Queue Length [ft/ln]	25.15	454.22	67.20	307.37	305.31	73.40	52.11	5.54	10.62	41.81	231.53	227.26
95th-Percentile Queue Length [veh/ln]	1.81	25.16	4.84	19.64	17.94	5.28	3.75	0.40	0.76	3.01	14.44	14.22
95th-Percentile Queue Length [ft/ln]	45.28	628.98	120.97	490.90	448.60	132.12	93.79	9.97	19.12	75.26	360.88	355.38

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.59	50.59	32.06	16.09	149.3	149.3	16.90	10.93	49.80	44.94	45.58	40.23	40.23	110.2	110.6
Movement LOS	D	D	C	B	F	F	B	B	D	D	D	D	D	F	F
d_A, Approach Delay [s/veh]	31.40				40.97				49.18			100.51			
Approach LOS	C				D				D			F			
d_I, Intersection Delay [s/veh]	42.22														
Intersection LOS	D														
Intersection V/C	1.017														

Emissions

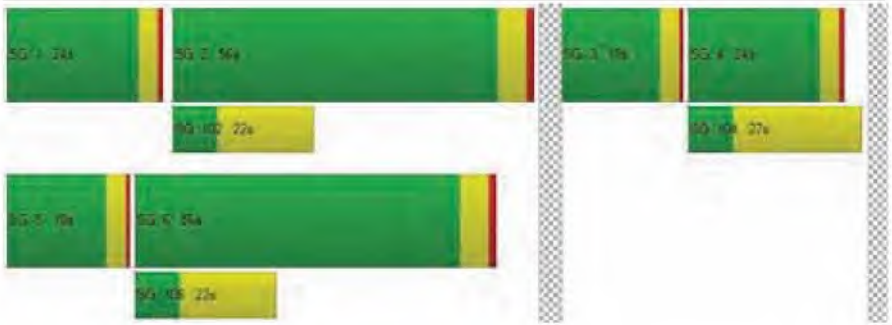
Vehicle Miles Traveled [mph]	17.18	493.89	43.07	79.87	311.82	38.34	20.28	1.15	2.17	25.27	76.50	74.77
Stops [stops/h]	69.98	1895.34	93.47	855.07	1274.01	102.09	144.96	7.70	14.77	58.15	322.04	316.10
Fuel consumption [US gal/h]	1.89	45.24	2.92	24.79	27.29	2.73	3.25	0.17	0.33	1.95	9.82	9.63
CO [g/h]	131.88	3162.47	204.21	1732.59	1907.29	190.97	226.97	12.03	22.97	136.37	686.27	673.31
NOx [g/h]	25.66	615.30	39.73	337.10	371.09	37.16	44.16	2.34	4.47	26.53	133.52	131.00
VOC [g/h]	30.56	732.93	47.33	401.54	442.03	44.26	52.60	2.79	5.32	31.61	159.05	156.05

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.35	0.00	41.35	41.35
l_p,int, Pedestrian LOS Score for Intersectio	3.493	0.000	2.580	2.837
Crosswalk LOS	C	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	976	976	396	299
d_b, Bicycle Delay [s]	13.58	13.58	33.29	37.42
l_b,int, Bicycle LOS Score for Intersection	2.969	2.954	1.718	2.548
Bicycle LOS	C	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	43.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.761

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	3	2	0	0	1	2	0	0	0	3	0	0
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	260.0	100.0	100.0	260.0	360.0	100.0	100.0	100.0	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	2	121	1681	388	1	95	1737	444	2	355	391	78	425	318	248
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	229	57	0	0	-64	0	0	0	0	0	-17	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	134	0	0	0	133	0	0	0	23	0	0	74
Total Hourly Volume [veh/h]	2	121	1910	311	1	95	1673	311	2	355	391	55	408	318	174
Peak Hour Factor	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	0.9400	0.9400	0.9400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	32	508	83	0	25	445	83	1	94	104	15	109	85	46
Total Analysis Volume [veh/h]	2	129	2032	331	1	101	1780	331	2	378	416	59	434	338	185
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	157
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups															
Maximum Green [s]	0	15	45	0	0	25	45	0	0	30	25	0	20	35	0
Amber [s]	0.0	4.0	4.7	0.0	0.0	4.0	4.7	0.0	0.0	4.5	4.7	0.0	4.5	4.7	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	39	0	0	0	37	0	0	0	48	0	0	50	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	3.0	3.7	0.0	0.0	3.0	3.7	0.0	0.0	4.0	3.7	0.0	4.0	3.7	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	19	51	0	0	29	51	0	0	36	31	0	26	41	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	7	0	0	10	7	0	0	10	10	0	10	10	0
Vehicle Extension [s]	0.0	1.5	3.0	0.0	0.0	1.5	3.0	0.0	0.0	1.5	2.0	0.0	1.5	2.0	0.0
Minimum Recall		No	Yes			No	Yes			No	No		No	No	
Maximum Recall		No	No			No	No			No	No		No	No	
Pedestrian Recall		No	No			No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	157	157	157	157	157	157	157	157	157	157	157	157
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	6.00	5.70	5.70	6.00	5.70	5.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	4.00	3.70	3.70	4.00	3.70	3.70
g_i, Effective Green Time [s]	13	82	82	10	79	79	20	23	23	20	23	23
g / C, Green / Cycle	0.09	0.52	0.52	0.06	0.50	0.50	0.12	0.14	0.14	0.13	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.07	0.30	0.21	0.03	0.35	0.21	0.11	0.13	0.13	0.13	0.10	0.12
s, saturation flow rate [veh/h]	1767	6737	1577	3431	5053	1577	3431	1855	1775	3431	3532	1577
c, Capacity [veh/h]	151	3520	824	218	2529	789	427	267	255	437	518	231
d1, Uniform Delay [s]	70.87	25.63	22.65	70.93	30.25	24.80	67.65	66.21	66.22	68.43	63.22	64.77
k, delay calibration	0.17	0.50	0.50	0.04	0.50	0.50	0.04	0.23	0.23	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	20.03	0.70	1.46	0.58	1.67	1.64	2.57	20.82	21.61	10.67	0.52	2.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.58	0.40	0.47	0.70	0.42	0.89	0.91	0.91	0.99	0.65	0.80
d, Delay for Lane Group [s/veh]	90.91	26.32	24.11	71.51	31.92	26.43	70.22	87.03	87.83	79.10	63.74	67.21
Lane Group LOS	F	C	C	E	C	C	E	F	F	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.08	13.20	7.84	1.98	17.07	7.99	7.69	11.16	10.75	9.38	6.46	7.35
50th-Percentile Queue Length [ft/ln]	151.91	330.00	195.97	49.43	426.80	199.70	192.37	279.09	268.70	234.62	161.38	183.85
95th-Percentile Queue Length [veh/ln]	10.12	19.16	12.43	3.56	23.85	12.62	12.24	16.64	16.12	14.41	10.62	11.80
95th-Percentile Queue Length [ft/ln]	252.98	478.97	310.76	88.98	596.21	315.58	306.10	416.08	403.12	360.23	265.55	295.03

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	90.91	90.91	26.32	24.11	71.51	71.51	31.92	26.43	70.22	70.22	87.36	87.83	79.10	63.74	67.21
Movement LOS	F	F	C	C	E	E	C	C	E	E	F	F	E	E	E
d_A, Approach Delay [s/veh]	29.42				32.92				79.78				71.38		
Approach LOS	C				C				E				E		
d_I, Intersection Delay [s/veh]	43.37														
Intersection LOS	D														
Intersection V/C	0.761														

Emissions

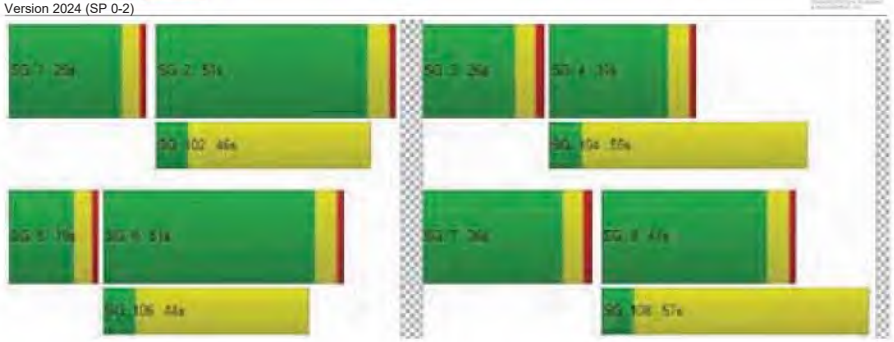
Vehicle Miles Traveled [mph]	52.16	809.00	131.78	22.76	397.26	73.87	94.70	60.47	57.91	45.50	35.44	19.40
Stops [stops/h]	139.33	1210.71	179.75	90.68	1174.39	183.17	352.88	255.98	246.45	430.39	296.03	168.62
Fuel consumption [US gal/h]	5.34	50.88	8.04	3.39	39.78	6.59	11.28	8.20	7.90	11.24	7.48	4.26
CO [g/h]	373.26	3556.32	562.15	237.09	2780.57	460.65	788.30	573.16	552.08	785.37	522.72	297.77
NOx [g/h]	72.62	691.93	109.37	46.13	541.00	89.62	153.37	111.52	107.41	152.80	101.70	57.94
VOC [g/h]	86.51	824.21	130.28	54.95	644.42	106.76	182.70	132.84	127.95	182.02	121.15	69.01

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	67.89	67.89	67.89	67.89
I_p,int, Pedestrian LOS Score for Intersectio	3.600	3.916	2.806	3.006
Crosswalk LOS	D	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	577	577	322	450
d_b, Bicycle Delay [s]	39.74	39.74	55.24	47.17
I_b,int, Bicycle LOS Score for Intersection	2.643	2.794	1.972	2.410
Bicycle LOS	B	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	79.0
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.018

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	57	1777	2	2	18	1704	532	257	5	15	4	9	15
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	286	0	0	0	-81	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	1	0	0	0	160	0	0	5	0	0	5
Total Hourly Volume [veh/h]	1	57	2063	1	2	18	1623	372	257	5	10	4	9	10
Peak Hour Factor	1.000	0.870	0.870	0.870	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	16	593	0	1	5	466	107	74	1	3	1	3	3
Total Analysis Volume [veh/h]	1	66	2371	1	2	21	1866	428	295	6	11	5	10	11
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	112
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	12	40	0	0	15	40	0	0	20	0	0	20	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	12	0	0	0	20	0	0	20	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	0	0	18	46	0	0	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	73	73	73	73	73	73	73	73	73
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	43	43	1	40	40	9	9	2
g / C, Green / Cycle	0.05	0.59	0.59	0.02	0.55	0.55	0.12	0.12	0.03
(v / s)_i Volume / Saturation Flow Rate	0.04	0.63	0.63	0.01	0.61	0.65	0.09	0.09	0.02
s, saturation flow rate [veh/h]	1781	1870	1870	1781	1870	1754	1781	1769	1725
c, Capacity [veh/h]	92	1093	1093	29	1026	963	219	217	51
d1, Uniform Delay [s]	34.04	15.14	15.14	35.73	16.44	16.44	30.75	30.75	34.86
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.11	0.11	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.98	53.36	53.42	16.03	66.19	96.37	4.33	4.37	2.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.72	1.09	1.09	0.79	1.12	1.19	0.72	0.72	0.51
d, Delay for Lane Group [s/veh]	38.02	68.50	68.56	51.76	82.63	112.81	35.08	35.12	37.79
Lane Group LOS	D	F	F	D	F	F	D	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.24	30.63	30.64	0.50	30.41	36.60	2.81	2.80	0.48
50th-Percentile Queue Length [ft/ln]	30.89	765.78	766.12	12.48	760.17	915.07	70.26	69.91	12.08
95th-Percentile Queue Length [veh/ln]	2.22	42.42	42.44	0.90	42.98	52.97	5.06	5.03	0.87
95th-Percentile Queue Length [ft/ln]	55.59	1060.55	1061.10	22.46	1074.54	1324.31	126.47	125.84	21.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.02	38.02	68.53	68.56	51.76	51.76	94.26	112.8	35.10	35.12	35.12	37.79	37.79	37.79
Movement LOS	D	D	F	E	D	D	F	F	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	67.70				97.26				35.10			37.79		
Approach LOS	E				F				D			D		
d_I, Intersection Delay [s/veh]	79.00													
Intersection LOS	E													
Intersection V/C	1.018													

Emissions

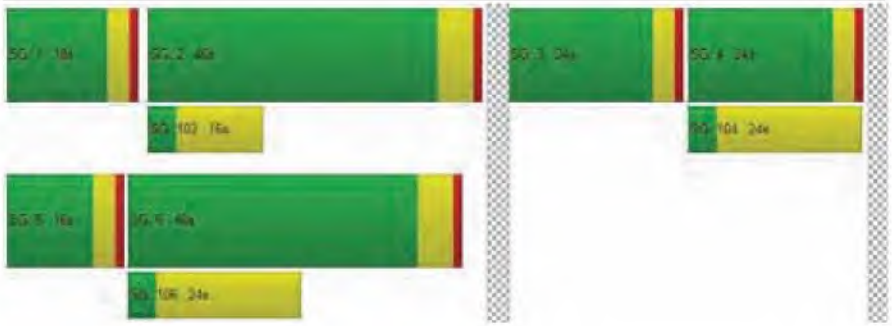
Vehicle Miles Traveled [mph]	23.71	419.68	419.68	9.16	456.66	456.66	37.68	37.46	0.49
Stops [stops/h]	61.15	1516.12	1516.80	24.71	1505.02	1811.70	139.11	138.42	23.92
Fuel consumption [US gal/h]	1.83	42.19	42.20	1.01	62.52	75.26	3.44	3.42	0.35
CO [g/h]	128.07	2948.74	2950.02	70.42	4369.82	5260.38	240.21	238.95	24.64
NOx [g/h]	24.92	573.72	573.97	13.70	850.21	1023.48	46.74	46.49	4.79
VOC [g/h]	29.68	683.40	683.70	16.32	1012.75	1219.14	55.67	55.38	5.71

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	28.81	0.00	28.81	28.81
l_p,int, Pedestrian LOS Score for Intersectio	3.137	0.000	2.258	1.743
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1100	1100	550	550
d_b, Bicycle Delay [s]	7.37	7.37	19.12	19.12
l_b,int, Bicycle LOS Score for Intersection	3.572	3.586	2.083	1.611
Bicycle LOS	D	D	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Latrobe Rd/Suncast Ln

Control Type:	Signalized	Delay (sec / veh):	15.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.899

Intersection Setup

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Approach	Northbound			Southbound		Eastbound	
Lane Configuration							
Turning Movement	U-turn	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			No		Yes	

Volumes

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Base Volume Input [veh/h]	1	92	1693	1327	397	153	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	66	0	0	0
Site-Generated Trips [veh/h]	0	12	286	-81	0	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	119	0	17
Total Hourly Volume [veh/h]	1	104	1979	1312	278	153	41
Peak Hour Factor	1.0000	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	30	569	377	80	44	12
Total Analysis Volume [veh/h]	1	120	2275	1508	320	176	47
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permissive	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	5	2	6	0	3	0
Auxiliary Signal Groups							
Maximum Green [s]	0	12	40	40	0	20	0
Amber [s]	0.0	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No	No		No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	46	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-
Minimum Green [s]	0	5	5	5	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall		No	No	No		No	
Maximum Recall		No	No	No		No	
Pedestrian Recall		No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	L	R
C, Cycle Length [s]	67	67	67	67	67	67
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	6	48	38	38	9	9
g / C, Green / Cycle	0.09	0.72	0.57	0.57	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.07	0.64	0.49	0.52	0.10	0.03
s, saturation flow rate [veh/h]	1781	3560	1870	1761	1781	1589
c, Capacity [veh/h]	157	2564	1071	1009	233	208
d1, Uniform Delay [s]	29.97	7.28	12.00	12.75	28.15	26.14
k, delay calibration	0.04	0.15	0.32	0.36	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.03	1.65	5.84	9.95	4.91	0.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.89	0.85	0.91	0.75	0.23
d, Delay for Lane Group [s/veh]	33.00	8.93	17.84	22.70	33.06	26.68
Lane Group LOS	C	A	B	C	C	C
Critical Lane Group	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.96	7.91	10.80	12.42	2.92	0.68
50th-Percentile Queue Length [ft/ln]	49.06	197.79	269.94	310.43	72.89	16.89
95th-Percentile Queue Length [veh/ln]	3.53	12.52	16.19	18.20	5.25	1.22
95th-Percentile Queue Length [ft/ln]	88.30	313.11	404.66	454.91	131.20	30.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.00	33.00	8.93	19.75	22.70	33.06	26.68
Movement LOS	C	C	A	B	C	C	C
d_A, Approach Delay [s/veh]	10.15			20.27		31.72	
Approach LOS	B			C		C	
d_I, Intersection Delay [s/veh]	15.39						
Intersection LOS	B						
Intersection V/C	0.899						

Emissions

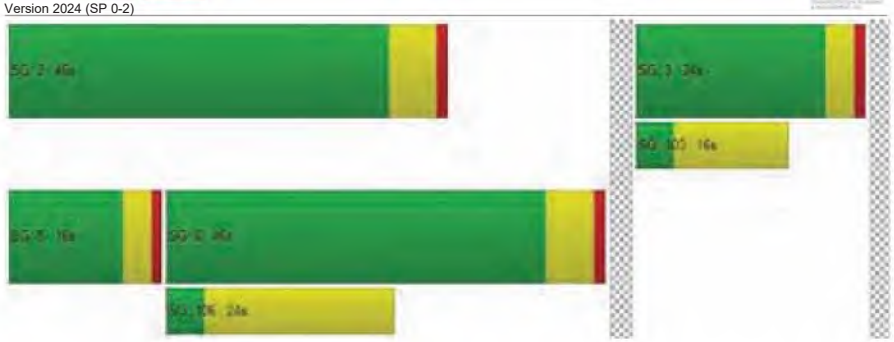
Vehicle Miles Traveled [mph]	84.42	1587.29	323.43	323.43	59.38	15.86
Stops [stops/h]	105.42	850.06	580.07	667.09	156.63	36.29
Fuel consumption [US gal/h]	4.87	74.17	19.84	21.22	4.49	1.11
CO [g/h]	340.44	5184.80	1386.60	1483.46	314.13	77.48
NOx [g/h]	66.24	1008.77	269.78	288.63	61.12	15.08
VOC [g/h]	78.90	1201.63	321.36	343.81	72.80	17.96

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0			0.0		8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00			0.00		0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00			0.00		0.00
d_p, Pedestrian Delay [s]	25.98			0.00		25.98
I_p,int, Pedestrian LOS Score for Intersectio	3.062			0.000		2.212
Crosswalk LOS	C			F		B
s_b, Saturation Flow Rate of the bicycle lane	2000			2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	1194			1194		597
d_b, Bicycle Delay [s]	5.44			5.44		16.49
I_b,int, Bicycle LOS Score for Intersection	3.535			3.166		1.560
Bicycle LOS	D			C		A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	127.5
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.152

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	53	773	21	249	386	750	514	69	78	136	241	520
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	4	0	100	0	0	0	0	17	0	0
Site-Generated Trips [veh/h]	91	333	38	0	64	-145	-35	-6	16	2	-25	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	19	0	0	182	0	0	28	0	0	156
Total Hourly Volume [veh/h]	144	1106	44	249	550	423	479	63	66	155	216	364
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	311	12	70	154	119	135	18	19	44	61	102
Total Analysis Volume [veh/h]	162	1243	49	280	618	475	538	71	74	174	243	409
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Cycle Length [s]	91	91	91	91	91	91	91	91	91	91
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	10	25	25	12	27	27	15	15	20	20
g / C, Green / Cycle	0.11	0.28	0.28	0.13	0.30	0.30	0.17	0.17	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.09	0.35	0.35	0.16	0.31	0.32	0.19	0.19	0.23	0.25
s, saturation flow rate [veh/h]	1781	1870	1845	1781	1870	1607	1781	1752	1824	1589
c, Capacity [veh/h]	197	515	508	235	556	477	294	289	402	350
d1, Uniform Delay [s]	39.53	32.90	32.90	39.40	31.91	31.91	37.90	37.90	35.40	35.40
k, delay calibration	0.12	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.43	0.49
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.42	132.45	134.34	119.58	50.74	61.74	106.20	107.68	60.35	89.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	1.26	1.27	1.19	1.05	1.07	1.17	1.17	1.07	1.14
d, Delay for Lane Group [s/veh]	48.95	165.35	167.24	158.98	82.65	93.65	144.10	145.58	95.75	125.23
Lane Group LOS	D	F	F	F	F	F	F	F	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	4.00	29.88	29.75	12.66	18.66	17.49	15.08	14.96	15.39	16.27
50th-Percentile Queue Length [ft/ln]	100.04	746.99	743.72	316.59	466.40	437.24	377.08	373.99	384.66	406.79
95th-Percentile Queue Length [veh/ln]	7.20	44.21	44.10	19.88	26.49	25.41	23.06	22.92	22.60	24.48
95th-Percentile Queue Length [ft/ln]	180.07	1105.22	1102.47	497.12	662.15	635.17	576.58	573.10	564.91	611.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.95	166.25	167.24	158.98	83.30	93.65	144.64	145.58	145.58	95.75	95.75	125.23
Movement LOS	D	F	F	F	F	F	F	F	F	F	F	F
d_A, Approach Delay [s/veh]	153.21			102.31			144.83			109.95		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	127.53											
Intersection LOS	F											
Intersection V/C	1.152											

Emissions

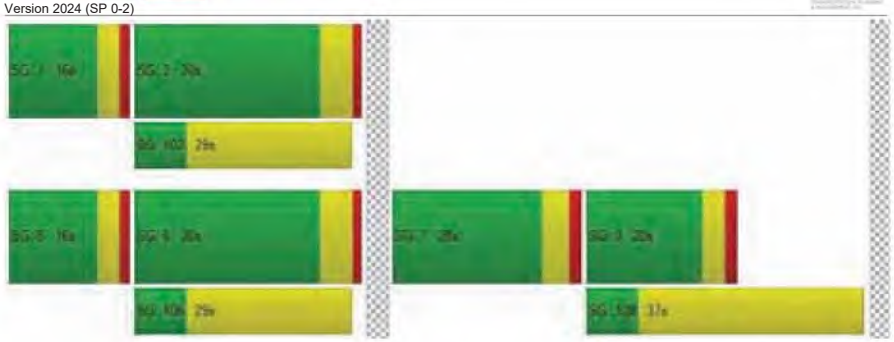
Vehicle Miles Traveled [mph]	93.56	374.97	371.19	195.36	405.60	357.00	25.87	25.52	47.36	43.99
Stops [stops/h]	158.65	1184.65	1179.47	502.09	739.66	693.41	598.02	593.12	610.03	645.13
Fuel consumption [US gal/h]	6.34	43.82	43.67	24.92	37.08	34.57	14.45	14.37	13.66	15.51
CO [g/h]	443.28	3063.33	3052.33	1741.77	2592.08	2416.61	1010.05	1004.70	955.11	1084.13
NOx [g/h]	86.25	596.01	593.87	338.89	504.32	470.18	196.52	195.48	185.83	210.93
VOC [g/h]	102.73	709.96	707.41	403.67	600.74	560.07	234.09	232.85	221.36	251.26

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	35.07	0.00	35.07	35.07
I_p,int, Pedestrian LOS Score for Intersectio	2.788	0.000	2.556	2.617
Crosswalk LOS	C	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	544	544	341	441
d_b, Bicycle Delay [s]	24.06	24.06	31.22	27.60
I_b,int, Bicycle LOS Score for Intersection	2.775	2.842	2.733	3.180
Bicycle LOS	C	C	B	C

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	22.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.970

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	122	575	254	291	262	88
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	27	0	1	130	0	0
Site-Generated Trips [veh/h]	-14	498	229	-148	-36	-4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	135	1073	484	273	226	84
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	298	134	76	63	23
Total Analysis Volume [veh/h]	150	1192	538	303	251	93
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	12	40	40	0	20	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	46	46	0	24	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	61	61	61	61	61	61
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	7	40	29	29	11	11
g / C, Green / Cycle	0.11	0.66	0.48	0.48	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.08	0.64	0.29	0.19	0.14	0.06
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1589
c, Capacity [veh/h]	193	1225	900	765	322	287
d1, Uniform Delay [s]	26.43	9.98	11.51	10.13	23.80	21.71
k, delay calibration	0.04	0.42	0.15	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.54	17.89	0.91	0.47	4.13	0.65
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.97	0.60	0.40	0.78	0.32
d, Delay for Lane Group [s/veh]	28.96	27.87	12.42	10.60	27.93	22.36
Lane Group LOS	C	C	B	B	C	C
Critical Lane Group	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.94	11.98	3.80	1.87	3.57	1.13
50th-Percentile Queue Length [ft/ln]	48.56	299.60	94.91	46.74	89.19	28.33
95th-Percentile Queue Length [veh/ln]	3.50	17.66	6.83	3.37	6.42	2.04
95th-Percentile Queue Length [ft/ln]	87.41	441.53	170.83	84.13	160.54	50.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.96	27.87	12.42	10.60	27.93	22.36
Movement LOS	C	C	B	B	C	C
d_A, Approach Delay [s/veh]	27.99		11.77		26.42	
Approach LOS	C		B		C	
d_I, Intersection Delay [s/veh]	22.38					
Intersection LOS	C					
Intersection V/C	0.970					

Emissions

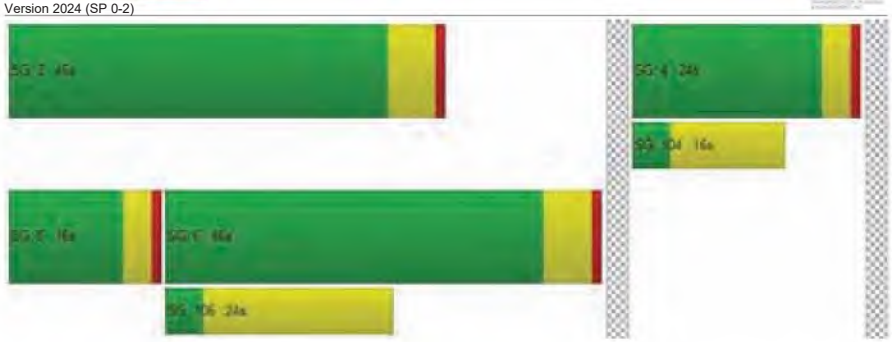
Vehicle Miles Traveled [mph]	18.51	147.07	310.71	174.99	58.95	21.84
Stops [stops/h]	115.15	710.43	225.05	110.83	211.49	67.17
Fuel consumption [US gal/h]	3.64	24.88	15.93	8.57	5.02	1.69
CO [g/h]	254.59	1738.83	1113.78	598.77	351.02	118.38
NOx [g/h]	49.53	338.31	216.70	116.50	68.30	23.03
VOC [g/h]	59.00	402.99	258.13	138.77	81.35	27.44

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0		0.0		8.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	22.89		0.00		22.89	
l_p,int, Pedestrian LOS Score for Intersectio	3.099		0.000		2.182	
Crosswalk LOS	C		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	1317		1317		659	
d_b, Bicycle Delay [s]	3.54		3.54		13.66	
l_b,int, Bicycle LOS Score for Intersection	3.774		2.947		1.560	
Bicycle LOS	D		C		A	

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	291.1
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.082

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	658	0	14	328	0	0	0	0	0	0	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	3	7	0	0	0	0	0
Site-Generated Trips [veh/h]	2	446	0	0	213	13	38	0	5	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	1104	0	14	541	16	45	0	5	0	0	39
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	300	0	4	147	4	12	0	1	0	0	10
Total Analysis Volume [veh/h]	2	1200	0	14	588	17	49	0	5	0	0	39
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			Yes	Yes
Storage Area [veh]	0	0	1	1
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.02	0.01	0.00	1.08	0.00	0.01	0.00	0.00	0.17
d_M, Delay for Movement [s/veh]	8.70	0.00	0.00	11.21	0.00	0.00	291.08	260.68	218.77	72.88	57.97	24.27
Movement LOS	A	A	A	B	A	A	F	F	F	F	F	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.02	0.02	0.02	4.76	4.76	4.76	0.61	0.61	0.61
95th-Percentile Queue Length [ft/ln]	0.08	0.08	0.08	0.59	0.59	0.59	119.05	119.05	119.05	15.28	15.28	15.28
d_A, Approach Delay [s/veh]	0.01			0.25			284.39			24.27		
Approach LOS	A			A			F			C		
d_I, Intersection Delay [s/veh]	8.61											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Two-way stop	Delay (sec / veh):	3,003.3
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	7.295

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	408	41	74	254	0	0	0	0	11	0	250
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	5	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	22	4	0	0	9	141	445	6	51	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	37	0	0	0	0	0	37	0	18	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	59	412	41	74	268	141	482	6	69	11	2	250
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	111	11	20	72	38	130	2	19	3	1	67
Total Analysis Volume [veh/h]	63	443	44	80	288	152	518	6	74	12	2	269
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.00	0.07	0.00	0.00	7.29	0.03	0.11	0.09	0.01	0.45
d_M, Delay for Movement [s/veh]	8.41	0.00	0.00	8.61	0.00	0.00	3003.32	2973.05	2957.91	40.81	35.39	19.42
Movement LOS	A	A	A	A	A	A	F	F	F	E	E	C
95th-Percentile Queue Length [veh/ln]	0.18	0.00	0.00	0.24	0.00	0.00	68.00	68.00	68.00	3.33	3.33	3.33
95th-Percentile Queue Length [ft/ln]	4.46	0.00	0.00	6.01	0.00	0.00	1699.93	1699.93	1699.93	83.36	83.36	83.36
d_A, Approach Delay [s/veh]	0.96			1.33			2997.40			20.44		
Approach LOS	A			A			F			C		
d_I, Intersection Delay [s/veh]	922.32											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Two-way stop	Delay (sec / veh):	287.6
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.425

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	13	460	201	51	0	862	182
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-13	-41	16	-52	0	-170	91
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	6	0	0	37	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	6	419	217	36	0	692	273
Peak Hour Factor	1.0000	0.9060	0.9060	0.9060	0.9060	1.0000	0.9060	0.9060
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	116	60	10	0	191	75
Total Analysis Volume [veh/h]	0	7	462	240	40	0	764	301
Pedestrian Volume [ped/h]	0			0		0		

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.42	0.59	0.00	0.00	0.00	0.60	0.00
d_M, Delay for Movement [s/veh]	287.57	287.57	73.70	0.00	0.00	18.13	9.27	0.00
Movement LOS	F	F	F	A	A	C	A	A
95th-Percentile Queue Length [veh/ln]	13.80	13.80	13.80	0.00	0.00	2.18	2.18	2.18
95th-Percentile Queue Length [ft/ln]	344.90	344.90	344.90	0.00	0.00	54.39	54.39	54.39
d_A, Approach Delay [s/veh]	76.89			0.00		6.65		
Approach LOS	F			A		A		
d_I, Intersection Delay [s/veh]	23.79							
Intersection LOS	F							

Intersection Level Of Service Report
Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Control Type:	All-way stop	Delay (sec / veh):	52.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.070

Intersection Setup

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Base Volume Input [veh/h]	9	149	80	2	30	779	37	11	17	0	240	45	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-76	-59	0	4	-194	-36	20	15	0	-148	-26	13
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	73	21	2	34	585	1	31	32	0	92	19	75
Peak Hour Factor	0.8300	0.8300	0.8300	1.000	0.830	0.830	0.830	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	22	6	1	10	176	0	9	10	0	28	6	23
Total Analysis Volume [veh/h]	11	88	25	2	41	705	1	37	39	0	111	23	90
Pedestrian Volume [ped/h]	0			0				0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	617	749	537	589
Degree of Utilization, x	0.20	1.07	0.14	0.38

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.75	20.10	0.49	1.77
95th-Percentile Queue Length [ft]	18.65	502.49	12.27	44.35
Approach Delay [s/veh]	10.30	76.09	10.81	12.82
Approach LOS	B	F	B	B
Intersection Delay [s/veh]	52.83			
Intersection LOS	F			

Intersection Level Of Service Report
Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	17.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.282

Intersection Setup

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00			30.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	No		No			No		

Volumes

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Base Volume Input [veh/h]	110	126	1	106	95	0	67	128
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-31	0	-5	0	0	80	-1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	95	1	101	95	0	147	127
Peak Hour Factor	0.9500	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	25	0	27	25	0	39	33
Total Analysis Volume [veh/h]	116	100	1	106	100	0	155	134
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.28	0.11	0.00	0.00	0.00	0.00	0.11	0.00
d_M, Delay for Movement [s/veh]	17.18	9.56	8.81	0.00	0.00	10.12	7.97	0.00
Movement LOS	C	A	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	1.15	0.38	0.00	0.00	0.00	0.38	0.38	0.00
95th-Percentile Queue Length [ft/ln]	28.63	9.46	0.05	0.05	0.05	9.58	9.58	0.00
d_A, Approach Delay [s/veh]	13.65		0.04			4.28		
Approach LOS	B		A			A		
d_I, Intersection Delay [s/veh]	5.89							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 16: Carson Crossing Rd/Calypso Cir.

Control Type:	Two-way stop	Delay (sec / veh):	16.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.208

Intersection Setup

Name			Carson Crossing Rd		Carson Crossing Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	190.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			Carson Crossing Rd		Carson Crossing Rd	
Base Volume Input [veh/h]	83	80	145	57	121	95
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-31	0	0	80
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	83	80	114	57	121	175
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	22	31	15	33	48
Total Analysis Volume [veh/h]	90	87	124	62	132	190
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.21	0.09	0.00	0.00	0.10	0.00
d_M, Delay for Movement [s/veh]	15.96	11.52	0.00	0.00	7.86	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.27	1.27	0.00	0.00	0.31	0.00
95th-Percentile Queue Length [ft/ln]	31.67	31.67	0.00	0.00	7.86	0.00
d_A, Approach Delay [s/veh]	13.78		0.00		3.22	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	5.08					
Intersection LOS	C					

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Intersection Level Of Service Report
Intersection 17: Carson Crossing Rd/Four Seasons Dr

Control Type:	All-way stop	Delay (sec / veh):	8.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.118

Intersection Setup

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	500.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	500.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Base Volume Input [veh/h]	67	10	11	165	19	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	80	0	0	-31	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	147	10	11	134	19	18
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	3	3	36	5	5
Total Analysis Volume [veh/h]	160	11	12	146	21	20
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	727	740	681	753	753	712
Degree of Utilization, x	0.12	0.12	0.02	0.10	0.10	0.06

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.40	0.39	0.05	0.32	0.32	0.18
95th-Percentile Queue Length [ft]	9.96	9.76	1.34	8.02	8.02	4.57
Approach Delay [s/veh]	8.26		8.00			8.37
Approach LOS	A		A			A
Intersection Delay [s/veh]	8.16					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	64.3
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.755

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	65	0	18	66	1	8	4	296	125	50	536	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	80	0	0	0	0	0	0	0	-31	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	145	0	18	66	1	8	4	296	94	50	536	15
Peak Hour Factor	0.9700	1.0000	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	0	5	17	0	2	1	76	24	13	138	4
Total Analysis Volume [veh/h]	149	0	19	68	1	8	4	305	97	52	553	15
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.76	0.00	0.03	0.35	0.00	0.02	0.00	0.00	0.00	0.04	0.01	0.00
d_M, Delay for Movement [s/veh]	64.30	21.44	10.36	32.77	31.72	21.32	8.60	0.00	0.00	8.26	0.00	0.00
Movement LOS	F	C	B	D	D	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	5.04	0.08	0.08	1.58	1.58	1.58	0.01	0.00	0.00	0.14	0.00	0.00
95th-Percentile Queue Length [ft/ln]	126.12	2.12	2.12	39.41	39.41	39.41	0.30	0.00	0.00	3.53	0.00	0.00
d_A, Approach Delay [s/veh]	58.20			31.56			0.08			0.69		
Approach LOS	F			D			A			A		
d_I, Intersection Delay [s/veh]	9.97											
Intersection LOS	F											

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Intersection Level Of Service Report
Intersection 19: White Rock Rd/Windfield Way

Control Type:	Signalized	Delay (sec / veh):	29.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.585

Intersection Setup

Name	Windfield Way				White Rock Rd				White Rock Rd			
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00			
Grade [%]	0.00			0.00			0.00			0.00			
Curb Present	No			No			No			No			
Crosswalk	Yes			Yes			Yes			No			

Volumes

Name	Windfield Way						White Rock Rd			White Rock Rd			
Base Volume Input [veh/h]	72	5	189	5	5	5	5	632	184	0	378	502	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	57	0	0	2	0	0	55	0	0	0	2
Total Hourly Volume [veh/h]	72	5	132	5	5	3	5	632	129	0	378	502	3
Peak Hour Factor	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000	1.0000	0.9700	0.9700	1.000	0.970	0.970	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	19	1	34	1	1	1	1	163	33	0	97	129	1
Total Analysis Volume [veh/h]	74	5	136	5	5	3	5	652	133	0	390	518	3
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	31.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi
Signal Group	3	8	0	7	4	0	5	2	0	0	1	6	0
Auxiliary Signal Groups													
Maximum Green [s]	25	25	0	10	10	0	9	19	0	0	44	54	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	2.0	1.0	0.0	0.0	2.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	26	0	0	13	0	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	245.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	15	15	0	15	25	0	0	50	60	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	3	3	0	5	3	0	5	7	0	0	3	7	0
Vehicle Extension [s]	1.0	1.0	0.0	3.0	1.0	0.0	3.0	3.6	0.0	0.0	1.0	3.6	0.0
Minimum Recall	No	No		No	No		No	Yes			No	Yes	
Maximum Recall	No	No		No	No		No	No			No	No	
Pedestrian Recall	No	No		No	No		No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	6	12	1	7	1	57	57	28	84	84
g / C, Green / Cycle	0.05	0.10	0.01	0.06	0.01	0.47	0.47	0.23	0.70	0.70
(v / s)_i Volume / Saturation Flow Rate	0.04	0.09	0.00	0.00	0.00	0.22	0.22	0.22	0.14	0.14
s, saturation flow rate [veh/h]	1781	1598	1781	1754	1781	1870	1762	1781	1870	1866
c, Capacity [veh/h]	96	165	12	99	12	885	834	415	1308	1305
d1, Uniform Delay [s]	56.04	52.90	59.33	53.65	59.34	21.23	21.24	45.20	6.30	6.30
k, delay calibration	0.04	0.04	0.11	0.04	0.11	0.50	0.50	0.08	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.83	4.72	19.50	0.13	19.95	1.69	1.81	8.64	0.34	0.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.85	0.40	0.08	0.40	0.46	0.46	0.94	0.20	0.20
d, Delay for Lane Group [s/veh]	60.87	57.61	78.83	53.78	79.29	22.92	23.05	53.84	6.65	6.65
Lane Group LOS	E	E	E	D	E	C	C	D	A	A
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.34	4.39	0.22	0.23	0.22	7.96	7.55	12.32	2.28	2.28
50th-Percentile Queue Length [ft/ln]	58.56	109.83	5.48	5.83	5.50	199.09	188.65	308.10	57.00	56.89
95th-Percentile Queue Length [veh/ln]	4.22	7.83	0.39	0.42	0.40	12.59	12.05	18.08	4.10	4.10
95th-Percentile Queue Length [ft/ln]	105.40	195.77	9.86	10.49	9.90	314.79	301.28	452.04	102.59	102.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	60.87	57.61	57.61	78.83	53.78	53.78	79.29	22.97	23.05	53.84	53.84	6.65	6.65
Movement LOS	E	E	E	E	D	D	E	C	C	D	D	A	A
d_A, Approach Delay [s/veh]	58.73			63.41			23.34			26.85			
Approach LOS	E			E			C			C			
d_I, Intersection Delay [s/veh]	29.21												
Intersection LOS	C												
Intersection V/C	0.585												

Emissions

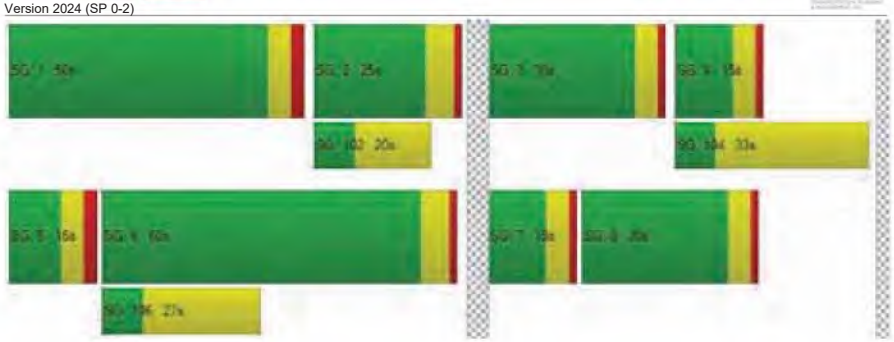
Vehicle Miles Traveled [mph]	28.51	54.33	0.17	0.28	4.21	339.83	320.77	97.19	64.98	64.85
Stops [stops/h]	70.27	131.80	6.57	6.99	6.60	238.91	226.38	369.72	68.40	68.27
Fuel consumption [US gal/h]	2.48	4.62	0.12	0.14	0.29	17.19	16.24	10.32	3.41	3.40
CO [g/h]	173.25	322.77	8.65	9.62	20.30	1201.81	1135.42	721.11	238.07	237.59
NOx [g/h]	33.71	62.80	1.68	1.87	3.95	233.83	220.91	140.30	46.32	46.23
VOC [g/h]	40.15	74.80	2.00	2.23	4.70	278.53	263.15	167.12	55.18	55.06

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00
d_p, Pedestrian Delay [s]	49.50			49.50			49.50			0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.313			1.967			2.673			0.000
Crosswalk LOS	B			A			B			F
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000
c_b, Capacity of the bicycle lane [bicycles/h]	417			167			317			900
d_b, Bicycle Delay [s]	37.60			50.42			42.50			18.15
I_b,int, Bicycle LOS Score for Intersection	2.008			1.584			2.257			1.991
Bicycle LOS	B			A			B			A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 20: White Rock Rd/Post St

Control Type:	Signalized	Delay (sec / veh):	39.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.617

Intersection Setup

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Approach	Northbound			Southbound			Eastbound				Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0	120.00	100.00	400.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00				30.00		
Grade [%]	0.00			0.00			0.00				0.00		
Curb Present	No			No			No				No		
Crosswalk	Yes			Yes			Yes				No		

Volumes

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	59	7	20	114	11	203	0	243	569	62	55	729	205
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	-12	0	-2	60	0	0	-6	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	6	0	0	57	0	0	0	19	0	0	62
Total Hourly Volume [veh/h]	59	7	14	114	11	134	0	241	629	43	55	723	143
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	1.000	0.910	0.910	0.910	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	2	4	31	3	37	0	66	173	12	15	199	39
Total Analysis Volume [veh/h]	65	8	15	125	12	147	0	265	691	47	60	795	157
Presence of On-Street Parking	No		No	No		No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0				0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0				0		
v_co, Outbound Pedestrian Volume crossing	0			0			0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0				0		
Bicycle Volume [bicycles/h]	0			0			0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	71.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups													
Maximum Green [s]	21	62	0	8	48	0	0	14	31	0	16	34	0
Amber [s]	3.5	5.0	0.0	3.5	5.0	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.7	1.0	0.0	1.0	1.0	0.0	0.0	2.0	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	32	0	0	0	21	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.2	4.0	0.0	2.5	4.0	0.0	0.0	3.5	2.5	0.0	3.0	2.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	100.0	0.0	100.0	100.0	0.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	0	13	54	0	0	20	36	0	21	39	0
Lead / Lag	Lead	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	3	7	0	3	7	0	0	3	3	0	3	3	0
Vehicle Extension [s]	1.0	3.6	0.0	1.0	3.6	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No			No	Yes		No	Yes	
Maximum Recall	No	No		No	No			No	No		No	No	
Pedestrian Recall	No	No		No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	5.20	6.00	4.50	6.00	5.50	4.50	4.50	5.00	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.20	4.00	2.50	4.00	3.50	2.50	2.50	3.00	2.50	2.50
g_i, Effective Green Time [s]	7	15	9	16	23	91	91	6	73	73
g / C, Green / Cycle	0.05	0.11	0.06	0.12	0.16	0.65	0.65	0.04	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.04	0.01	0.07	0.10	0.15	0.19	0.03	0.03	0.26	0.26
s, saturation flow rate [veh/h]	1781	1677	1781	1608	1781	3560	1589	1781	1870	1764
c, Capacity [veh/h]	83	179	108	187	286	2301	1027	77	982	927
d1, Uniform Delay [s]	66.05	56.61	65.75	60.70	57.92	10.86	9.02	66.32	21.38	21.38
k, delay calibration	0.04	0.13	0.40	0.13	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.95	0.40	125.62	12.62	5.37	0.34	0.08	6.24	1.81	1.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.13	1.16	0.85	0.93	0.30	0.05	0.78	0.50	0.50
d, Delay for Lane Group [s/veh]	72.00	57.01	191.37	73.32	63.29	11.20	9.10	72.56	23.19	23.30
Lane Group LOS	E	E	F	E	E	B	A	E	C	C
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.44	0.76	7.65	6.21	9.69	4.76	0.55	2.26	10.84	10.26
50th-Percentile Queue Length [ft/ln]	61.10	19.07	191.15	155.27	242.13	119.12	13.75	56.62	271.06	256.45
95th-Percentile Queue Length [veh/ln]	4.40	1.37	12.73	10.30	14.79	8.34	0.99	4.08	16.24	15.51
95th-Percentile Queue Length [ft/ln]	109.98	34.32	318.26	257.45	369.72	208.61	24.76	101.91	406.06	387.77

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	72.00	57.01	57.01	191.37	73.32	73.32	63.29	63.29	11.20	9.10	72.56	23.23	23.30
Movement LOS	E	E	E	F	E	E	E	E	B	A	E	C	C
d_A, Approach Delay [s/veh]	68.08			125.28			24.86				26.17		
Approach LOS	E			F			C				C		
d_I, Intersection Delay [s/veh]	38.96												
Intersection LOS	D												
Intersection V/C	0.617												

Emissions

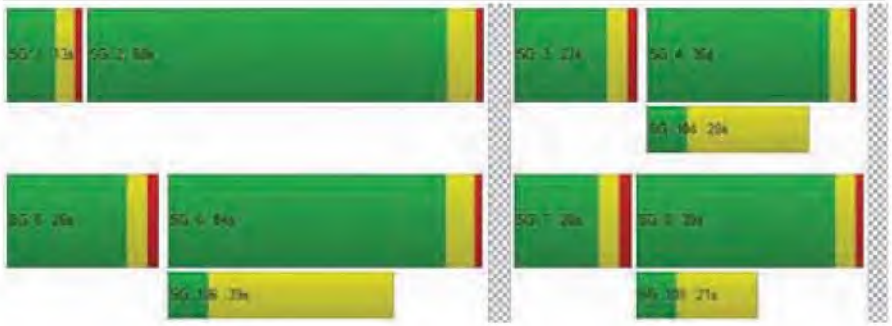
Vehicle Miles Traveled [mph]	3.25	1.15	5.81	7.39	27.78	72.44	4.93	21.01	171.52	161.83
Stops [stops/h]	62.85	19.61	196.61	159.71	249.04	245.04	14.15	58.24	278.80	263.78
Fuel consumption [US gal/h]	1.43	0.42	6.19	3.56	5.93	5.91	0.37	2.07	10.91	10.31
CO [g/h]	100.19	29.54	432.86	248.74	414.66	413.16	25.73	144.86	762.80	720.72
NOx [g/h]	19.49	5.75	84.22	48.40	80.68	80.39	5.01	28.18	148.41	140.23
VOC [g/h]	23.22	6.85	100.32	57.65	96.10	95.75	5.96	33.57	176.79	167.03

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	59.43	59.43	59.43	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.045	2.313	2.840	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	886	686	450	493
d_b, Bicycle Delay [s]	21.73	30.23	42.04	39.75
I_b,int, Bicycle LOS Score for Intersection	1.715	2.122	2.184	2.446
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	260.6
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.331

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	115	53	383	193	45	46	218	278	224	320	839	307
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-1	30	0	-6	10	21	39	0	0	-15	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	124	0	0	17	0	0	67	0	0	92
Total Hourly Volume [veh/h]	115	52	289	193	39	39	239	317	157	320	824	215
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	15	83	55	11	11	69	91	45	92	237	62
Total Analysis Volume [veh/h]	132	60	332	222	45	45	275	364	180	368	947	247
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	163
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	0	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	35	0	0	40	0	25	45	0	25	45	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	18	0	0	17	0	0	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	0	0	44	0	29	50	0	29	51	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	0.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	143	143	143	143	143	143	143	143
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	3.50	5.30	3.50	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	1.50	3.30	1.50	4.00
g_i, Effective Green Time [s]	35	35	21	21	24	45	25	45
g / C, Green / Cycle	0.25	0.25	0.14	0.14	0.17	0.32	0.18	0.32
(v / s)_i Volume / Saturation Flow Rate	0.07	0.24	0.12	0.05	0.15	0.31	0.21	0.66
s, saturation flow rate [veh/h]	1781	1627	1781	1718	1781	1767	1781	1804
c, Capacity [veh/h]	436	398	258	249	298	557	311	573
d1, Uniform Delay [s]	44.01	53.69	59.70	55.15	58.60	48.45	58.97	48.76
k, delay calibration	0.13	0.45	0.13	0.13	0.35	0.43	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.48	38.80	10.01	1.10	27.81	30.26	109.65	493.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.30	0.98	0.86	0.36	0.92	0.98	1.18	2.08
d, Delay for Lane Group [s/veh]	44.50	92.49	69.72	56.25	86.41	78.71	168.61	542.02
Lane Group LOS	D	F	E	E	F	E	F	F
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.92	18.27	8.60	3.03	12.11	23.77	20.76	98.85
50th-Percentile Queue Length [ft/ln]	97.94	456.83	214.90	75.66	302.81	594.22	518.89	2471.18
95th-Percentile Queue Length [veh/ln]	7.05	25.28	13.40	5.45	17.82	31.76	30.63	155.68
95th-Percentile Queue Length [ft/ln]	176.30	632.09	335.10	136.19	445.50	794.11	765.69	3891.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.50	92.49	92.49	69.72	56.25	56.25	86.41	78.71	78.71	168.61	542.02	542.02
Movement LOS	D	F	F	E	E	E	F	E	E	F	F	F
d_A, Approach Delay [s/veh]	80.40			65.83			81.29			454.05		
Approach LOS	F			E			F			F		
d_I, Intersection Delay [s/veh]	260.64											
Intersection LOS	F											
Intersection V/C	1.331											

Emissions

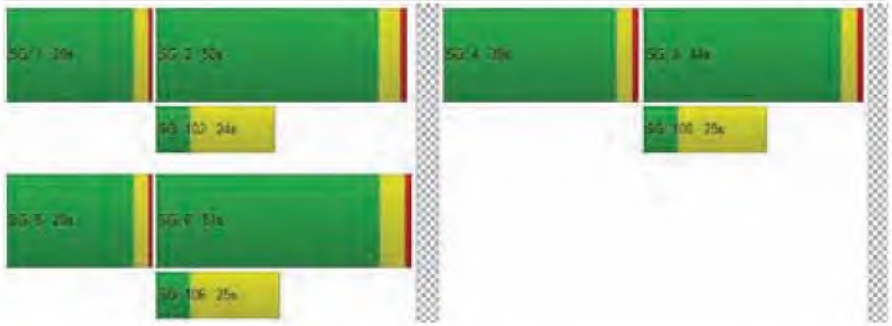
Vehicle Miles Traveled [mph]	227.13	674.49	45.01	18.25	96.29	190.49	166.05	538.76
Stops [stops/h]	98.74	460.56	216.65	76.28	305.28	599.07	523.13	2491.35
Fuel consumption [US gal/h]	11.09	37.69	6.20	2.20	10.49	19.86	22.35	167.61
CO [g/h]	775.23	2634.38	433.31	153.97	732.96	1388.43	1562.30	11715.95
NOx [g/h]	150.83	512.55	84.31	29.96	142.61	270.14	303.97	2279.50
VOC [g/h]	179.67	610.54	100.42	35.68	169.87	321.78	362.08	2715.29

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	60.84	60.84	60.84	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.564	2.312	2.716	0.000
Crosswalk LOS	B	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	487	557	626	630
d_b, Bicycle Delay [s]	40.86	37.16	33.71	33.51
I_b,int, Bicycle LOS Score for Intersection	2.629	2.102	3.022	4.289
Bicycle LOS	B	B	C	E

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 22: White Rock Rd/Clarksville Crossing

Control Type:	Signalized	Delay (sec / veh):	35.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.855

Intersection Setup

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	180.00	460.00	100.00	100.00	290.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	0	0	5	4	0	354	3	851	0	4	1112	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	69	0	0	-15	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	5	4	0	354	3	920	0	4	1097	31
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	2	1	0	113	1	295	0	1	352	10
Total Analysis Volume [veh/h]	0	0	6	5	0	454	4	1179	0	5	1406	40
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	20	0	0	20	0	20	50	0	20	50	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	5.0	0.0	4.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	5.0	0.0	3.0	5.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	R
C, Cycle Length [s]	81	81	81	81	81	81	81	81	81	81
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	7.00	7.00	5.00	7.00	7.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	5.00	5.00	3.00	5.00	5.00
g_i, Effective Green Time [s]	1	1	20	20	0	38	38	1	38	38
g / C, Green / Cycle	0.01	0.01	0.25	0.25	0.01	0.47	0.47	0.01	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.00	0.29	0.00	0.32	0.32	0.00	0.39	0.03
s, saturation flow rate [veh/h]	1870	1589	1781	1589	1781	1870	1870	1781	3560	1589
c, Capacity [veh/h]	15	13	438	391	10	876	876	12	1673	747
d1, Uniform Delay [s]	0.00	40.15	23.17	30.64	40.29	16.76	16.76	40.21	18.88	11.72
k, delay calibration	0.11	0.11	0.11	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	24.98	0.01	97.16	25.35	0.91	0.91	21.42	1.20	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.47	0.01	1.16	0.41	0.67	0.67	0.42	0.84	0.05
d, Delay for Lane Group [s/veh]	0.00	65.13	23.18	127.81	65.65	17.67	17.67	61.63	20.08	11.75
Lane Group LOS	A	E	C	F	E	B	B	E	C	B
Critical Lane Group	No	Yes	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.00	0.21	0.07	17.88	0.15	8.06	8.06	0.17	10.83	0.38
50th-Percentile Queue Length [ft/ln]	0.00	5.13	1.80	446.98	3.68	201.60	201.60	4.23	270.78	9.47
95th-Percentile Queue Length [veh/ln]	0.00	0.37	0.13	26.91	0.26	12.72	12.72	0.30	16.23	0.68
95th-Percentile Queue Length [ft/ln]	0.00	9.24	3.24	672.68	6.62	318.03	318.03	7.62	405.72	17.05

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	65.13	23.18	23.18	127.81	65.65	17.67	17.67	61.63	20.08	11.75
Movement LOS	A	A	E	C	C	F	E	B	B	E	C	B
d_A, Approach Delay [s/veh]	65.13			126.67			17.83			19.99		
Approach LOS	E			F			B			B		
d_I, Intersection Delay [s/veh]	35.05											
Intersection LOS	D											
Intersection V/C	0.855											

Emissions

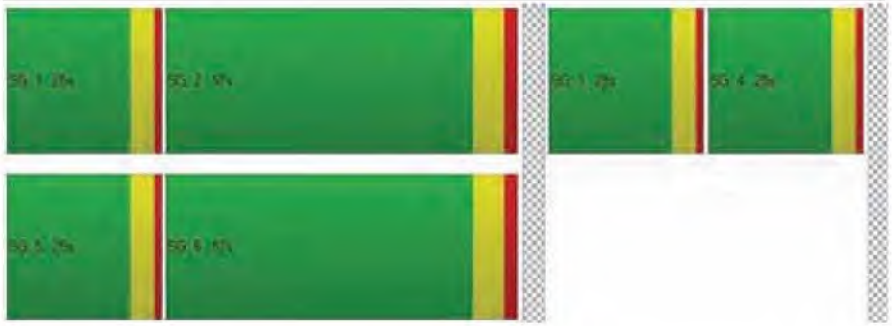
Vehicle Miles Traveled [mph]	0.00	0.30	2.37	215.36	1.80	266.00	266.00	0.87	245.27	6.98
Stops [stops/h]	0.00	9.10	3.19	792.49	6.52	357.43	357.43	7.50	960.19	16.79
Fuel consumption [US gal/h]	0.00	0.14	0.14	25.05	0.16	15.04	15.04	0.14	21.15	0.48
CO [g/h]	0.00	9.93	9.71	1751.03	11.45	1051.60	1051.60	9.79	1478.21	33.25
NOx [g/h]	0.00	1.93	1.89	340.69	2.23	204.60	204.60	1.90	287.61	6.47
VOC [g/h]	0.00	2.30	2.25	405.82	2.65	243.72	243.72	2.27	342.59	7.71

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	492	492	1231	1231
d_b, Bicycle Delay [s]	23.07	23.07	6.00	6.00
l_b,int, Bicycle LOS Score for Intersection	1.570	2.317	2.536	2.757
Bicycle LOS	A	B	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 23: White Rock Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	22.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.706

Intersection Setup

Name	White Rock Rd		White Rock Rd		US 50 EB	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	1	0	1
Entry Pocket Length [ft]	500.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	White Rock Rd		White Rock Rd		US 50 EB	
Base Volume Input [veh/h]	481	379	1054	278	213	93
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	58	11	-15	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	12
Total Hourly Volume [veh/h]	539	390	1039	278	213	81
Peak Hour Factor	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	162	117	313	84	64	24
Total Analysis Volume [veh/h]	649	470	1252	335	257	98
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	21	61	32	0	16	0
Amber [s]	3.7	4.8	4.8	0.0	4.8	0.0
All red [s]	0.5	2.0	2.0	0.0	1.0	0.0
Walk [s]	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.2	4.8	4.8	0.0	3.8	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	39	0	22	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	8	9	9	0	8	0
Vehicle Extension [s]	2.0	1.0	1.0	0.0	2.0	0.0
Minimum Recall	No	Yes	Yes		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80
g_i, Effective Green Time [s]	19	69	46	46	9	9	9
g / C, Green / Cycle	0.21	0.76	0.51	0.51	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.19	0.13	0.35	0.21	0.07	0.07	0.06
s, saturation flow rate [veh/h]	3459	3560	3560	1589	1781	1781	1589
c, Capacity [veh/h]	729	2716	1800	804	173	173	154
d1, Uniform Delay [s]	34.51	2.91	16.96	13.94	39.54	39.54	39.10
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.56	0.14	2.25	1.59	2.37	2.37	1.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.17	0.70	0.42	0.74	0.74	0.64
d, Delay for Lane Group [s/veh]	36.08	3.05	19.21	15.53	41.92	41.92	40.72
Lane Group LOS	D	A	B	B	D	D	D
Critical Lane Group	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.89	0.87	9.70	4.37	2.84	2.84	2.13
50th-Percentile Queue Length [ft/ln]	172.23	21.82	242.46	109.30	71.06	71.06	53.17
95th-Percentile Queue Length [veh/ln]	11.19	1.57	14.81	7.80	5.12	5.12	3.83
95th-Percentile Queue Length [ft/ln]	279.85	39.28	370.14	195.02	127.91	127.91	95.70

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.08	3.05	19.21	15.53	41.92	40.72
Movement LOS	D	A	B	B	D	D
d_A, Approach Delay [s/veh]	22.20		18.43		41.59	
Approach LOS	C		B		D	
d_I, Intersection Delay [s/veh]	22.50					
Intersection LOS	C					
Intersection V/C	0.706					

Emissions

Vehicle Miles Traveled [mph]	113.21	81.99	221.86	59.36	7.78	7.78	5.93
Stops [stops/h]	551.14	69.83	775.87	174.88	113.70	113.70	85.07
Fuel consumption [US gal/h]	12.47	4.05	18.32	4.47	2.04	2.04	1.53
CO [g/h]	871.64	283.29	1280.22	312.36	142.92	142.92	106.69
NOx [g/h]	169.59	55.12	249.08	60.77	27.81	27.81	20.76
VOC [g/h]	202.01	65.66	296.70	72.39	33.12	33.12	24.73

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1360	716	360
d_b, Bicycle Delay [s]	4.61	18.56	30.26
l_b,int, Bicycle LOS Score for Intersection	2.483	2.869	2.165
Bicycle LOS	B	C	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 24: Silva Valley Pkwy/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	68.8
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.019

Intersection Setup

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Approach	Northbound				Southbound			Westbound			Northeastbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	550.0	100.0	100.0	100.0	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No					
Crosswalk	No				No			No			No		

Volumes

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Base Volume Input [veh/h]	0	78	514	0	0	391	671	941	0	298	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	11	0	0	-4	0	-11	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	47	0	0	30	0	0	0
Total Hourly Volume [veh/h]	0	78	525	0	0	387	624	930	0	268	0	0	0
Peak Hour Factor	1.000	0.790	0.790	1.000	1.0000	0.7900	0.7900	0.7900	0.7900	0.7900	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	25	166	0	0	122	197	294	0	85	0	0	0
Total Analysis Volume [veh/h]	0	99	665	0	0	490	790	1177	0	339	0	0	0
Presence of On-Street Parking	No			No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	6	0	0	8	0	0	0	0	0
Auxiliary Signal Groups														
Maximum Green [s]	0	20	54	0	0	26	0	0	23	0	0	0	0	0
Amber [s]	0.0	3.7	4.8	0.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	0.5	2.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No					
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
l2, Clearance Lost Time [s]	0.0	2.2	4.8	0.0	0.0	4.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	61	0	0	33	0	0	29	0	0	0	0	0
Lead / Lag	-	Lead	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	8	8	0	0	8	0	0	8	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No	Yes			Yes			No					
Maximum Recall		No	No			No			No					
Pedestrian Recall		No	No			No			No					

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	R	
C, Cycle Length [s]	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80	
g_i, Effective Green Time [s]	7	51	40	40	26	26	26	
g / C, Green / Cycle	0.08	0.57	0.44	0.44	0.29	0.29	0.29	
(v / s)_i Volume / Saturation Flow Rate	0.06	0.19	0.14	0.50	0.33	0.33	0.21	
s, saturation flow rate [veh/h]	1781	3560	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	147	2027	1567	699	518	518	462	
d1, Uniform Delay [s]	40.10	10.27	16.37	25.20	31.91	31.91	28.77	
k, delay calibration	0.04	0.50	0.50	0.50	0.49	0.49	0.17	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	2.00	0.43	0.52	75.64	82.57	82.57	3.51	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.67	0.33	0.31	1.13	1.14	1.14	0.73	
d, Delay for Lane Group [s/veh]	42.10	10.70	16.89	100.84	114.48	114.48	32.28	
Lane Group LOS	D	B	B	F	F	F	C	
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	2.18	3.35	3.27	28.56	22.71	22.71	6.85	
50th-Percentile Queue Length [ft/ln]	54.62	83.69	81.72	714.05	567.87	567.87	171.16	
95th-Percentile Queue Length [veh/ln]	3.93	6.03	5.88	40.69	32.97	32.97	11.14	
95th-Percentile Queue Length [ft/ln]	98.32	150.64	147.10	1017.24	824.23	824.23	278.44	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.10	42.10	10.70	0.00	0.00	16.89	100.84	114.48	114.48	32.28	0.00	0.00	0.00
Movement LOS	D	D	B			B	F	F	F	C			
d_A, Approach Delay [s/veh]	14.77				68.70			96.10			0.00		
Approach LOS	B				E			F			A		
d_I, Intersection Delay [s/veh]	68.80												
Intersection LOS	E												
Intersection V/C	1.019												

Emissions

Vehicle Miles Traveled [mph]	17.54	117.84	67.00	108.02	20.39	20.39	11.74	
Stops [stops/h]	87.40	267.81	261.50	1142.49	908.59	908.59	273.86	
Fuel consumption [US gal/h]	2.05	7.78	5.89	26.97	19.57	19.57	4.22	
CO [g/h]	143.52	543.77	411.50	1885.09	1367.76	1367.76	295.22	
NOx [g/h]	27.92	105.80	80.06	366.77	266.12	266.12	57.44	
VOC [g/h]	33.26	126.02	95.37	436.89	316.99	316.99	68.42	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1204	582	516	0
d_b, Bicycle Delay [s]	7.12	22.61	24.79	45.00
I_b,int, Bicycle LOS Score for Intersection	2.190	2.654	4.111	4.132
Bicycle LOS	B	B	D	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 25: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Base Volume Input [veh/h]	0	658	328	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	448	149	68	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	18	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1106	477	86	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	277	119	22	0	0
Total Analysis Volume [veh/h]	0	1106	477	86	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	11.47
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		11.47	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 26: Latrobe/Wetsl-Oviatt

Control Type:	Two-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.069

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Base Volume Input [veh/h]	0	445	227	38	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	51	9	22	3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	449	278	47	26	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	112	70	12	7	1
Total Analysis Volume [veh/h]	0	449	278	47	26	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.07	0.00
d_M, Delay for Movement [s/veh]	7.92	0.00	0.00	0.00	15.14	10.51
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.22	0.22
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	5.51	5.51
d_A, Approach Delay [s/veh]	0.00		0.00		14.66	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.53					
Intersection LOS	C					

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Intersection Level Of Service Report
Intersection 27: Latrobe/S. Shingle

Control Type:	Two-way stop	Delay (sec / veh):	24.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.197

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Base Volume Input [veh/h]	6	238	41	52	127	9	47	81	0	37	73	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-16	0	23	8	23	10	0	0	0	0	10
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	222	41	75	135	32	57	81	0	37	73	53
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	56	10	19	34	8	14	20	0	9	18	13
Total Analysis Volume [veh/h]	6	222	41	75	135	32	57	81	0	37	73	53
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free			Free			Stop			Stop		
Flared Lane							No			No		
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance							No			No		
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.06	0.00	0.00	0.20	0.20	0.00	0.12	0.18	0.07
d_M, Delay for Movement [s/veh]	7.56	0.00	0.00	7.86	0.00	0.00	24.26	20.84	15.83	21.14	18.60	14.14
Movement LOS	A	A	A	A	A	A	C	C	C	C	C	B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.14	0.14	0.14	1.87	1.87	1.87	1.66	1.66	1.66
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.26	3.39	3.39	3.39	46.71	46.71	46.71	41.51	41.51	41.51
d_A, Approach Delay [s/veh]	0.17			2.44			22.25			17.73		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	8.12											
Intersection LOS	C											

Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	1106	571	39	50
2	1073	554	38	49
3	1051	542	37	48
4	984	508	35	45
5	874	451	31	40
6	863	445	30	39
7	852	440	30	39
8	774	400	27	35
9	763	394	27	35
10	752	388	27	34
11	653	337	23	30
12	608	314	21	28
13	597	308	21	27
14	442	228	16	20
15	442	228	16	20
16	310	160	11	14
17	177	91	6	8
18	177	91	6	8
19	100	51	4	5
20	55	29	2	3
21	33	17	1	2
22	11	6	0	1
23	11	6	0	1
24	11	6	0	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1677	1	50	No	No	No	No	No	No	No	Yes	No	No
2	1	1627	1	49	No	No	No	No	No	No	No	Yes	No	No
3	1	1593	1	48	No	No	No	No	No	No	No	Yes	No	No
4	1	1492	1	45	No	No	No	No	No	No	No	Yes	No	No
5	1	1325	1	40	No	No	No	No	No	No	No	No	No	No
6	1	1308	1	39	No	No	No	No	No	No	No	No	No	No
7	1	1292	1	39	No	No	No	No	No	No	No	No	No	No
8	1	1174	1	35	No	No	No	No	No	No	No	No	No	No
9	1	1157	1	35	No	No	No	No	No	No	No	No	No	No
10	1	1140	1	34	No	No	No	No	No	No	No	No	No	No
11	1	990	1	30	No	No	No	No	No	No	No	No	No	No
12	1	922	1	28	No	No	No	No	No	No	No	No	No	No
13	1	905	1	27	No	No	No	No	No	No	No	No	No	No
14	1	670	1	20	No	No	No	No	No	No	No	No	No	No
15	1	670	1	20	No	No	No	No	No	No	No	No	No	No
16	1	470	1	14	No	No	No	No	No	No	No	No	No	No
17	1	268	1	8	No	No	No	No	No	No	No	No	No	No
18	1	268	1	8	No	No	No	No	No	No	No	No	No	No
19	1	151	1	5	No	No	No	No	No	No	No	No	No	No
20	1	84	1	3	No	No	No	No	No	No	No	No	No	No
21	1	50	1	2	No	No	No	No	No	No	No	No	No	No
22	1	17	1	1	No	No	No	No	No	No	No	No	No	No
23	1	17	1	1	No	No	No	No	No	No	No	No	No	No
24	1	17	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	4	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	24.3	284.4
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:15	3:56
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	39	50
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1766	1766
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 12: Latrobe Rd/Royal Oaks Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	512	483	263	557
2	497	469	255	540
3	486	459	250	529
4	456	430	234	496
5	404	382	208	440
6	399	377	205	434
7	394	372	203	429
8	358	338	184	390
9	353	333	181	384
10	348	328	179	379
11	302	285	155	329
12	282	266	145	306
13	276	261	142	301
14	205	193	105	223
15	205	193	105	223
16	143	135	74	156
17	82	77	42	89
18	82	77	42	89
19	46	43	24	50
20	26	24	13	28
21	15	14	8	17
22	5	5	3	6
23	5	5	3	6
24	5	5	3	6

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	995	1	557	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	2	966	1	540	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	2	945	1	529	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	2	886	1	496	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
5	2	786	1	440	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
6	2	776	1	434	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
7	2	766	1	429	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
8	2	696	1	390	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
9	2	686	1	384	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
10	2	676	1	379	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
11	2	587	1	329	No	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
12	2	548	1	306	No	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
13	2	537	1	301	No	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
14	2	398	1	223	No	No	No	Yes	No	No	No	No	Yes	No
15	2	398	1	223	No	No	No	Yes	No	No	No	No	Yes	No
16	2	278	1	156	No	No	No	No	No	No	No	No	No	No
17	2	159	1	89	No	No	No	No	No	No	No	No	No	No
18	2	159	1	89	No	No	No	No	No	No	No	No	No	No
19	2	89	1	50	No	No	No	No	No	No	No	No	No	No
20	2	50	1	28	No	No	No	No	No	No	No	No	No	No
21	2	29	1	17	No	No	No	No	No	No	No	No	No	No
22	2	10	1	6	No	No	No	No	No	No	No	No	No	No
23	2	10	1	6	No	No	No	No	No	No	No	No	No	No
24	2	10	1	6	No	No	No	No	No	No	No	No	No	No
Hours Met					10	13	13	15	3	7	10	13	15	13

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	20.4	2997.4
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:29	463:45
Delay Condition Met	No	Yes
Volume on Minor Street Approach During Same Hour	263	557
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	1815	1815
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	Yes
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 13: Golden Foothill/Robert J Mathews

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	965	253	425
2	936	245	412
3	917	240	404
4	859	225	378
5	762	200	336
6	753	197	332
7	743	195	327
8	676	177	298
9	666	175	293
10	656	172	289
11	569	149	251
12	531	139	234
13	521	137	230
14	386	101	170
15	386	101	170
16	270	71	119
17	154	40	68
18	154	40	68
19	87	23	38
20	48	13	21
21	29	8	13
22	10	3	4
23	10	3	4
24	10	3	4

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1218	1	425	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1181	1	412	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1157	1	404	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1084	1	378	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	962	1	336	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	950	1	332	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1	938	1	327	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	1	853	1	298	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
9	1	841	1	293	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
10	1	828	1	289	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
11	1	718	1	251	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
12	1	670	1	234	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
13	1	658	1	230	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
14	1	487	1	170	No	Yes	Yes	Yes	No	No	No	Yes	No	No
15	1	487	1	170	No	Yes	Yes	Yes	No	No	No	Yes	No	No
16	1	341	1	119	No	No	No	Yes	No	No	No	No	No	No
17	1	194	1	68	No	No	No	No	No	No	No	No	No	No
18	1	194	1	68	No	No	No	No	No	No	No	No	No	No
19	1	110	1	38	No	No	No	No	No	No	No	No	No	No
20	1	61	1	21	No	No	No	No	No	No	No	No	No	No
21	1	37	1	13	No	No	No	No	No	No	No	No	No	No
22	1	13	1	4	No	No	No	No	No	No	No	No	No	No
23	1	13	1	4	No	No	No	No	No	No	No	No	No	No
24	1	13	1	4	No	No	No	No	No	No	No	No	No	No
Hours Met					13	15	15	16	10	13	13	15	13	7

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	76.9
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	9:04
Delay Condition Met	Yes
Volume on Minor Street Approach During Same Hour	425
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1643
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	Yes
Warrant Met for Intersection	**Yes**

Signal Warrants Report For Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	103	622	186	63
2	100	603	180	61
3	98	591	177	60
4	92	554	166	56
5	81	491	147	50
6	80	485	145	49
7	79	479	143	49
8	72	435	130	44
9	71	429	128	43
10	70	423	126	43
11	61	367	110	37
12	57	342	102	35
13	56	336	100	34
14	41	249	74	25
15	41	249	74	25
16	29	174	52	18
17	16	100	30	10
18	16	100	30	10
19	9	56	17	6
20	5	31	9	3
21	3	19	6	2
22	1	6	2	1
23	1	6	2	1
24	1	6	2	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	725	1	186	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
2	1	703	1	180	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
3	1	689	1	177	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
4	1	646	1	166	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
5	1	572	1	147	No	Yes	Yes	Yes	No	No	Yes	Yes	No	No
6	1	565	1	145	No	Yes	Yes	Yes	No	No	Yes	Yes	No	No
7	1	558	1	143	No	Yes	Yes	Yes	No	No	Yes	Yes	No	No
8	1	507	1	130	No	Yes	Yes	Yes	No	No	No	Yes	No	No
9	1	500	1	128	No	Yes	Yes	Yes	No	No	No	Yes	No	No
10	1	493	1	126	No	Yes	Yes	Yes	No	No	No	Yes	No	No
11	1	428	1	110	No	No	Yes	Yes	No	No	No	Yes	No	No
12	1	399	1	102	No	No	No	Yes	No	No	No	No	No	No
13	1	392	1	100	No	No	No	Yes	No	No	No	No	No	No
14	1	290	1	74	No	No	No	No	No	No	No	No	No	No
15	1	290	1	74	No	No	No	No	No	No	No	No	No	No
16	1	203	1	52	No	No	No	No	No	No	No	No	No	No
17	1	116	1	30	No	No	No	No	No	No	No	No	No	No
18	1	116	1	30	No	No	No	No	No	No	No	No	No	No
19	1	65	1	17	No	No	No	No	No	No	No	No	No	No
20	1	36	1	9	No	No	No	No	No	No	No	No	No	No
21	1	22	1	6	No	No	No	No	No	No	No	No	No	No
22	1	7	1	2	No	No	No	No	No	No	No	No	No	No
23	1	7	1	2	No	No	No	No	No	No	No	No	No	No
24	1	7	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					4	10	11	13	0	4	7	11	2	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	12.8	10.8
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:39	0:11
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	186	63
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	974	974
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	274	197	205
2	266	191	199
3	260	187	195
4	244	175	182
5	216	156	162
6	214	154	160
7	211	152	158
8	192	138	144
9	189	136	141
10	186	134	139
11	162	116	121
12	151	108	113
13	148	106	111
14	110	79	82
15	110	79	82
16	77	55	57
17	44	32	33
18	44	32	33
19	25	18	18
20	14	10	10
21	8	6	6
22	3	2	2
23	3	2	2
24	3	2	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	471	2	205	No	No	Yes	Yes	No	No	No	No	No	No
2	2	457	2	199	No	No	Yes	Yes	No	No	No	No	No	No
3	2	447	2	195	No	No	Yes	Yes	No	No	No	No	No	No
4	2	419	2	182	No	No	No	Yes	No	No	No	No	No	No
5	2	372	2	162	No	No	No	Yes	No	No	No	No	No	No
6	2	368	2	160	No	No	No	Yes	No	No	No	No	No	No
7	2	363	2	158	No	No	No	Yes	No	No	No	No	No	No
8	2	330	2	144	No	No	No	No	No	No	No	No	No	No
9	2	325	2	141	No	No	No	No	No	No	No	No	No	No
10	2	320	2	139	No	No	No	No	No	No	No	No	No	No
11	2	278	2	121	No	No	No	No	No	No	No	No	No	No
12	2	259	2	113	No	No	No	No	No	No	No	No	No	No
13	2	254	2	111	No	No	No	No	No	No	No	No	No	No
14	2	189	2	82	No	No	No	No	No	No	No	No	No	No
15	2	189	2	82	No	No	No	No	No	No	No	No	No	No
16	2	132	2	57	No	No	No	No	No	No	No	No	No	No
17	2	76	2	33	No	No	No	No	No	No	No	No	No	No
18	2	76	2	33	No	No	No	No	No	No	No	No	No	No
19	2	43	2	18	No	No	No	No	No	No	No	No	No	No
20	2	24	2	10	No	No	No	No	No	No	No	No	No	No
21	2	14	2	6	No	No	No	No	No	No	No	No	No	No
22	2	5	2	2	No	No	No	No	No	No	No	No	No	No
23	2	5	2	2	No	No	No	No	No	No	No	No	No	No
24	2	5	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	3	7	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	13.7
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:46
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	205
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	676
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 16: Carson Crossing Rd/Calypso Cir.

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	296	171	163
2	287	166	158
3	281	162	155
4	263	152	145
5	234	135	129
6	231	133	127
7	228	132	126
8	207	120	114
9	204	118	112
10	201	116	111
11	175	101	96
12	163	94	90
13	160	92	88
14	118	68	65
15	118	68	65
16	83	48	46
17	47	27	26
18	47	27	26
19	27	15	15
20	15	9	8
21	9	5	5
22	3	2	2
23	3	2	2
24	3	2	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	467	1	163	No	No	Yes	Yes	No	No	No	No	No	No
2	2	453	1	158	No	No	Yes	Yes	No	No	No	No	No	No
3	2	443	1	155	No	No	Yes	Yes	No	No	No	No	No	No
4	2	415	1	145	No	No	No	Yes	No	No	No	No	No	No
5	2	369	1	129	No	No	No	Yes	No	No	No	No	No	No
6	2	364	1	127	No	No	No	Yes	No	No	No	No	No	No
7	2	360	1	126	No	No	No	Yes	No	No	No	No	No	No
8	2	327	1	114	No	No	No	No	No	No	No	No	No	No
9	2	322	1	112	No	No	No	No	No	No	No	No	No	No
10	2	317	1	111	No	No	No	No	No	No	No	No	No	No
11	2	276	1	96	No	No	No	No	No	No	No	No	No	No
12	2	257	1	90	No	No	No	No	No	No	No	No	No	No
13	2	252	1	88	No	No	No	No	No	No	No	No	No	No
14	2	186	1	65	No	No	No	No	No	No	No	No	No	No
15	2	186	1	65	No	No	No	No	No	No	No	No	No	No
16	2	131	1	46	No	No	No	No	No	No	No	No	No	No
17	2	74	1	26	No	No	No	No	No	No	No	No	No	No
18	2	74	1	26	No	No	No	No	No	No	No	No	No	No
19	2	42	1	15	No	No	No	No	No	No	No	No	No	No
20	2	24	1	8	No	No	No	No	No	No	No	No	No	No
21	2	14	1	5	No	No	No	No	No	No	No	No	No	No
22	2	5	1	2	No	No	No	No	No	No	No	No	No	No
23	2	5	1	2	No	No	No	No	No	No	No	No	No	No
24	2	5	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	3	7	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	13.8
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:37
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	163
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	630
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 17: Carson Crossing Rd/Four Seasons Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	157	145	37
2	152	141	36
3	149	138	35
4	140	129	33
5	124	115	29
6	122	113	29
7	121	112	28
8	110	102	26
9	108	100	26
10	107	99	25
11	93	86	22
12	86	80	20
13	85	78	20
14	63	58	15
15	63	58	15
16	44	41	10
17	25	23	6
18	25	23	6
19	14	13	3
20	8	7	2
21	5	4	1
22	2	1	0
23	2	1	0
24	2	1	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	302	1	37	No	No	No	No	No	No	No	No	No	No
2	3	293	1	36	No	No	No	No	No	No	No	No	No	No
3	3	287	1	35	No	No	No	No	No	No	No	No	No	No
4	3	269	1	33	No	No	No	No	No	No	No	No	No	No
5	3	239	1	29	No	No	No	No	No	No	No	No	No	No
6	3	235	1	29	No	No	No	No	No	No	No	No	No	No
7	3	233	1	28	No	No	No	No	No	No	No	No	No	No
8	3	212	1	26	No	No	No	No	No	No	No	No	No	No
9	3	208	1	26	No	No	No	No	No	No	No	No	No	No
10	3	206	1	25	No	No	No	No	No	No	No	No	No	No
11	3	179	1	22	No	No	No	No	No	No	No	No	No	No
12	3	166	1	20	No	No	No	No	No	No	No	No	No	No
13	3	163	1	20	No	No	No	No	No	No	No	No	No	No
14	3	121	1	15	No	No	No	No	No	No	No	No	No	No
15	3	121	1	15	No	No	No	No	No	No	No	No	No	No
16	3	85	1	10	No	No	No	No	No	No	No	No	No	No
17	3	48	1	6	No	No	No	No	No	No	No	No	No	No
18	3	48	1	6	No	No	No	No	No	No	No	No	No	No
19	3	27	1	3	No	No	No	No	No	No	No	No	No	No
20	3	15	1	2	No	No	No	No	No	No	No	No	No	No
21	3	9	1	1	No	No	No	No	No	No	No	No	No	No
22	3	3	1	0	No	No	No	No	No	No	No	No	No	No
23	3	3	1	0	No	No	No	No	No	No	No	No	No	No
24	3	3	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	8.4
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:05
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	37
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	339
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 18: White Rock Rd/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	601	394	163	75
2	583	382	158	73
3	571	374	155	71
4	535	351	145	67
5	475	311	129	59
6	469	307	127	59
7	463	303	126	58
8	421	276	114	53
9	415	272	112	52
10	409	268	111	51
11	355	232	96	44
12	331	217	90	41
13	325	213	88	41
14	240	158	65	30
15	240	158	65	30
16	168	110	46	21
17	96	63	26	12
18	96	63	26	12
19	54	35	15	7
20	30	20	8	4
21	18	12	5	2
22	6	4	2	1
23	6	4	2	1
24	6	4	2	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	995	2	163	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
2	2	965	2	158	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
3	2	945	2	155	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
4	2	886	2	145	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No
5	2	786	2	129	No	No	No	Yes	No	Yes	Yes	Yes	No	No
6	2	776	2	127	No	No	No	Yes	No	Yes	Yes	Yes	No	No
7	2	766	2	126	No	No	No	Yes	No	Yes	Yes	Yes	No	No
8	2	697	2	114	No	No	No	Yes	No	No	Yes	Yes	No	No
9	2	687	2	112	No	No	No	Yes	No	No	Yes	Yes	No	No
10	2	677	2	111	No	No	No	No	No	No	Yes	Yes	No	No
11	2	587	2	96	No	No	No	No	No	No	No	Yes	No	No
12	2	548	2	90	No	No	No	No	No	No	No	Yes	No	No
13	2	538	2	88	No	No	No	No	No	No	No	Yes	No	No
14	2	398	2	65	No	No	No	No	No	No	No	No	No	No
15	2	398	2	65	No	No	No	No	No	No	No	No	No	No
16	2	278	2	46	No	No	No	No	No	No	No	No	No	No
17	2	159	2	26	No	No	No	No	No	No	No	No	No	No
18	2	159	2	26	No	No	No	No	No	No	No	No	No	No
19	2	89	2	15	No	No	No	No	No	No	No	No	No	No
20	2	50	2	8	No	No	No	No	No	No	No	No	No	No
21	2	30	2	5	No	No	No	No	No	No	No	No	No	No
22	2	10	2	2	No	No	No	No	No	No	No	No	No	No
23	2	10	2	2	No	No	No	No	No	No	No	No	No	No
24	2	10	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	1	4	9	3	7	10	13	0	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	58.2	31.6
Number of Lanes on Minor Street Approach	2	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2:38	0:39
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	163	75
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1233	1233
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

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Signal Warrants Report For Intersection 25: New Intersection

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	1106	563	0
2	1073	546	0
3	1051	535	0
4	984	501	0
5	874	445	0
6	863	439	0
7	852	434	0
8	774	394	0
9	763	388	0
10	752	383	0
11	653	332	0
12	608	310	0
13	597	304	0
14	442	225	0
15	442	225	0
16	310	158	0
17	177	90	0
18	177	90	0
19	100	51	0
20	55	28	0
21	33	17	0
22	11	6	0
23	11	6	0
24	11	6	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1669	1	0	No	No	No	No	No	No	No	No	No	No
2	1	1619	1	0	No	No	No	No	No	No	No	No	No	No
3	1	1586	1	0	No	No	No	No	No	No	No	No	No	No
4	1	1485	1	0	No	No	No	No	No	No	No	No	No	No
5	1	1319	1	0	No	No	No	No	No	No	No	No	No	No
6	1	1302	1	0	No	No	No	No	No	No	No	No	No	No
7	1	1286	1	0	No	No	No	No	No	No	No	No	No	No
8	1	1168	1	0	No	No	No	No	No	No	No	No	No	No
9	1	1151	1	0	No	No	No	No	No	No	No	No	No	No
10	1	1135	1	0	No	No	No	No	No	No	No	No	No	No
11	1	985	1	0	No	No	No	No	No	No	No	No	No	No
12	1	918	1	0	No	No	No	No	No	No	No	No	No	No
13	1	901	1	0	No	No	No	No	No	No	No	No	No	No
14	1	667	1	0	No	No	No	No	No	No	No	No	No	No
15	1	667	1	0	No	No	No	No	No	No	No	No	No	No
16	1	468	1	0	No	No	No	No	No	No	No	No	No	No
17	1	267	1	0	No	No	No	No	No	No	No	No	No	No
18	1	267	1	0	No	No	No	No	No	No	No	No	No	No
19	1	151	1	0	No	No	No	No	No	No	No	No	No	No
20	1	83	1	0	No	No	No	No	No	No	No	No	No	No
21	1	50	1	0	No	No	No	No	No	No	No	No	No	No
22	1	17	1	0	No	No	No	No	No	No	No	No	No	No
23	1	17	1	0	No	No	No	No	No	No	No	No	No	No
24	1	17	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	11.5
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1669
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 26: Latrobe/Wetsl-Oviatt

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	449	325	29
2	436	315	28
3	427	309	28
4	400	289	26
5	355	257	23
6	350	254	23
7	346	250	22
8	314	227	20
9	310	224	20
10	305	221	20
11	265	192	17
12	247	179	16
13	242	176	16
14	180	130	12
15	180	130	12
16	126	91	8
17	72	52	5
18	72	52	5
19	40	29	3
20	22	16	1
21	13	10	1
22	4	3	0
23	4	3	0
24	4	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	774	1	29	No	No	No	No	No	No	No	No	No	No
2	1	751	1	28	No	No	No	No	No	No	No	No	No	No
3	1	736	1	28	No	No	No	No	No	No	No	No	No	No
4	1	689	1	26	No	No	No	No	No	No	No	No	No	No
5	1	612	1	23	No	No	No	No	No	No	No	No	No	No
6	1	604	1	23	No	No	No	No	No	No	No	No	No	No
7	1	596	1	22	No	No	No	No	No	No	No	No	No	No
8	1	541	1	20	No	No	No	No	No	No	No	No	No	No
9	1	534	1	20	No	No	No	No	No	No	No	No	No	No
10	1	526	1	20	No	No	No	No	No	No	No	No	No	No
11	1	457	1	17	No	No	No	No	No	No	No	No	No	No
12	1	426	1	16	No	No	No	No	No	No	No	No	No	No
13	1	418	1	16	No	No	No	No	No	No	No	No	No	No
14	1	310	1	12	No	No	No	No	No	No	No	No	No	No
15	1	310	1	12	No	No	No	No	No	No	No	No	No	No
16	1	217	1	8	No	No	No	No	No	No	No	No	No	No
17	1	124	1	5	No	No	No	No	No	No	No	No	No	No
18	1	124	1	5	No	No	No	No	No	No	No	No	No	No
19	1	69	1	3	No	No	No	No	No	No	No	No	No	No
20	1	38	1	1	No	No	No	No	No	No	No	No	No	No
21	1	23	1	1	No	No	No	No	No	No	No	No	No	No
22	1	7	1	0	No	No	No	No	No	No	No	No	No	No
23	1	7	1	0	No	No	No	No	No	No	No	No	No	No
24	1	7	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.7
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:07
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	29
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	803
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 27: Latrobe/S. Shingle

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

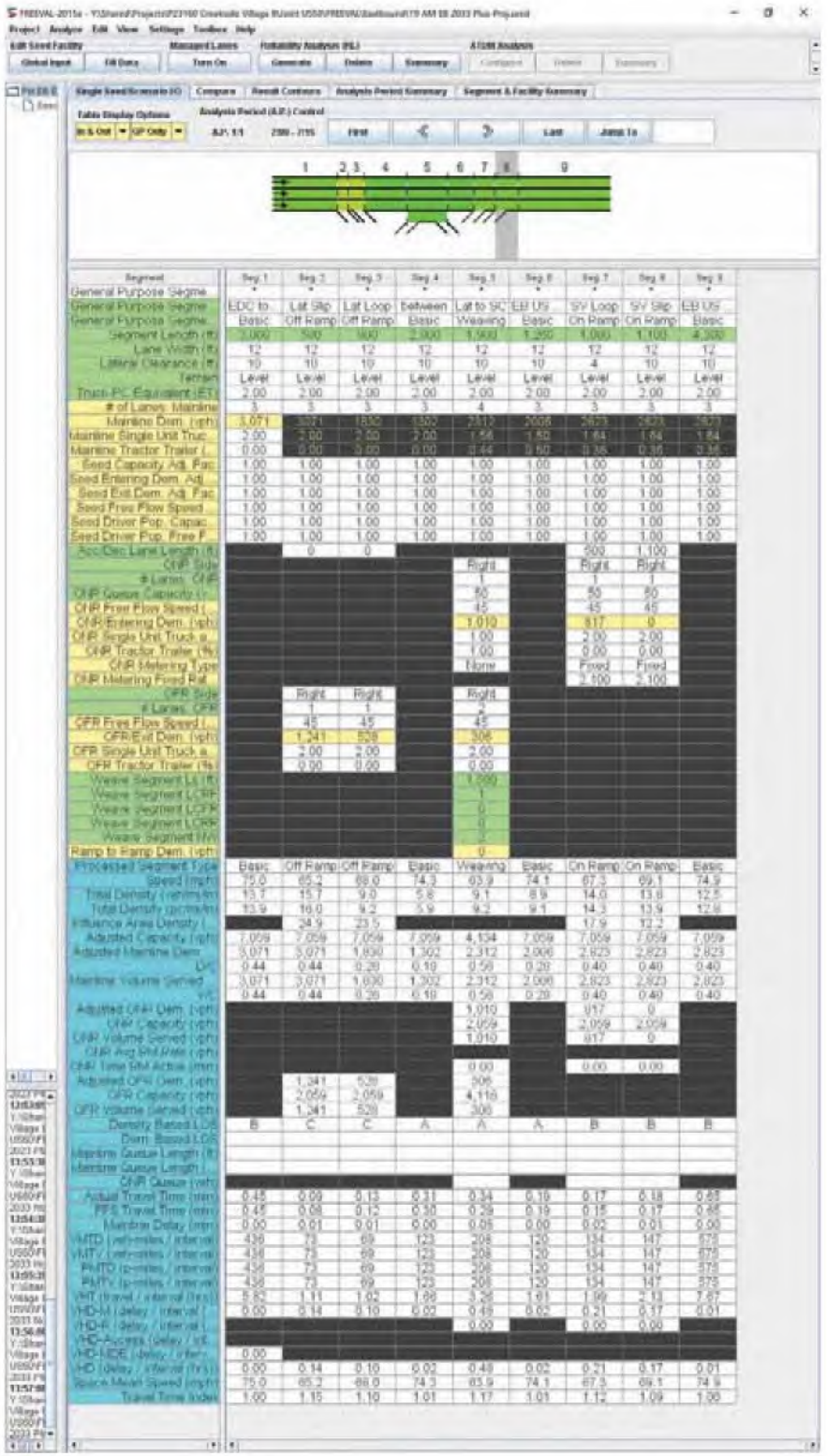
Hour	Major Streets		Minor Streets	
	S	N	E	W
1	269	242	163	138
2	261	235	158	134
3	256	230	155	131
4	239	215	145	123
5	213	191	129	109
6	210	189	127	108
7	207	186	126	106
8	188	169	114	97
9	186	167	112	95
10	183	165	111	94
11	159	143	96	81
12	148	133	90	76
13	145	131	88	75
14	108	97	65	55
15	108	97	65	55
16	75	68	46	39
17	43	39	26	22
18	43	39	26	22
19	24	22	15	12
20	13	12	8	7
21	8	7	5	4
22	3	2	2	1
23	3	2	2	1
24	3	2	2	1

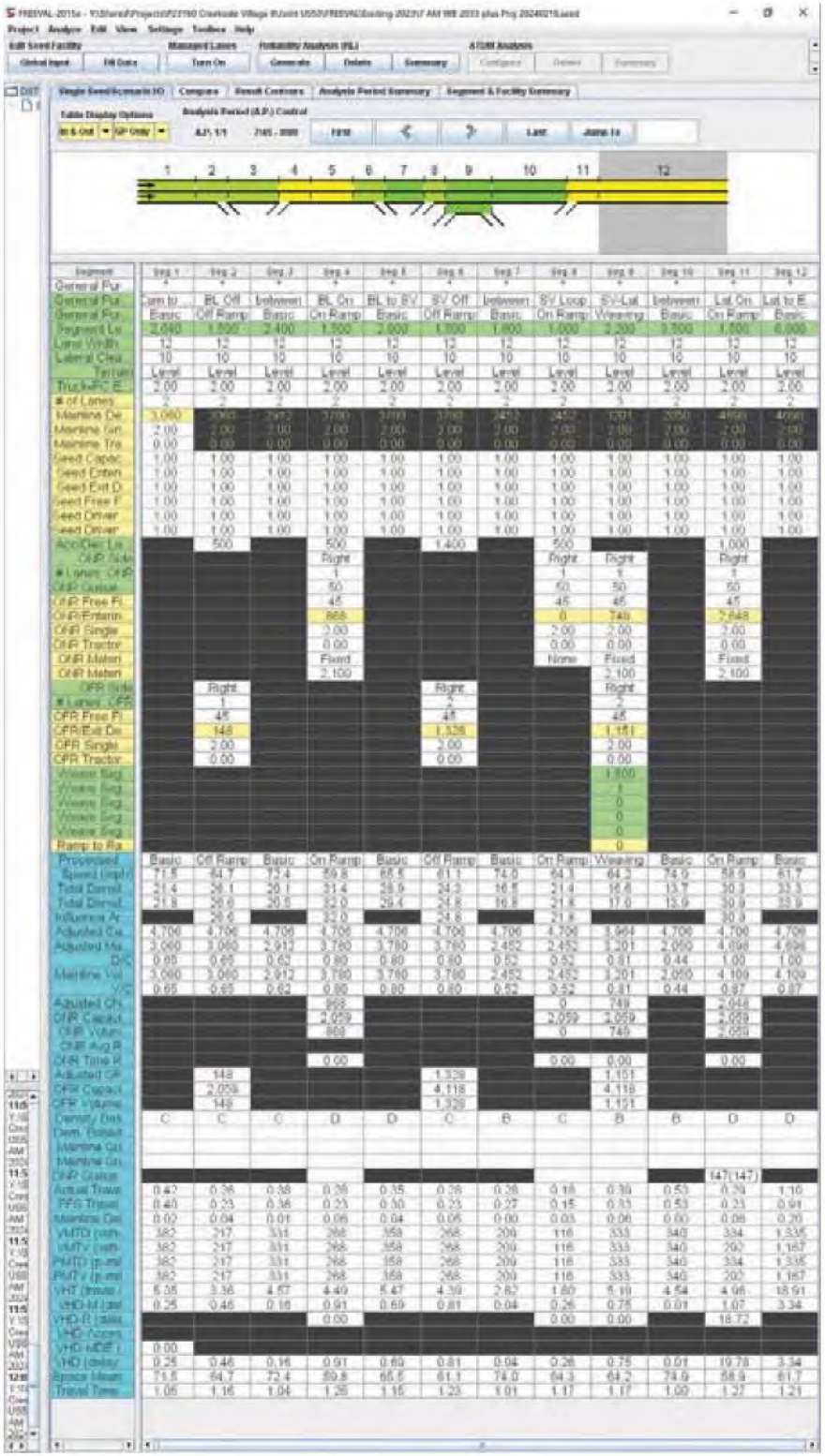
Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	511	1	163	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No
2	1	496	1	158	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
3	1	486	1	155	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
4	1	454	1	145	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
5	1	404	1	129	No	Yes	Yes	Yes	No	No	No	No	No	No
6	1	399	1	127	No	No	Yes	Yes	No	No	No	No	No	No
7	1	393	1	126	No	No	Yes	Yes	No	No	No	No	No	No
8	1	357	1	114	No	No	Yes	Yes	No	No	No	No	No	No
9	1	353	1	112	No	No	Yes	Yes	No	No	No	No	No	No
10	1	348	1	111	No	No	No	Yes	No	No	No	No	No	No
11	1	302	1	96	No	No	No	Yes	No	No	No	No	No	No
12	1	281	1	90	No	No	No	Yes	No	No	No	No	No	No
13	1	276	1	88	No	No	No	No	No	No	No	No	No	No
14	1	205	1	65	No	No	No	No	No	No	No	No	No	No
15	1	205	1	65	No	No	No	No	No	No	No	No	No	No
16	1	143	1	46	No	No	No	No	No	No	No	No	No	No
17	1	82	1	26	No	No	No	No	No	No	No	No	No	No
18	1	82	1	26	No	No	No	No	No	No	No	No	No	No
19	1	46	1	15	No	No	No	No	No	No	No	No	No	No
20	1	25	1	8	No	No	No	No	No	No	No	No	No	No
21	1	15	1	5	No	No	No	No	No	No	No	No	No	No
22	1	5	1	2	No	No	No	No	No	No	No	No	No	No
23	1	5	1	2	No	No	No	No	No	No	No	No	No	No
24	1	5	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					1	5	9	12	0	0	0	4	4	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	17.7	22.3
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:48	0:51
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	163	138
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	812	812
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	





EPAP PM plus Project

Vistro File: C:\...\PM 918 DU 20240212.vistro
Report File: C:\...\10 2033 PM plus Proj.pdf

Scenario 4 2033 PM with CCSP, + Project
2/14/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	El Dorado Hills Blvd/Serrano Pkwy	Signalized	HCM 7th Edition	NB Thru	0.974	56.5	E
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	EB Right	1.268	117.2	F
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	SB Thru	1.000	54.2	D
4	Latrobe Rd/US 50 EB	Signalized	HCM 7th Edition	EB Right	0.973	66.0	E
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	SB Left	0.994	63.7	E
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	WB Left	0.848	87.0	F
7	Latrobe Rd/Golden Foothill Pkwy N	Signalized	HCM 7th Edition	SB Right	1.160	112.5	F
8	Latrobe Rd/Suncast Ln	Signalized	HCM 7th Edition	SB Right	0.963	41.4	D
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	SB Left	1.184	171.9	F
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	SB Thru	1.059	80.2	F
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	EB Left	0.848	251.6	F
12	Latrobe Rd/Royal Oaks Dr	Two-way stop	HCM 7th Edition	EB Left	6.113	2,529.2	F
13	Golden Foothill/Robert J Mathews	Two-way stop	HCM 7th Edition	NB Left	30.323	10,000.0	F
14	Investment Blvd/Robert J Mathews Pkwy	All-way stop	HCM 7th Edition	SB Thru	0.873	25.7	D
15	Golden Foothill Pkwy/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.367	20.9	C
16	Carson Crossing Rd/Calypso Cir.	Two-way stop	HCM 7th Edition	NB Left	0.343	23.2	C
17	Carson Crossing Rd/Four Seasons Dr	All-way stop	HCM 7th Edition	NB Thru	0.170	8.4	A
18	White Rock Rd/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	1.734	448.9	F
19	White Rock Rd/Windfield Way	Signalized	HCM 7th Edition	SB Thru	0.581	32.9	C
20	White Rock Rd/Post St	Signalized	HCM 7th Edition	SB Left	0.604	66.0	E
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 6th Edition	EB Thru	1.393	268.6	F
22	White Rock Rd/Clarksville Crossing	Signalized	HCM 7th Edition	SB Right	0.902	37.8	D
23	White Rock Rd/US 50 EB	Signalized	HCM 7th Edition	NB Left	0.796	50.5	D
24	Silva Valley Pkwy/US 50 WB	Signalized	HCM 7th Edition	WB Left	0.707	24.3	C
25	New Intersection	Two-way stop	HCM 6th Edition	SB Thru	0.010	0.0	A
26	Latrobe/Wetsl-Oviatt	Two-way stop	HCM 7th Edition	EB Left	0.127	17.6	C
27	Latrobe/S. Shingle	Two-way stop	HCM 7th Edition	EB Left	0.135	22.8	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: El Dorado Hills Blvd/Serrano Pkwy

Control Type:	Signalized	Delay (sec / veh):	56.5
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.974

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	260.0	100.0	100.0	100.0	110.00	100.00	100.00	100.00	100.00	100.00	430.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No			No		
Crosswalk	No				Yes			Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Base Volume Input [veh/h]	3	113	1766	404	35	1126	67	53	25	85	339	61	22
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-5	0	0	43	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	20	0	0	26	0	0	7
Total Hourly Volume [veh/h]	3	113	1761	404	35	1169	47	53	25	59	339	61	15
Peak Hour Factor	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	32	506	116	10	336	14	15	7	17	97	18	4
Total Analysis Volume [veh/h]	3	130	2024	464	40	1344	54	61	29	68	390	70	17
Presence of On-Street Parking	No			No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	1	6	0	7	7	0	0	8	0
Auxiliary Signal Groups													
Maximum Green [s]	0	25	40	0	25	40	0	35	35	0	0	35	0
Amber [s]	0.0	3.0	4.7	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	12	0	0	12	0	0	0	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	100.0	245.0	0.0	100.0	100.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	29	46	0	29	46	0	39	39	0	0	39	0
Lead / Lag	-	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	3	6	0	3	3	0	3	3	0	0	3	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	4.0	0.0
Minimum Recall		No	No		No	No			No			No	
Maximum Recall		No	No		No	No			No			No	
Pedestrian Recall		No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C
C, Cycle Length [s]	81	81	81	81	81	81	81	81	81	81
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	40	40	2	35	35	7	7	15	15
g / C, Green / Cycle	0.10	0.49	0.49	0.03	0.43	0.43	0.08	0.08	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.07	0.57	0.29	0.02	0.38	0.38	0.03	0.06	0.13	0.13
s, saturation flow rate [veh/h]	1781	3560	1589	1781	1870	1845	1781	1664	1781	1791
c, Capacity [veh/h]	171	1749	781	51	794	783	147	138	321	323
d1, Uniform Delay [s]	36.07	20.77	14.92	39.38	21.67	21.71	35.57	36.47	31.65	31.65
k, delay calibration	0.04	0.07	0.08	0.04	0.23	0.23	0.04	0.04	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.92	71.75	0.55	9.06	6.98	7.28	0.69	2.46	4.73	4.70
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	1.16	0.59	0.78	0.89	0.89	0.41	0.70	0.74	0.74
d, Delay for Lane Group [s/veh]	38.99	92.51	15.47	48.44	28.65	28.99	36.26	38.93	36.38	36.35
Lane Group LOS	D	F	B	D	C	C	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.57	31.05	5.31	0.88	12.15	12.11	1.16	1.93	4.72	4.75
50th-Percentile Queue Length [ft/ln]	64.17	776.25	132.79	22.06	303.84	302.65	28.92	48.37	118.06	118.64
95th-Percentile Queue Length [veh/ln]	4.62	44.67	9.09	1.59	17.87	17.81	2.08	3.48	8.29	8.32
95th-Percentile Queue Length [ft/ln]	115.50	1116.64	227.28	39.71	446.77	445.30	52.06	87.06	207.16	207.96

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.99	38.99	92.51	15.47	48.44	28.81	28.99	36.26	38.93	38.93	36.37	36.35	36.35
Movement LOS	D	D	F	B	D	C	C	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	76.16				29.36			37.90			36.37		
Approach LOS	E				C			D			D		
d_I, Intersection Delay [s/veh]	56.49												
Intersection LOS	E												
Intersection V/C	0.974												

Emissions

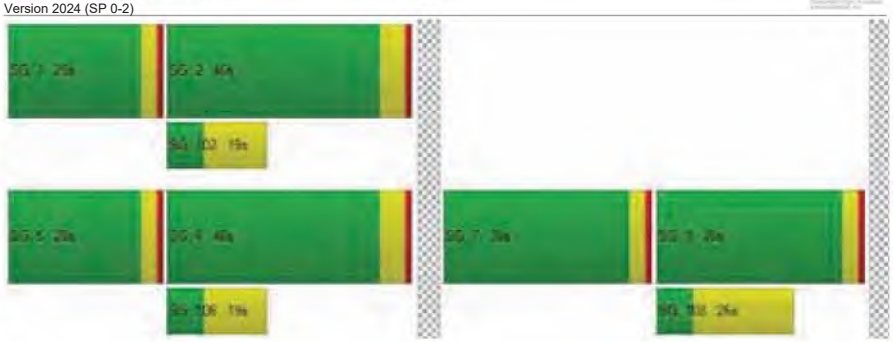
Vehicle Miles Traveled [mph]	31.76	483.40	110.82	5.88	103.31	102.23	2.61	4.14	12.45	12.51
Stops [stops/h]	113.50	2746.05	234.87	39.02	537.43	535.32	51.16	85.55	208.82	209.85
Fuel consumption [US gal/h]	3.56	88.81	8.18	1.08	14.32	14.26	0.84	1.41	3.43	3.44
CO [g/h]	248.51	6208.03	571.77	75.56	1000.97	996.88	58.72	98.68	239.54	240.71
NOx [g/h]	48.35	1207.86	111.25	14.70	194.75	193.96	11.42	19.20	46.61	46.83
VOC [g/h]	57.60	1438.77	132.51	17.51	231.98	231.04	13.61	22.87	55.51	55.79

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	30.45	30.45	30.45
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.366	2.120	2.275
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	990	990	860	860
d_b, Bicycle Delay [s]	10.38	10.38	13.23	13.23
l_b,int, Bicycle LOS Score for Intersection	3.719	2.762	1.863	2.358
Bicycle LOS	D	C	A	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	117.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.268

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	500.0	100.0	100.0	100.0	500.0	100.0	100.0	300.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

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Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	5	442	1616	173	4	218	1133	198	380	48	581	63	107	286
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-1	-5	0	0	0	43	0	0	0	22	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	52	0	0	0	59	0	0	181	0	0	86
Total Hourly Volume [veh/h]	5	441	1611	121	4	218	1176	139	380	48	422	63	107	200
Peak Hour Factor	0.930	0.930	0.930	0.930	0.930	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	119	433	33	1	59	316	37	102	13	113	17	29	54
Total Analysis Volume [veh/h]	5	474	1732	130	4	234	1265	149	409	52	454	68	115	215
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	0	3	8	0
Auxiliary Signal Groups														
Maximum Green [s]	0	20	50	0	0	20	50	0	20	20	0	0	20	0
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	14	0	0	0	18	0	0	0	0	0	28	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	0	24	56	0	24	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Cycle Length [s]	126	126	126	126	126	126	126	126	126	126	126
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	50	50	19	48	48	20	20	20	20	20
g / C, Green / Cycle	0.16	0.39	0.39	0.15	0.38	0.38	0.16	0.16	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.27	0.35	0.35	0.13	0.36	0.09	0.13	0.13	0.29	0.04	0.20
s, saturation flow rate [veh/h]	1781	3560	1804	1781	3560	1589	1781	1800	1589	1781	1677
c, Capacity [veh/h]	283	1402	710	264	1365	609	283	286	252	283	266
d1, Uniform Delay [s]	53.00	35.39	35.63	52.74	37.16	26.43	51.21	51.15	53.00	46.36	53.00
k, delay calibration	0.50	0.13	0.37	0.28	0.13	0.13	0.26	0.26	0.50	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	327.35	2.31	12.05	23.13	3.90	0.25	12.67	11.89	375.18	0.16	135.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.69	0.88	0.89	0.90	0.93	0.24	0.81	0.81	1.80	0.24	1.24
d, Delay for Lane Group [s/veh]	380.36	37.70	47.68	75.87	41.05	26.68	63.88	63.03	428.18	46.52	188.64
Lane Group LOS	F	D	D	E	D	C	E	E	F	D	F
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	34.40	17.03	19.52	8.91	18.42	3.00	8.01	7.97	34.25	1.89	18.43
50th-Percentile Queue Length [ft/ln]	859.89	425.84	488.05	222.66	460.39	75.11	200.33	199.27	856.34	47.24	460.76
95th-Percentile Queue Length [veh/ln]	53.52	23.80	26.77	13.80	25.45	5.41	12.66	12.60	53.91	3.40	28.05
95th-Percentile Queue Length [ft/ln]	1337.96	595.06	669.20	345.01	636.33	135.21	316.40	315.03	1347.82	85.03	701.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	380.3	380.3	40.59	47.68	75.87	75.87	41.05	26.68	63.51	63.03	428.18	46.52	188.64	188.64
Movement LOS	F	F	D	D	E	E	D	C	E	E	F	D	F	F
d_A, Approach Delay [s/veh]	110.50				44.77				244.42			164.36		
Approach LOS	F				D				F			F		
d_I, Intersection Delay [s/veh]	117.17													
Intersection LOS	F													
Intersection V/C	1.268													

Emissions

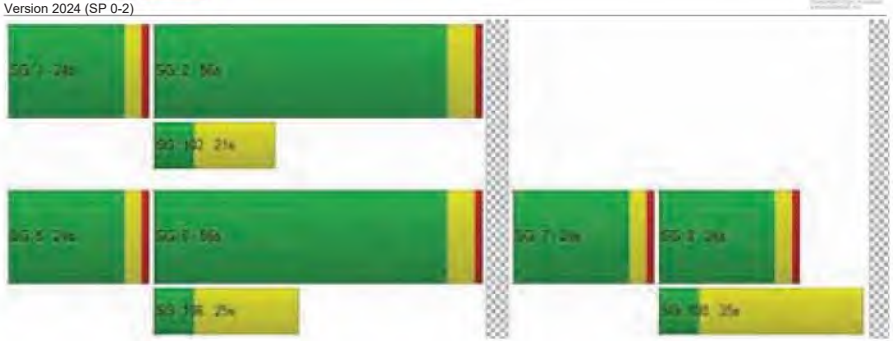
Vehicle Miles Traveled [mph]	89.83	230.73	118.45	56.84	302.12	35.59	14.36	14.39	28.31	3.32	16.09
Stops [stops/h]	983.14	973.76	558.00	254.57	1052.76	85.88	229.05	227.84	979.08	54.01	526.80
Fuel consumption [US gal/h]	52.37	29.45	17.13	8.79	34.01	3.10	4.85	4.81	46.12	1.08	16.24
CO [g/h]	3660.69	2058.86	1197.11	614.25	2377.53	216.46	338.93	336.31	3224.10	75.39	1135.10
NOx [g/h]	712.24	400.58	232.91	119.51	462.58	42.11	65.94	65.43	627.29	14.67	220.85
VOC [g/h]	848.40	477.16	277.44	142.36	551.02	50.17	78.55	77.94	747.22	17.47	263.07

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	52.45	52.45	52.45
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.562	2.866	2.388
Crosswalk LOS	F	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	799	799	318	318
d_b, Bicycle Delay [s]	22.72	22.72	44.56	44.56
l_b,int, Bicycle LOS Score for Intersection	2.873	2.778	3.368	2.358
Bicycle LOS	C	C	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	54.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.000

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	500.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1224	1679	414	0	37	1252	493	306	130	404	236	88	251
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-6	-6	-2	0	0	65	0	0	0	22	14	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	124	0	0	0	148	0	0	128	0	0	75
Total Hourly Volume [veh/h]	1	1218	1673	288	0	37	1317	345	306	130	298	250	88	176
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	305	418	72	0	9	329	86	77	33	75	63	22	44
Total Analysis Volume [veh/h]	1	1218	1673	288	0	37	1317	345	306	130	298	250	88	176
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	136
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	45	62	0	0	14	29	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	50	68	0	0	19	35	28	0	28	0	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	45	74	74	6	34	59	19	19	17	17	17
g / C, Green / Cycle	0.33	0.54	0.54	0.04	0.25	0.43	0.14	0.14	0.12	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.35	0.36	0.39	0.02	0.26	0.22	0.12	0.12	0.09	0.09	0.11
s, saturation flow rate [veh/h]	3459	3532	1725	1781	5053	1589	1781	1832	1781	1826	1589
c, Capacity [veh/h]	1155	1914	935	81	1279	685	249	257	223	228	199
d1, Uniform Delay [s]	45.28	22.44	23.45	63.30	50.79	28.15	57.19	57.19	57.46	57.43	58.55
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.16	0.16	0.14	0.14	0.24
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	26.99	1.90	4.82	1.51	33.07	2.64	12.23	11.91	6.44	6.04	23.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.06	0.67	0.72	0.46	1.03	0.50	0.86	0.86	0.75	0.75	0.89
d, Delay for Lane Group [s/veh]	72.28	24.34	28.27	64.81	83.86	30.79	69.42	69.09	63.90	63.47	81.69
Lane Group LOS	F	C	C	E	F	C	E	E	E	E	F
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	23.66	15.06	17.23	1.26	17.98	8.41	8.08	8.29	5.97	6.06	7.25
50th-Percentile Queue Length [ft/ln]	591.41	376.46	430.68	31.57	449.56	210.16	202.11	207.30	149.28	151.56	181.22
95th-Percentile Queue Length [veh/ln]	32.79	21.42	24.03	2.27	25.38	13.16	12.75	13.01	9.98	10.10	11.66
95th-Percentile Queue Length [ft/ln]	819.85	535.56	600.86	56.82	634.56	329.04	318.69	325.36	249.47	252.51	291.61

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	72.28	72.28	25.25	28.27	64.81	64.81	83.86	30.79	69.32	69.09	0.00	63.76	63.47	81.69
Movement LOS	E	F	C	C	E	E	F	C	E	E		E	E	F
d_A, Approach Delay [s/veh]	43.55				72.67				41.14			69.85		
Approach LOS	D				E				D			E		
d_I, Intersection Delay [s/veh]	54.18													
Intersection LOS	D													
Intersection V/C	1.000													

Emissions

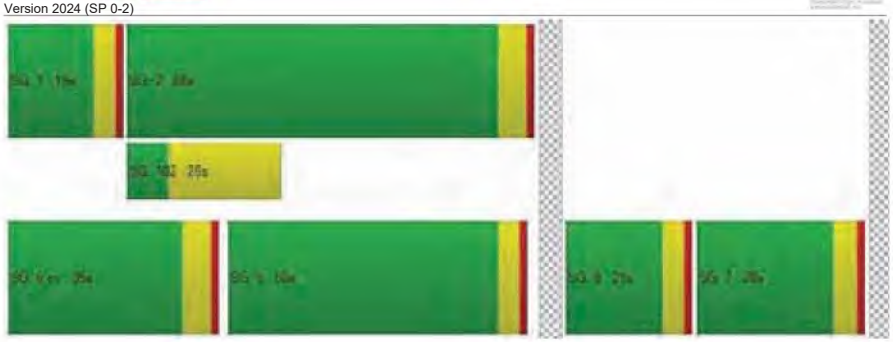
Vehicle Miles Traveled [mph]	209.67	221.15	116.15	6.94	246.97	64.70	9.94	10.23	5.32	5.43	5.60
Stops [stops/h]	1252.39	797.20	456.02	33.42	1428.03	222.52	214.00	219.49	158.06	160.48	191.88
Fuel consumption [US gal/h]	33.48	19.88	11.19	1.14	48.69	7.15	4.63	4.74	3.27	3.31	4.22
CO [g/h]	2340.08	1389.30	781.85	79.78	3403.66	499.52	323.47	331.43	228.46	231.64	294.70
NOx [g/h]	455.29	270.31	152.12	15.52	662.23	97.19	62.93	64.48	44.45	45.07	57.34
VOC [g/h]	542.34	321.98	181.20	18.49	788.83	115.77	74.97	76.81	52.95	53.68	68.30

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	57.44
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.542
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	915	429	337	241
d_b, Bicycle Delay [s]	20.02	41.93	47.03	52.59
l_b,int, Bicycle LOS Score for Intersection	3.376	2.555	2.279	2.046
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Latrobe Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	66.0
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.973

Intersection Setup

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	200.00	570.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No			No		
Crosswalk	No			No				No			Yes		

Volumes

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Base Volume Input [veh/h]	0	2456	609	1	388	1504	0	0	0	1591	0	0	861
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-14	-8	0	0	101	0	0	0	82	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	180	0	0	0	0	0	0	502	0	0	258
Total Hourly Volume [veh/h]	0	2442	421	1	388	1605	0	0	0	1171	0	0	603
Peak Hour Factor	1.0000	0.9500	0.8400	1.000	0.840	0.950	1.000	1.0000	1.0000	0.8400	1.0000	1.0000	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	643	125	0	115	422	0	0	0	349	0	0	179
Total Analysis Volume [veh/h]	0	2571	501	1	462	1689	0	0	0	1394	0	0	718
Presence of On-Street Parking	No		No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0				0			0	
v_co, Outbound Pedestrian Volume crossing		0			0				0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0	
Bicycle Volume [bicycles/h]		0			0				0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	26.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	30	0	0	26	34	0	0	0	22	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No				No			
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	4.2	0.0	0.0	2.6	4.2	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	2.5	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Minimum Recall		Yes			No	Yes				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	R	
C, Cycle Length [s]	68	68	68	68	68	
L, Total Lost Time per Cycle [s]	6.20	6.20	4.60	6.20	4.60	
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	4.20	4.20	2.60	4.20	2.60	
g_i, Effective Green Time [s]	38	38	20	35	22	
g / C, Green / Cycle	0.55	0.55	0.29	0.51	0.33	
(v / s)_i Volume / Saturation Flow Rate	0.45	0.46	0.26	0.25	0.50	
s, saturation flow rate [veh/h]	5094	1677	1781	6792	2813	
c, Capacity [veh/h]	2809	925	516	3476	927	
d1, Uniform Delay [s]	12.49	12.62	23.17	10.79	22.80	
k, delay calibration	0.50	0.50	0.17	0.50	0.20	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	2.83	8.58	8.80	0.49	229.17	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.82	0.83	0.90	0.49	1.50	
d, Delay for Lane Group [s/veh]	15.32	21.21	31.97	11.28	251.97	
Lane Group LOS	B	C	C	B	F	
Critical Lane Group	No	No	No	Yes	Yes	
50th-Percentile Queue Length [veh/ln]	7.60	9.14	7.43	3.30	36.26	
50th-Percentile Queue Length [ft/ln]	189.94	228.44	185.84	82.43	906.44	
95th-Percentile Queue Length [veh/ln]	12.12	14.10	11.90	5.94	56.92	
95th-Percentile Queue Length [ft/ln]	302.95	352.38	297.62	148.38	1422.96	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	15.93	21.21	31.97	31.97	11.28	0.00	0.00	0.00	251.97	0.00	0.00	0.00
Movement LOS		B	C	C	C	B				F			
d_A, Approach Delay [s/veh]		16.79			15.73			251.97			0.00		
Approach LOS		B			B			F			A		
d_I, Intersection Delay [s/veh]	65.98												
Intersection LOS	E												
Intersection V/C	0.973												

Emissions

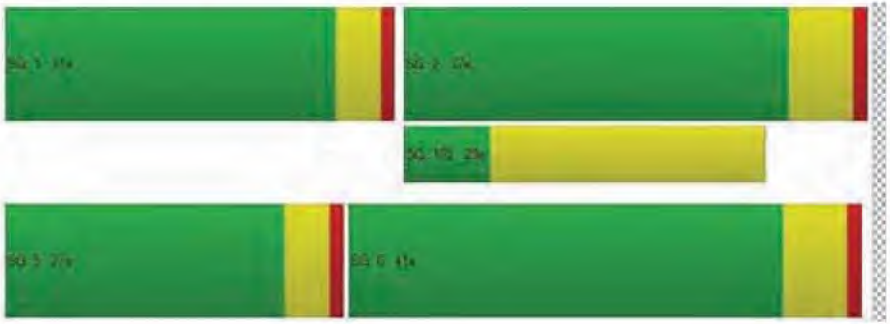
Vehicle Miles Traveled [mph]	333.38	111.13	79.64	290.52	99.76	
Stops [stops/h]	1206.66	483.76	393.53	698.25	3839.02	
Fuel consumption [US gal/h]	33.61	13.14	10.64	22.52	96.78	
CO [g/h]	2349.68	918.36	743.40	1573.87	6765.07	
NOx [g/h]	457.16	178.68	144.64	306.22	1316.24	
VOC [g/h]	544.56	212.84	172.29	364.76	1567.87	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	23.89
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.257
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	906	1024	659	0
d_b, Bicycle Delay [s]	10.18	8.10	15.29	34.00
l_b,int, Bicycle LOS Score for Intersection	2.901	2.257	1.560	1.560
Bicycle LOS	C	B	A	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	63.7
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.994

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	24	1987	233	3	570	1937	585	460	37	83	1	92	6	615
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-22	0	0	0	183	0	0	0	4	0	16	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	70	0	0	0	176	0	0	26	0	0	0	185
Total Hourly Volume [veh/h]	1	24	1965	163	3	570	2120	409	460	37	61	1	108	6	430
Peak Hour Factor	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.9600	0.9600	0.9600	0.960	0.960	0.960	0.960
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	6	512	42	1	148	552	107	120	10	16	0	28	2	112
Total Analysis Volume [veh/h]	1	25	2047	170	3	594	2208	426	479	39	64	1	113	6	448
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	138
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	0	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	40	0	0	12	65	0	15	20	0	0	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	0.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.0	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	0.0	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	46	0	0	16	71	0	19	24	0	0	19	19	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	0	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	Yes			No	Yes			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	2	54	54	12	64	64	18	18	18	15	15	15
g / C, Green / Cycle	0.02	0.47	0.47	0.10	0.55	0.55	0.16	0.16	0.16	0.13	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.01	0.40	0.11	0.17	0.43	0.27	0.14	0.02	0.04	0.06	0.14	0.14
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	1870	1589	1781	1596	1589
c, Capacity [veh/h]	73	2387	745	360	2811	877	547	296	251	232	208	207
d1, Uniform Delay [s]	55.62	27.19	18.21	51.59	20.42	15.80	47.39	41.69	42.54	46.55	50.09	50.09
k, delay calibration	0.04	0.04	0.04	0.26	0.04	0.04	0.08	0.08	0.08	0.08	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.11	0.36	0.06	301.96	0.19	0.16	3.51	0.15	0.39	1.20	89.67	89.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.86	0.23	1.66	0.79	0.49	0.88	0.13	0.25	0.49	1.09	1.09
d, Delay for Lane Group [s/veh]	56.73	27.55	18.27	353.55	20.61	15.96	50.90	41.84	42.93	47.75	139.76	139.92
Lane Group LOS	E	C	B	F	C	B	D	D	D	D	F	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.38	16.16	2.70	20.28	14.87	6.68	6.94	0.97	1.63	3.11	11.12	11.09
50th-Percentile Queue Length [ft/ln]	9.58	403.98	67.38	507.07	371.84	166.97	173.58	24.22	40.72	77.70	278.04	277.18
95th-Percentile Queue Length [veh/ln]	0.69	22.75	4.85	32.42	21.20	10.92	11.26	1.74	2.93	5.59	17.25	17.21
95th-Percentile Queue Length [ft/ln]	17.24	568.80	121.28	810.56	529.96	272.93	281.62	43.59	73.30	139.86	431.29	430.17

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.73	56.73	27.55	18.27	353.5	353.5	20.61	15.96	50.90	41.84	42.93	47.75	47.75	139.7	139.8
Movement LOS	E	E	C	B	F	F	C	B	D	D	D	D	D	F	F
d_A, Approach Delay [s/veh]	27.18				81.51				49.42			121.36			
Approach LOS	C				F				D			F			
d_I, Intersection Delay [s/veh]	63.71														
Intersection LOS	E														
Intersection V/C	0.994														

Emissions

Vehicle Miles Traveled [mph]	5.80	456.97	37.95	86.38	319.49	61.64	61.10	4.97	8.16	40.01	79.82	79.52
Stops [stops/h]	24.00	1518.01	84.39	1270.26	1397.23	209.14	434.83	30.33	51.01	97.32	348.26	347.17
Fuel consumption [US gal/h]	0.67	38.67	2.66	53.52	30.13	5.08	9.88	0.70	1.18	3.29	11.68	11.64
CO [g/h]	46.95	2703.37	185.97	3740.83	2106.20	354.86	690.51	49.24	82.27	230.13	816.28	813.75
NOx [g/h]	9.13	525.98	36.18	727.83	409.79	69.04	134.35	9.58	16.01	44.78	158.82	158.33
VOC [g/h]	10.88	626.53	43.10	866.97	488.13	82.24	160.03	11.41	19.07	53.34	189.18	188.59

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			0.0			11.0			11.0		
M_corner, Corner Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	47.01			0.00			47.01			47.01		
l_p,int, Pedestrian LOS Score for Intersectio	3.472			0.000			2.703			2.892		
Crosswalk LOS	C			F			B			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	705			1139			357			270		
d_b, Bicycle Delay [s]	24.12			10.64			38.81			43.03		
l_b,int, Bicycle LOS Score for Intersection	2.831			3.107			2.061			2.616		
Bicycle LOS	C			C			B			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	87.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.848

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	3	2	0	0	1	2	0	0	0	3	0	0
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	260.0	100.0	100.0	260.0	360.0	100.0	100.0	100.0	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	6	125	1673	518	2	253	1422	436	2	376	472	124	516	223	194
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-22	-7	0	0	204	0	0	0	0	0	48	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	153	0	0	0	131	0	0	0	37	0	0	58
Total Hourly Volume [veh/h]	6	125	1651	358	2	253	1626	305	2	376	472	87	564	223	136
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	34	444	96	1	68	437	82	1	101	127	23	152	60	37
Total Analysis Volume [veh/h]	6	134	1775	385	2	272	1748	328	2	404	508	94	606	240	146
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	158
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups															
Maximum Green [s]	0	25	50	0	0	35	50	0	0	25	15	0	15	25	0
Amber [s]	0.0	4.0	4.7	0.0	0.0	4.0	4.7	0.0	0.0	4.5	4.7	0.0	4.5	4.7	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	39	0	0	0	37	0	0	0	48	0	0	50	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	3.7	0.0	0.0	3.0	3.7	0.0	0.0	4.0	3.7	0.0	4.0	3.7	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	30	56	0	0	40	56	0	0	31	21	0	21	31	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	7	0	0	10	7	0	0	10	10	0	10	10	0
Vehicle Extension [s]	0.0	1.5	3.0	0.0	0.0	1.5	3.0	0.0	0.0	1.5	2.0	0.0	1.5	2.0	0.0
Minimum Recall		No	Yes			No	Yes			No	No		No	No	
Maximum Recall		No	No			No	No			No	No		No	No	
Pedestrian Recall		No	No			No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	158	158	158	158	158	158	158	158	158	158	158	158
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	6.00	5.70	5.70	6.00	5.70	5.70
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	4.00	3.70	3.70	4.00	3.70	3.70
g_i, Effective Green Time [s]	14	84	84	15	84	84	21	22	22	15	17	17
g / C, Green / Cycle	0.09	0.53	0.53	0.09	0.53	0.53	0.13	0.14	0.14	0.09	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.08	0.26	0.24	0.08	0.34	0.21	0.12	0.17	0.17	0.18	0.07	0.09
s, saturation flow rate [veh/h]	1781	6792	1589	3459	5094	1589	3459	1870	1770	3459	3560	1589
c, Capacity [veh/h]	162	3588	840	321	2702	843	453	266	252	328	378	169
d1, Uniform Delay [s]	70.88	23.80	23.20	70.60	26.53	21.95	67.60	67.77	67.77	71.50	67.68	69.50
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.50	0.50	0.25	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.29	0.49	1.80	2.50	1.21	1.35	2.61	106.79	108.24	386.42	0.66	5.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.49	0.46	0.85	0.65	0.39	0.90	1.16	1.16	1.85	0.64	0.87
d, Delay for Lane Group [s/veh]	76.17	24.29	25.00	73.10	27.74	23.31	70.21	174.56	176.01	457.92	68.34	74.58
Lane Group LOS	E	C	C	E	C	C	E	F	F	F	E	E
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.86	10.82	9.46	5.51	15.41	7.36	8.27	18.66	17.76	24.30	4.71	6.08
50th-Percentile Queue Length [ft/ln]	146.59	270.41	236.61	137.66	385.32	183.91	206.85	466.50	444.01	607.61	117.80	152.05
95th-Percentile Queue Length [veh/ln]	9.84	16.21	14.51	9.35	21.85	11.80	12.99	27.59	26.43	38.55	8.27	10.13
95th-Percentile Queue Length [ft/ln]	245.88	405.25	362.74	233.87	546.28	295.11	324.78	689.78	660.77	963.71	206.80	253.16

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	76.17	76.17	24.29	25.00	73.10	73.10	27.74	23.31	70.21	70.21	175.1	176.0	457.92	68.34	74.58
Movement LOS	E	E	C	C	E	E	C	C	E	E	F	F	F	E	E
d_A, Approach Delay [s/veh]	27.57				32.41				132.95				307.25		
Approach LOS	C				C				F				F		
d_I, Intersection Delay [s/veh]	86.97														
Intersection LOS	F														
Intersection V/C	0.848														

Emissions

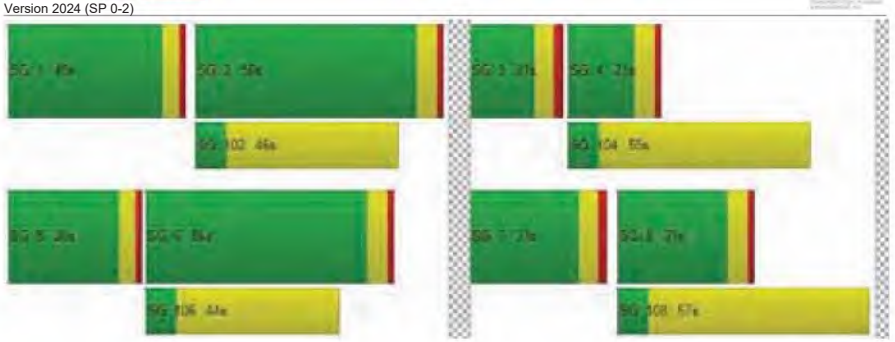
Vehicle Miles Traveled [mph]	55.73	706.61	153.26	61.17	390.22	73.22	101.33	77.19	73.05	63.32	25.08	15.25
Stops [stops/h]	133.60	985.78	215.64	250.93	1053.53	167.61	377.04	425.16	404.67	1107.55	214.73	138.58
Fuel consumption [US gal/h]	5.20	43.31	9.46	9.29	36.34	6.15	12.05	16.51	15.73	65.18	5.56	3.61
CO [g/h]	363.64	3027.31	661.23	649.50	2540.27	429.85	842.60	1154.14	1099.23	4556.32	388.37	252.27
NOx [g/h]	70.75	589.00	128.65	126.37	494.24	83.63	163.94	224.55	213.87	886.49	75.56	49.08
VOC [g/h]	84.28	701.61	153.25	150.53	588.73	99.62	195.28	267.48	254.76	1055.97	90.01	58.47

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	68.38	68.38	68.38	68.38
l_p,int, Pedestrian LOS Score for Intersectio	3.629	3.891	2.837	3.033
Crosswalk LOS	D	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	637	637	194	320
d_b, Bicycle Delay [s]	36.71	36.71	64.44	55.73
l_b,int, Bicycle LOS Score for Intersection	2.569	2.775	2.088	2.426
Bicycle LOS	B	C	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	112.5
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.160

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	11	1588	30	0	34	1590	454	703	9	27	1	6	19
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-29	0	0	0	252	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	9	0	0	0	136	0	0	8	0	0	6
Total Hourly Volume [veh/h]	1	11	1559	21	0	34	1842	318	703	9	19	1	6	13
Peak Hour Factor	1.000	0.890	0.890	0.870	1.000	0.870	0.890	0.890	0.8900	0.8700	0.8900	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	438	6	0	10	517	89	197	3	5	0	2	4
Total Analysis Volume [veh/h]	1	12	1752	24	0	39	2070	357	790	10	21	1	7	15
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	112
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	12	40	0	0	15	40	0	0	20	0	0	20	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	12	0	0	0	20	0	0	20	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	0	0	18	46	0	0	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	82	82	82	82	82	82	82	82	82
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	40	40	2	41	41	20	20	2
g / C, Green / Cycle	0.02	0.49	0.49	0.03	0.50	0.50	0.24	0.24	0.03
(v / s)_i Volume / Saturation Flow Rate	0.01	0.48	0.48	0.02	0.65	0.68	0.23	0.23	0.01
s, saturation flow rate [veh/h]	1781	1870	1861	1781	1870	1778	1781	1772	1674
c, Capacity [veh/h]	30	905	901	52	928	882	431	429	45
d1, Uniform Delay [s]	40.22	20.94	21.00	39.82	20.81	20.81	30.85	30.87	39.66
k, delay calibration	0.04	0.43	0.43	0.04	0.50	0.50	0.40	0.40	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.61	23.47	24.29	8.10	146.24	176.15	28.58	29.15	3.31
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.98	0.98	0.76	1.31	1.38	0.95	0.96	0.51
d, Delay for Lane Group [s/veh]	43.83	44.41	45.29	47.92	167.04	196.96	59.43	60.02	42.97
Lane Group LOS	D	D	D	D	F	F	E	E	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.29	20.99	21.19	0.84	51.52	56.30	11.15	11.19	0.49
50th-Percentile Queue Length [ft/ln]	7.19	524.75	529.76	21.08	1287.89	1407.60	278.83	279.72	12.36
95th-Percentile Queue Length [veh/ln]	0.52	28.50	28.74	1.52	75.98	84.56	16.63	16.67	0.89
95th-Percentile Queue Length [ft/ln]	12.94	712.60	718.50	37.95	1899.62	2114.02	415.76	416.86	22.25

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.83	43.83	44.85	45.29	47.92	47.92	179.4	196.9	59.71	60.02	60.02	42.97	42.97	42.97
Movement LOS	D	D	D	D	D	D	F	F	E	E	E	D	D	D
d_A, Approach Delay [s/veh]	44.84				179.88				59.72			42.97		
Approach LOS	D				F				E			D		
d_I, Intersection Delay [s/veh]	112.54													
Intersection LOS	F													
Intersection V/C	1.160													

Emissions

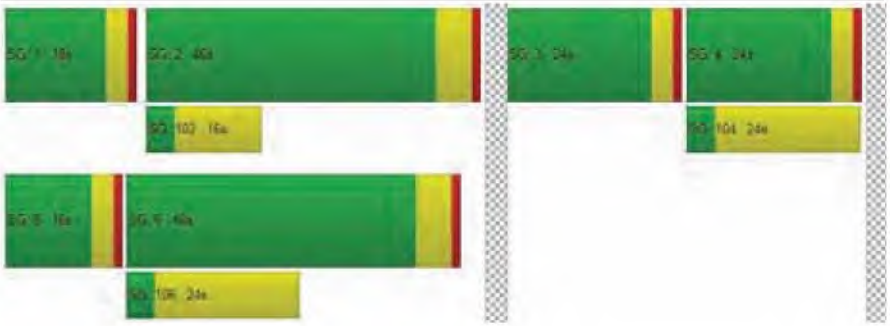
Vehicle Miles Traveled [mph]	4.60	314.45	314.01	15.53	483.08	483.08	98.99	98.73	0.44
Stops [stops/h]	12.55	916.40	925.15	36.82	2249.11	2458.16	486.94	488.48	21.59
Fuel consumption [US gal/h]	0.37	26.04	26.22	1.58	99.18	110.45	11.74	11.77	0.34
CO [g/h]	26.19	1820.12	1832.51	110.68	6932.72	7720.39	820.36	822.70	23.65
NOx [g/h]	5.10	354.13	356.54	21.54	1348.86	1502.11	159.61	160.07	4.60
VOC [g/h]	6.07	421.83	424.70	25.65	1606.73	1789.27	190.13	190.67	5.48

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	33.62	0.00	33.62	33.62
l_p,int, Pedestrian LOS Score for Intersectio	3.071	0.000	2.386	1.776
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	970	970	485	485
d_b, Bicycle Delay [s]	10.93	10.93	23.65	23.65
l_b,int, Bicycle LOS Score for Intersection	3.042	3.674	2.927	1.607
Bicycle LOS	C	D	C	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Latrobe Rd/Suncast Ln

Control Type:	Signalized	Delay (sec / veh):	41.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.963

Intersection Setup

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Approach	Northbound			Southbound		Eastbound	
Lane Configuration							
Turning Movement	U-turn	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			No		Yes	

Volumes

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Base Volume Input [veh/h]	0	90	1321	1429	190	309	178
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	46	0	0	0	0
Site-Generated Trips [veh/h]	0	4	-29	252	0	0	11
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	57	0	57
Total Hourly Volume [veh/h]	0	94	1338	1681	133	309	132
Peak Hour Factor	1.0000	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	26	376	472	37	87	37
Total Analysis Volume [veh/h]	0	106	1503	1889	149	347	148
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permissive	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	5	2	6	0	3	0
Auxiliary Signal Groups							
Maximum Green [s]	0	12	40	40	0	20	0
Amber [s]	0.0	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No	No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	46	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-
Minimum Green [s]	0	5	5	5	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall		No	No	No		No	
Maximum Recall		No	No	No		No	
Pedestrian Recall		No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	L	R
C, Cycle Length [s]	77	77	77	77	77	77
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	6	50	40	40	17	17
g / C, Green / Cycle	0.08	0.65	0.52	0.52	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.06	0.42	0.54	0.56	0.19	0.09
s, saturation flow rate [veh/h]	1781	3560	1870	1823	1781	1589
c, Capacity [veh/h]	139	2305	968	944	398	355
d1, Uniform Delay [s]	34.93	8.32	18.64	18.64	28.95	25.70
k, delay calibration	0.04	0.15	0.47	0.49	0.25	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.27	0.45	43.02	53.02	12.79	0.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.65	1.05	1.08	0.87	0.42
d, Delay for Lane Group [s/veh]	38.20	8.77	61.65	71.66	41.74	26.48
Lane Group LOS	D	A	F	F	D	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.03	6.21	26.47	28.43	7.35	2.32
50th-Percentile Queue Length [ft/ln]	50.73	155.29	661.84	710.74	183.68	58.10
95th-Percentile Queue Length [veh/ln]	3.65	10.30	36.35	39.46	11.79	4.18
95th-Percentile Queue Length [ft/ln]	91.32	257.47	908.86	986.49	294.81	104.58

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.20	38.20	8.77	66.26	71.66	41.74	26.48
Movement LOS	D	D	A	E	E	D	C
d_A, Approach Delay [s/veh]	10.71			66.66		37.18	
Approach LOS	B			E		D	
d_I, Intersection Delay [s/veh]	41.40						
Intersection LOS	D						
Intersection V/C	0.963						

Emissions

Vehicle Miles Traveled [mph]	73.73	1045.41	360.59	360.59	117.08	49.93
Stops [stops/h]	94.72	579.83	1235.62	1326.92	342.92	108.47
Fuel consumption [US gal/h]	4.38	48.92	34.45	37.03	9.66	3.45
CO [g/h]	306.33	3419.64	2408.38	2588.62	675.33	241.33
NOx [g/h]	59.60	665.34	468.58	503.65	131.40	46.95
VOC [g/h]	71.00	792.53	558.17	599.94	156.52	55.93

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	30.98	0.00	30.98
l_p,int, Pedestrian LOS Score for Intersectio	3.017	0.000	2.297
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1037	1037	519
d_b, Bicycle Delay [s]	8.94	8.94	21.16
l_b,int, Bicycle LOS Score for Intersection	2.887	3.288	1.560
Bicycle LOS	C	C	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	171.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.184

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	108	575	28	352	446	809	686	216	57	68	155	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	21	98	10	0	46	0	0	0	0	0	12	0
Site-Generated Trips [veh/h]	30	117	12	0	331	-67	-142	-25	91	36	-12	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	15	0	0	223	0	0	44	0	0	45
Total Hourly Volume [veh/h]	159	790	35	352	823	519	544	191	104	104	155	105
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	217	10	97	226	143	149	52	29	29	43	29
Total Analysis Volume [veh/h]	175	868	38	387	904	570	598	210	114	114	170	115
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Cycle Length [s]	83	83	83	83	83	83	83	83	83	83
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	10	23	23	12	25	25	15	15	15	15
g / C, Green / Cycle	0.12	0.27	0.27	0.14	0.30	0.30	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.10	0.24	0.24	0.22	0.40	0.44	0.26	0.26	0.15	0.07
s, saturation flow rate [veh/h]	1781	1870	1843	1781	1870	1643	1781	1767	1833	1589
c, Capacity [veh/h]	212	514	506	256	559	491	320	317	325	282
d1, Uniform Delay [s]	35.97	29.09	29.09	35.80	29.30	29.30	34.30	34.30	33.46	30.48
k, delay calibration	0.12	0.24	0.24	0.50	0.50	0.50	0.50	0.50	0.10	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.63	11.12	11.28	250.33	161.70	227.90	216.58	220.67	6.68	0.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.89	0.89	1.51	1.33	1.48	1.44	1.45	0.87	0.41
d, Delay for Lane Group [s/veh]	44.60	40.21	40.37	286.12	190.99	257.20	250.87	254.97	40.14	30.83
Lane Group LOS	D	D	D	F	F	F	F	F	D	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.91	10.00	9.88	22.50	34.87	39.68	25.51	25.67	6.05	2.04
50th-Percentile Queue Length [ft/ln]	97.87	250.01	246.94	562.62	871.84	992.02	637.77	641.67	151.21	50.90
95th-Percentile Queue Length [veh/ln]	7.05	15.19	15.03	35.43	52.25	61.16	39.55	39.84	10.08	3.66
95th-Percentile Queue Length [ft/ln]	176.17	379.67	375.80	885.80	1306.28	1529.03	988.73	995.99	252.04	91.62

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.60	40.28	40.37	286.12	202.61	257.20	251.81	254.97	254.97	40.14	40.14	30.83
Movement LOS	D	D	D	F	F	F	F	F	F	D	D	C
d_A, Approach Delay [s/veh]	40.98			236.70			252.92			37.46		
Approach LOS	D			F			F			D		
d_I, Intersection Delay [s/veh]	171.93											
Intersection LOS	F											
Intersection V/C	1.184											

Emissions

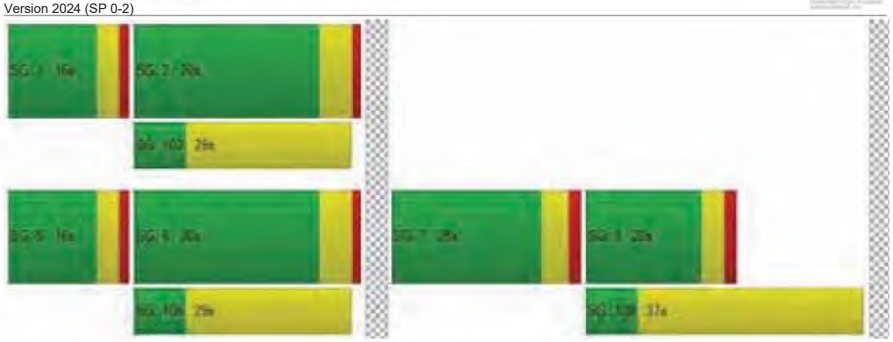
Vehicle Miles Traveled [mph]	101.07	263.53	259.71	269.18	518.46	506.78	34.71	34.65	31.41	12.72
Stops [stops/h]	168.83	431.26	425.97	970.50	1503.90	1711.20	1100.14	1106.86	260.83	87.80
Fuel consumption [US gal/h]	6.68	16.96	16.74	49.56	74.24	86.87	31.06	31.44	5.05	1.73
CO [g/h]	467.04	1185.83	1170.01	3464.27	5189.68	6071.88	2170.91	2197.42	353.25	120.95
NOx [g/h]	90.87	230.72	227.64	674.02	1009.72	1181.37	422.38	427.54	68.73	23.53
VOC [g/h]	108.24	274.83	271.16	802.88	1202.76	1407.22	503.13	509.27	81.87	28.03

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.46	0.00	31.46	31.46
l_p,int, Pedestrian LOS Score for Intersectio	2.760	0.000	2.682	2.355
Crosswalk LOS	C	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	592	592	371	479
d_b, Bicycle Delay [s]	20.69	20.69	27.68	24.14
l_b,int, Bicycle LOS Score for Intersection	2.464	3.279	3.154	2.292
Bicycle LOS	B	C	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	80.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.059

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	148	314	452	119	397	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	129	0
Site-Generated Trips [veh/h]	-5	305	526	-68	-146	-14
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	15	0	0
Total Hourly Volume [veh/h]	143	619	978	36	380	106
Peak Hour Factor	0.9000	0.9000	0.9000	0.7900	0.7900	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	172	272	11	120	29
Total Analysis Volume [veh/h]	159	688	1087	46	481	118
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	164
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	50	50	50	0	50	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	54	56	56	0	54	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	107	107	107	107	107	107
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	11	65	50	50	32	32
g / C, Green / Cycle	0.11	0.61	0.47	0.47	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.09	0.37	0.58	0.03	0.27	0.07
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1589
c, Capacity [veh/h]	191	1141	871	740	528	471
d1, Uniform Delay [s]	46.97	12.90	28.69	15.79	36.39	28.70
k, delay calibration	0.04	0.31	0.50	0.15	0.15	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.56	1.49	121.34	0.05	8.74	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.60	1.25	0.06	0.91	0.25
d, Delay for Lane Group [s/veh]	50.53	14.39	150.03	15.84	45.14	28.97
Lane Group LOS	D	B	F	B	D	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.13	8.73	48.72	0.57	13.20	2.34
50th-Percentile Queue Length [ft/ln]	103.30	218.26	1218.12	14.34	330.06	58.54
95th-Percentile Queue Length [veh/ln]	7.44	13.58	70.19	1.03	19.16	4.21
95th-Percentile Queue Length [ft/ln]	185.95	339.41	1754.75	25.81	479.03	105.37

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.53	14.39	150.03	15.84	45.14	28.97
Movement LOS	D	B	F	B	D	C
d_A, Approach Delay [s/veh]	21.18		144.58		41.95	
Approach LOS	C		F		D	
d_I, Intersection Delay [s/veh]	80.21					
Intersection LOS	F					
Intersection V/C	1.059					

Emissions

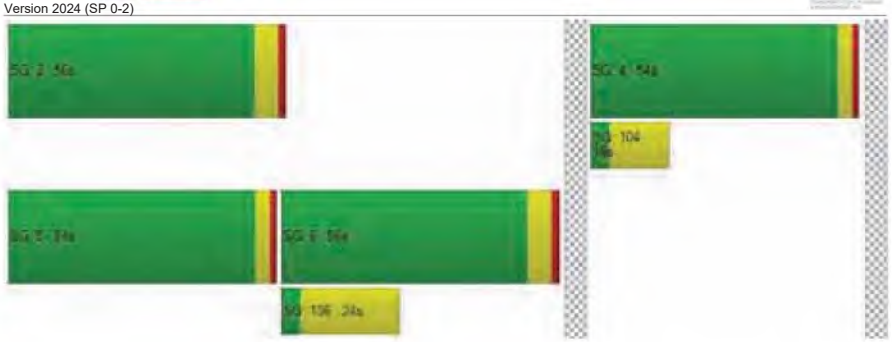
Vehicle Miles Traveled [mph]	19.62	84.89	627.77	26.57	112.97	27.71
Stops [stops/h]	138.66	292.96	1635.00	19.24	443.02	78.57
Fuel consumption [US gal/h]	4.87	10.30	84.55	1.39	11.52	2.27
CO [g/h]	340.16	719.72	5910.03	97.47	804.99	158.72
NOx [g/h]	66.18	140.03	1149.88	18.96	156.62	30.88
VOC [g/h]	78.84	166.80	1369.71	22.59	186.56	36.78

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	45.94	0.00	45.94
l_p,int, Pedestrian LOS Score for Intersectio	3.174	0.000	2.217
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	932	932	932
d_b, Bicycle Delay [s]	15.29	15.29	15.29
l_b,int, Bicycle LOS Score for Intersection	2.957	3.454	1.560
Bicycle LOS	C	C	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	251.6
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.848

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	413	0	25	547	0	0	0	0	2	0	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	7	4	0	0	0	0	0
Site-Generated Trips [veh/h]	5	275	0	0	467	45	25	0	3	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	688	0	25	1014	52	29	0	3	2	0	49
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	187	0	6	276	14	8	0	1	1	0	12
Total Analysis Volume [veh/h]	5	748	0	25	1102	57	32	0	3	2	0	49
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free		Free		Stop		Stop	
Flared Lane					Yes		Yes	
Storage Area [veh]	0		0		1		1	
Two-Stage Gap Acceptance					No		No	
Number of Storage Spaces in Median	0		0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.03	0.01	0.00	0.85	0.00	0.01	0.05	0.00	0.12
d_M, Delay for Movement [s/veh]	10.98	0.00	0.00	9.21	0.00	0.00	251.60	217.13	170.79	88.21	69.73	15.04
Movement LOS	B	A	A	A	A	A	F	F	F	F	F	C
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.04	0.04	0.04	3.25	3.25	3.25	0.43	0.43	0.43
95th-Percentile Queue Length [ft/ln]	0.21	0.21	0.21	1.07	1.07	1.07	81.27	81.27	81.27	10.83	10.83	10.83
d_A, Approach Delay [s/veh]	0.07			0.19			244.68			17.90		
Approach LOS	A			A			F			C		
d_I, Intersection Delay [s/veh]	4.83											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Two-way stop	Delay (sec / veh):	2,529.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	6.113

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	314	19	123	426	0	0	0	0	59	0	99
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	6	0	0	1	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	53	10	0	0	8	434	270	0	31	0	5	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	37	0	0	0	0	0	37	0	55	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	330	19	123	435	434	307	0	86	59	5	99
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	89	5	33	117	117	83	0	23	16	1	27
Total Analysis Volume [veh/h]	97	355	20	132	468	467	330	0	92	63	5	106
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Free		Free		Stop		Stop	
Flared Lane					No		No	
Storage Area [veh]	0		0		0		0	
Two-Stage Gap Acceptance					No		No	
Number of Storage Spaces in Median	0		0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.00	0.00	0.11	0.00	0.00	6.11	0.00	0.21	1.15	0.08	0.16
d_M, Delay for Movement [s/veh]	10.66	0.00	0.00	8.42	0.00	0.00	2529.21	2502.70	2470.73	317.43	306.61	256.78
Movement LOS	B	A	A	A	A	A	F	F	F	F	F	F
95th-Percentile Queue Length [veh/ln]	0.46	0.00	0.00	0.38	0.00	0.00	47.72	47.72	47.72	11.66	11.66	11.66
95th-Percentile Queue Length [ft/ln]	11.38	0.00	0.00	9.39	0.00	0.00	1193.07	1193.07	1193.07	291.47	291.47	291.47
d_A, Approach Delay [s/veh]	2.19			1.04			2516.46			280.17		
Approach LOS	A			A			F			F		
d_I, Intersection Delay [s/veh]	521.24											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	30.323

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	114	790	168	55	1	886	185
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-52	-167	91	-24	0	-79	30
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	37	0	0	23	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	99	623	259	54	1	807	215
Peak Hour Factor	1.0000	0.8800	0.8800	0.8800	0.8800	1.0000	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	28	177	74	15	0	229	61
Total Analysis Volume [veh/h]	0	113	708	294	61	1	917	244
Pedestrian Volume [ped/h]	0			0		0		

Intersection Settings

Priority Scheme	Stop		Free		Free		
Flared Lane	No						
Storage Area [veh]	0		0		0		
Two-Stage Gap Acceptance	No						
Number of Storage Spaces in Median	0		0		0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	30.32	0.99	0.00	0.00	0.12	0.76	0.00
d_M, Delay for Movement [s/veh]	10000.00	10000.00	10000.00	0.00	0.00	454.82	13.85	0.00
Movement LOS	F	F	F	A	A	F	B	A
95th-Percentile Queue Length [veh/ln]	102.36	102.36	102.36	0.00	0.00	6.04	6.04	6.04
95th-Percentile Queue Length [ft/ln]	2558.88	2558.88	2558.88	0.00	0.00	150.89	150.89	150.89
d_A, Approach Delay [s/veh]	10000.00			0.00		11.32		
Approach LOS	F			A		B		
d_I, Intersection Delay [s/veh]	3517.18							
Intersection LOS	F							

Intersection Level Of Service Report
Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Control Type:	All-way stop	Delay (sec / veh):	25.7
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.873

Intersection Setup

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Base Volume Input [veh/h]	49	466	87	0	33	476	32	39	34	32	218	16	66
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-191	-146	0	13	-113	7	-37	-26	0	-87	5	8
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	49	275	0	0	46	363	39	2	8	32	131	21	74
Peak Hour Factor	0.8300	0.8300	0.8300	1.000	0.790	0.830	0.830	0.8300	0.8300	0.8300	0.8300	0.8300	0.7900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	83	0	0	15	109	12	1	2	10	39	6	23
Total Analysis Volume [veh/h]	59	331	0	0	58	437	47	2	10	39	158	25	94
Pedestrian Volume [ped/h]	0			0				0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	590	621	508	544
Degree of Utilization, x	0.66	0.87	0.10	0.51

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	4.90	10.16	0.33	2.87
95th-Percentile Queue Length [ft]	122.38	253.92	8.33	71.84
Approach Delay [s/veh]	20.21	35.85	10.88	16.32
Approach LOS	C	E	B	C
Intersection Delay [s/veh]	25.71			
Intersection LOS	D			

Intersection Level Of Service Report
Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	20.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.367

Intersection Setup

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00			30.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	No		No			No		

Volumes

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Base Volume Input [veh/h]	109	80	0	143	180	2	109	195
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	69	0	-2	0	0	-16	-5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	109	149	0	141	180	2	93	190
Peak Hour Factor	0.8400	0.8400	1.0000	0.8400	0.8400	1.0000	0.8400	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	44	0	42	54	1	28	57
Total Analysis Volume [veh/h]	130	177	0	168	214	2	111	226
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Priority Scheme	Stop		Free			Free		
Flared Lane								
Storage Area [veh]	0		0			0		
Two-Stage Gap Acceptance	No							
Number of Storage Spaces in Median	0		0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.37	0.23	0.00	0.00	0.00	0.00	0.09	0.00
d_M, Delay for Movement [s/veh]	20.91	11.13	9.37	0.00	0.00	12.54	8.40	0.00
Movement LOS	C	B	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	1.64	0.89	0.00	0.00	0.00	0.33	0.33	0.00
95th-Percentile Queue Length [ft/ln]	41.02	22.35	0.00	0.00	0.00	8.16	8.16	0.00
d_A, Approach Delay [s/veh]	15.27		0.00			2.82		
Approach LOS	C		A			A		
d_I, Intersection Delay [s/veh]	5.49							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 16: Carson Crossing Rd/Calypso Cir.

Control Type:	Two-way stop	Delay (sec / veh):	23.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.343

Intersection Setup

Name			Carson Crossing Rd		Carson Crossing Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	190.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			Carson Crossing Rd		Carson Crossing Rd	
Base Volume Input [veh/h]	107	158	87	152	170	174
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	69	0	0	-16
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	107	158	156	152	170	158
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	43	42	41	46	43
Total Analysis Volume [veh/h]	116	172	170	165	185	172
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.34	0.20	0.00	0.00	0.15	0.00
d_M, Delay for Movement [s/veh]	23.24	16.73	0.00	0.00	8.46	0.00
Movement LOS	C	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	3.18	3.18	0.00	0.00	0.53	0.00
95th-Percentile Queue Length [ft/ln]	79.57	79.57	0.00	0.00	13.30	0.00
d_A, Approach Delay [s/veh]	19.36		0.00		4.39	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	7.29					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 17: Carson Crossing Rd/Four Seasons Dr

Control Type:	All-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.170

Intersection Setup

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	500.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	500.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Base Volume Input [veh/h]	199	12	27	171	0	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-16	0	0	69	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	183	12	27	240	0	3
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	3	7	65	0	1
Total Analysis Volume [veh/h]	199	13	29	261	0	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	713	725	692	765	765	724
Degree of Utilization, x	0.15	0.15	0.04	0.17	0.17	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.52	0.51	0.13	0.61	0.61	0.01
95th-Percentile Queue Length [ft]	13.01	12.76	3.28	15.30	15.30	0.31
Approach Delay [s/veh]	8.57		8.34			7.99
Approach LOS	A		A			A
Intersection Delay [s/veh]	8.44					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	448.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.734

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	172	0	29	7	1	21	5	578	115	81	536	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-16	0	0	0	0	0	0	0	69	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	156	0	29	7	1	21	5	578	184	81	536	11
Peak Hour Factor	0.9700	1.0000	0.9300	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9300	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	0	8	2	0	5	1	149	47	22	138	3
Total Analysis Volume [veh/h]	161	0	31	7	1	22	5	596	190	87	553	11
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	1.73	0.00	0.07	0.08	0.01	0.04	0.00	0.01	0.00	0.10	0.01	0.00
d_M, Delay for Movement [s/veh]	448.88	36.01	13.70	46.08	41.66	14.00	8.59	0.00	0.00	9.83	0.00	0.00
Movement LOS	F	E	B	E	E	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	13.12	0.22	0.22	0.43	0.43	0.43	0.01	0.00	0.00	0.35	0.00	0.00
95th-Percentile Queue Length [ft/ln]	328.04	5.60	5.60	10.71	10.71	10.71	0.37	0.00	0.00	8.72	0.00	0.00
d_A, Approach Delay [s/veh]	378.62			22.41			0.05			1.31		
Approach LOS	F			C			A			A		
d_I, Intersection Delay [s/veh]	44.63											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 19: White Rock Rd/Windfield Way

Control Type:	Signalized	Delay (sec / veh):	32.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.581

Intersection Setup

Name	Windfield Way						White Rock Rd			White Rock Rd			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00			
Grade [%]	0.00			0.00			0.00			0.00			
Curb Present	No			No			No			No			
Crosswalk	Yes			Yes			Yes			No			

Volumes

Name	Windfield Way						White Rock Rd			White Rock Rd			
Base Volume Input [veh/h]	278	5	310	5	5	5	5	663	84	14	225	542	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	93	0	0	0	0	0	25	0	0	0	0
Total Hourly Volume [veh/h]	278	5	217	5	5	5	5	663	59	14	225	542	5
Peak Hour Factor	0.9400	1.0000	0.9400	1.0000	1.0000	1.0000	1.0000	0.9400	0.9400	1.000	0.940	0.940	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	74	1	58	1	1	1	1	176	16	4	60	144	1
Total Analysis Volume [veh/h]	296	5	231	5	5	5	5	705	63	14	239	577	5
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	73.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi
Signal Group	3	8	0	7	4	0	5	2	0	0	1	6	0
Auxiliary Signal Groups													
Maximum Green [s]	25	25	0	10	10	0	9	19	0	0	44	54	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	2.0	1.0	0.0	0.0	2.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	26	0	0	13	0	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	245.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	15	15	0	15	25	0	0	50	60	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	3	3	0	5	3	0	5	7	0	0	3	7	0
Vehicle Extension [s]	1.0	1.0	0.0	3.0	1.0	0.0	3.0	3.6	0.0	0.0	1.0	3.6	0.0
Minimum Recall	No	No		No	No		No	Yes			No	Yes	
Maximum Recall	No	No		No	No		No	No			No	No	
Pedestrian Recall	No	No		No	No		No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	22	22	1	1	1	57	57	19	75	75
g / C, Green / Cycle	0.18	0.18	0.01	0.01	0.01	0.47	0.47	0.16	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.17	0.15	0.00	0.01	0.00	0.21	0.21	0.14	0.16	0.16
s, saturation flow rate [veh/h]	1781	1595	1781	1718	1781	1870	1817	1781	1870	1864
c, Capacity [veh/h]	321	289	12	13	12	881	856	280	1162	1159
d1, Uniform Delay [s]	48.33	47.22	59.33	59.43	59.34	21.19	21.20	49.66	10.18	10.18
k, delay calibration	0.24	0.04	0.11	0.04	0.11	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	19.74	2.17	19.50	27.26	19.95	1.61	1.66	4.34	0.52	0.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.82	0.40	0.76	0.40	0.44	0.44	0.90	0.25	0.25
d, Delay for Lane Group [s/veh]	68.07	49.39	78.83	86.69	79.29	22.80	22.86	53.99	10.70	10.70
Lane Group LOS	E	D	E	F	E	C	C	D	B	B
Critical Lane Group	Yes	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	10.44	6.94	0.22	0.40	0.22	7.63	7.44	7.77	3.52	3.51
50th-Percentile Queue Length [ft/ln]	260.93	173.40	5.48	10.09	5.50	190.84	185.96	194.31	87.98	87.74
95th-Percentile Queue Length [veh/ln]	15.74	11.25	0.39	0.73	0.40	12.16	11.91	12.34	6.33	6.32
95th-Percentile Queue Length [ft/ln]	393.38	281.37	9.86	18.17	9.90	304.11	297.78	308.62	158.37	157.93

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	68.07	49.39	49.39	78.83	86.69	86.69	79.29	22.83	22.86	53.99	53.99	10.70	10.70
Movement LOS	E	D	D	E	F	F	E	C	C	D	D	B	B
d_A, Approach Delay [s/veh]	59.78			84.07			23.20			23.81			
Approach LOS	E			F			C			C			
d_I, Intersection Delay [s/veh]	32.89												
Intersection LOS	C												
Intersection V/C	0.581												

Emissions

Vehicle Miles Traveled [mph]	114.05	90.93	0.23	0.46	4.21	327.63	318.66	63.14	72.73	72.52
Stops [stops/h]	313.11	208.08	6.57	12.11	6.60	229.00	223.15	233.18	105.58	105.28
Fuel consumption [US gal/h]	10.53	7.26	0.13	0.26	0.29	16.56	16.11	6.67	4.21	4.20
CO [g/h]	735.70	507.80	8.80	18.32	20.29	1157.47	1126.28	466.03	294.41	293.55
NOx [g/h]	143.14	98.80	1.71	3.56	3.95	225.20	219.13	90.67	57.28	57.11
VOC [g/h]	170.51	117.69	2.04	4.25	4.70	268.25	261.03	108.01	68.23	68.03

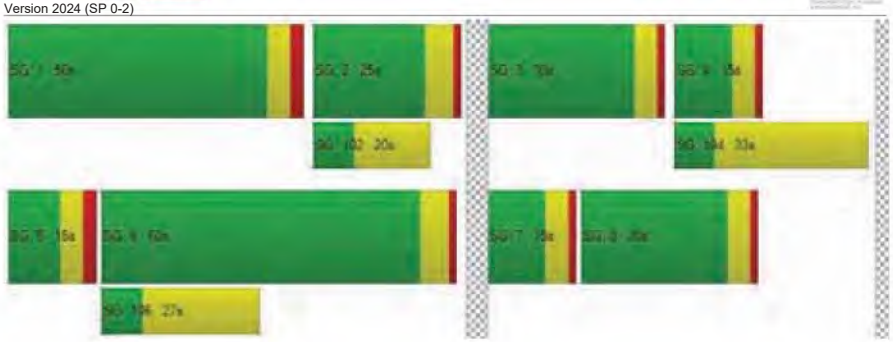
Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.397	1.964	2.676	0.000
Crosswalk LOS	B	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	417	167	317	900
d_b, Bicycle Delay [s]	37.60	50.42	42.50	18.15
l_b,int, Bicycle LOS Score for Intersection	2.591	1.584	2.218	2.051
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 20: White Rock Rd/Post St

Control Type:	Signalized	Delay (sec / veh):	66.0
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.604

Intersection Setup

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Approach	Northbound			Southbound			Eastbound				Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0	120.00	100.00	400.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00				30.00		
Grade [%]	0.00			0.00			0.00				0.00		
Curb Present	No			No			No				No		
Crosswalk	Yes			Yes			Yes				No		

Volumes

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	69	16	29	189	15	238	3	218	967	55	86	623	178
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	-5	0	-12	5	0	0	54	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	9	0	0	70	0	0	0	17	0	0	53
Total Hourly Volume [veh/h]	69	16	20	189	15	163	3	206	972	38	86	677	125
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	1.000	0.910	0.860	0.910	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	4	5	52	4	45	1	57	283	10	24	186	34
Total Analysis Volume [veh/h]	76	18	22	208	16	179	3	226	1130	42	95	744	137
Presence of On-Street Parking	No		No	No		No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0				0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0				0		
v_co, Outbound Pedestrian Volume crossing	0			0			0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0				0		
Bicycle Volume [bicycles/h]	0			0			0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	55.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups													
Maximum Green [s]	21	62	0	8	48	0	0	14	31	0	16	34	0
Amber [s]	3.5	5.0	0.0	3.5	5.0	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.7	1.0	0.0	1.0	1.0	0.0	0.0	2.0	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	32	0	0	0	21	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.2	4.0	0.0	2.5	4.0	0.0	0.0	3.5	2.5	0.0	3.0	2.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	100.0	0.0	100.0	100.0	0.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	0	13	54	0	0	20	36	0	21	39	0
Lead / Lag	Lead	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	3	7	0	3	7	0	0	3	3	0	3	3	0
Vehicle Extension [s]	1.0	3.6	0.0	1.0	3.6	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No			No	Yes		No	Yes	
Maximum Recall	No	No		No	No			No	No		No	No	
Pedestrian Recall	No	No		No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	5.20	6.00	4.50	6.00	5.50	4.50	4.50	5.00	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.20	4.00	2.50	4.00	3.50	2.50	2.50	3.00	2.50	2.50
g_i, Effective Green Time [s]	8	19	9	19	20	83	83	9	72	72
g / C, Green / Cycle	0.05	0.14	0.06	0.14	0.14	0.59	0.59	0.07	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.04	0.02	0.12	0.12	0.13	0.32	0.03	0.05	0.24	0.24
s, saturation flow rate [veh/h]	1781	1705	1781	1609	1781	3560	1589	1781	1870	1770
c, Capacity [veh/h]	96	234	108	224	251	2113	943	117	962	910
d1, Uniform Delay [s]	65.45	53.33	65.75	59.01	59.26	16.96	11.89	64.56	21.78	21.78
k, delay calibration	0.04	0.13	0.50	0.13	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.39	0.43	447.82	12.03	5.22	0.98	0.09	5.05	1.65	1.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.17	1.92	0.87	0.91	0.53	0.04	0.81	0.47	0.47
d, Delay for Lane Group [s/veh]	70.84	53.76	513.57	71.05	64.48	17.93	11.98	69.61	23.43	23.53
Lane Group LOS	E	D	F	E	E	B	B	E	C	C
Critical Lane Group	Yes	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.84	1.28	17.32	7.54	8.38	10.98	0.58	3.52	10.00	9.48
50th-Percentile Queue Length [ft/ln]	70.90	32.10	433.09	188.44	209.54	274.41	14.51	88.04	249.89	237.12
95th-Percentile Queue Length [veh/ln]	5.11	2.31	28.06	12.04	13.13	16.41	1.04	6.34	15.18	14.54
95th-Percentile Queue Length [ft/ln]	127.63	57.78	701.52	301.00	328.24	410.24	26.12	158.46	379.51	363.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	70.84	53.76	53.76	513.57	71.05	71.05	64.48	64.48	17.93	11.98	69.61	23.47	23.53
Movement LOS	E	D	D	F	E	E	E	E	B	B	E	C	C
d_A, Approach Delay [s/veh]	64.95			299.44			25.36				27.97		
Approach LOS	E			F			C				C		
d_I, Intersection Delay [s/veh]	65.97												
Intersection LOS	E												
Intersection V/C	0.604												

Emissions

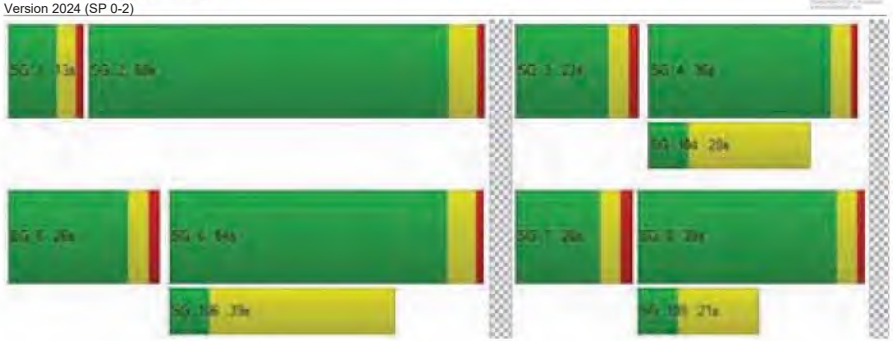
Vehicle Miles Traveled [mph]	3.80	2.00	9.67	9.07	23.93	118.06	4.39	33.26	158.48	150.01
Stops [stops/h]	72.93	33.02	445.46	193.82	215.53	564.50	14.93	90.55	257.03	243.90
Fuel consumption [US gal/h]	1.65	0.70	24.59	4.26	5.18	12.10	0.37	3.22	10.10	9.57
CO [g/h]	115.68	49.10	1719.00	297.98	362.09	845.95	25.55	224.75	706.15	669.22
NOx [g/h]	22.51	9.55	334.45	57.98	70.45	164.59	4.97	43.73	137.39	130.21
VOC [g/h]	26.81	11.38	398.39	69.06	83.92	196.06	5.92	52.09	163.66	155.10

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	59.43	59.43	59.43	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.070	2.356	2.902	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	886	686	450	493
d_b, Bicycle Delay [s]	21.73	30.23	42.04	39.75
l_b,int, Bicycle LOS Score for Intersection	1.766	2.340	2.543	2.409
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	268.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.393

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	102	74	453	315	125	60	66	907	231	350	734	187
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-6	4	0	-3	22	12	-7	0	28	32	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	137	0	0	25	0	0	69	0	0	56
Total Hourly Volume [veh/h]	102	68	320	315	122	57	78	900	162	378	766	131
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	18	82	81	31	15	20	232	42	97	197	34
Total Analysis Volume [veh/h]	105	70	330	325	126	59	80	928	167	390	790	135
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	0	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	35	0	0	40	0	25	45	0	25	45	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	18	0	0	17	0	0	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	0	0	44	0	29	50	0	29	51	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	0.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	153	153	153	153	153	153	153	153
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	3.50	5.30	3.50	6.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	1.50	3.30	1.50	4.00
g_i, Effective Green Time [s]	35	35	31	31	9	45	25	61
g / C, Green / Cycle	0.23	0.23	0.20	0.20	0.06	0.29	0.16	0.40
(v / s)_i Volume / Saturation Flow Rate	0.06	0.25	0.18	0.10	0.04	0.60	0.22	0.51
s, saturation flow rate [veh/h]	1781	1632	1781	1770	1781	1821	1781	1823
c, Capacity [veh/h]	407	373	360	357	101	535	291	722
d1, Uniform Delay [s]	48.42	59.06	59.65	54.45	71.33	54.06	64.06	46.25
k, delay calibration	0.13	0.50	0.25	0.13	0.04	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.41	67.12	17.07	1.45	5.17	477.17	174.94	137.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.26	1.07	0.90	0.52	0.79	2.05	1.34	1.28
d, Delay for Lane Group [s/veh]	48.83	126.18	76.72	55.90	76.50	531.23	239.01	183.47
Lane Group LOS	D	F	E	E	E	F	F	F
Critical Lane Group	No	Yes	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.38	21.43	14.05	6.56	3.26	91.51	25.49	54.73
50th-Percentile Queue Length [ft/ln]	84.62	535.64	351.34	164.01	81.61	2287.74	637.28	1368.25
95th-Percentile Queue Length [veh/ln]	6.09	30.21	20.20	10.76	5.88	143.38	38.46	78.60
95th-Percentile Queue Length [ft/ln]	152.32	755.28	505.04	269.03	146.90	3584.51	961.41	1964.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.83	126.18	126.18	76.72	55.90	55.90	76.50	531.23	531.23	239.01	183.47	183.47
Movement LOS	D	F	F	E	E	E	E	F	F	F	F	F
d_A, Approach Delay [s/veh]	110.10			69.17			500.27			199.94		
Approach LOS	F			E			F			F		
d_I, Intersection Delay [s/veh]	268.65											
Intersection LOS	F											
Intersection V/C	1.393											

Emissions

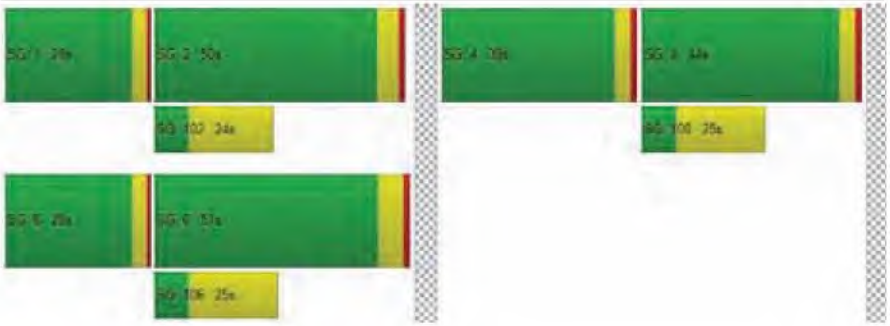
Vehicle Miles Traveled [mph]	180.67	688.26	65.89	37.51	28.01	383.42	175.98	417.38
Stops [stops/h]	79.60	503.85	330.49	154.28	76.77	2151.99	599.46	1287.06
Fuel consumption [US gal/h]	8.92	41.39	9.61	4.50	2.82	146.02	29.52	58.82
CO [g/h]	623.54	2892.89	671.86	314.59	197.29	10206.71	2063.51	4111.65
NOx [g/h]	121.32	562.85	130.72	61.21	38.39	1985.85	401.48	799.98
VOC [g/h]	144.51	670.46	155.71	72.91	45.72	2365.50	478.24	952.92

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	65.94	65.94	65.94	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.613	2.286	2.786	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	455	520	584	588
d_b, Bicycle Delay [s]	45.70	41.92	38.37	38.16
l_b,int, Bicycle LOS Score for Intersection	2.619	2.442	3.612	3.822
Bicycle LOS	B	B	D	D

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 22: White Rock Rd/Clarksville Crossing

Control Type:	Signalized	Delay (sec / veh):	37.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.902

Intersection Setup

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	180.00	460.00	100.00	100.00	290.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

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Version 2024 (SP 0-2)
Report File: C:\...\10 2033 PM plus Proj.pdf
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Volumes

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	0	0	2	80	0	334	8	1666	1	0	937	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	-3	0	0	61	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	2	80	0	334	8	1663	1	0	998	2
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.9600	0.7800	0.7800	0.9600	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	26	0	107	3	433	0	0	260	1
Total Analysis Volume [veh/h]	0	0	3	103	0	428	10	1732	1	0	1040	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	20	0	0	20	0	20	50	0	20	50	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	5.0	0.0	4.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	5.0	0.0	3.0	5.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	R
C, Cycle Length [s]	86	86	86	86	86	86	86	86	86	86
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	7.00	7.00	5.00	7.00	7.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	5.00	5.00	3.00	5.00	5.00
g_i, Effective Green Time [s]	0	0	20	20	1	44	44	0	43	43
g / C, Green / Cycle	0.00	0.00	0.23	0.23	0.01	0.51	0.51	0.00	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.06	0.27	0.01	0.46	0.46	0.00	0.29	0.00
s, saturation flow rate [veh/h]	1870	1589	1781	1589	1781	1870	1870	1781	3560	1589
c, Capacity [veh/h]	8	7	413	369	22	950	950	0	1765	788
d1, Uniform Delay [s]	0.00	42.79	26.95	33.07	42.23	19.42	19.42	0.00	15.47	10.97
k, delay calibration	0.11	0.11	0.11	0.50	0.11	0.29	0.29	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	41.74	0.31	97.89	13.40	9.09	9.11	0.00	0.32	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.45	0.25	1.16	0.45	0.91	0.91	0.00	0.59	0.00
d, Delay for Lane Group [s/veh]	0.00	84.54	27.26	130.97	55.63	28.51	28.52	0.00	15.79	10.98
Lane Group LOS	A	F	C	F	E	C	C	A	B	B
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.00	0.14	1.73	17.47	0.29	16.74	16.75	0.00	6.82	0.03
50th-Percentile Queue Length [ft/ln]	0.00	3.49	43.17	436.76	7.29	418.56	418.65	0.00	170.48	0.70
95th-Percentile Queue Length [veh/ln]	0.00	0.25	3.11	26.32	0.52	23.45	23.46	0.00	11.10	0.05
95th-Percentile Queue Length [ft/ln]	0.00	6.28	77.71	657.99	13.12	586.33	586.43	0.00	277.55	1.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	84.54	27.26	27.26	130.97	55.63	28.52	28.52	0.00	15.79	10.98
Movement LOS	A	A	F	C	C	F	E	C	C	A	B	B
d_A, Approach Delay [s/veh]	84.54			110.85			28.67			15.77		
Approach LOS	F			F			C			B		
d_I, Intersection Delay [s/veh]	37.81											
Intersection LOS	D											
Intersection V/C	0.902											

Emissions

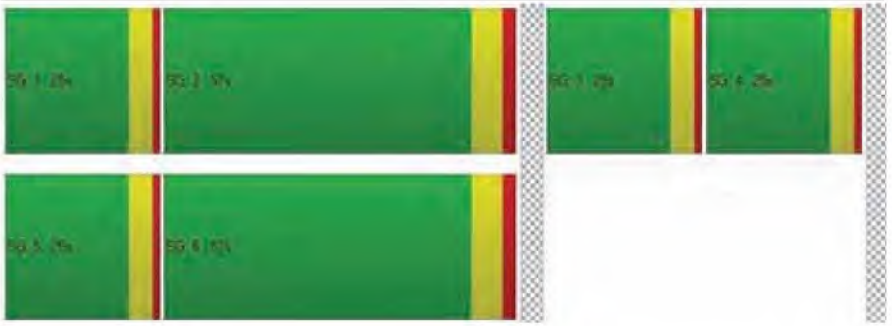
Vehicle Miles Traveled [mph]	0.00	0.15	48.86	203.03	4.51	391.00	390.97	0.00	181.42	0.52
Stops [stops/h]	0.00	5.84	72.23	730.70	12.19	700.26	700.40	0.00	570.43	1.17
Fuel consumption [US gal/h]	0.00	0.09	2.98	23.80	0.37	24.99	24.99	0.00	13.96	0.03
CO [g/h]	0.00	6.29	208.43	1663.63	25.61	1746.96	1747.09	0.00	975.91	2.43
NOx [g/h]	0.00	1.22	40.55	323.68	4.98	339.90	339.92	0.00	189.88	0.47
VOC [g/h]	0.00	1.46	48.31	385.56	5.93	404.88	404.90	0.00	226.18	0.56

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	465	465	1162	1162
d_b, Bicycle Delay [s]	25.36	25.36	7.56	7.56
l_b,int, Bicycle LOS Score for Intersection	1.565	2.436	2.998	2.420
Bicycle LOS	A	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 23: White Rock Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	50.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.796

Intersection Setup

Name	White Rock Rd		White Rock Rd		US 50 EB	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	1	0	1
Entry Pocket Length [ft]	500.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	White Rock Rd		White Rock Rd		US 50 EB	
Base Volume Input [veh/h]	995	753	861	261	511	78
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-2	-1	61	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	12
Total Hourly Volume [veh/h]	993	752	922	261	511	66
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	248	188	231	65	128	17
Total Analysis Volume [veh/h]	993	752	922	261	511	66
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	21	61	32	0	16	0
Amber [s]	3.7	4.8	4.8	0.0	4.8	0.0
All red [s]	0.5	2.0	2.0	0.0	1.0	0.0
Walk [s]	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.2	4.8	4.8	0.0	3.8	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	39	0	22	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	8	9	9	0	8	0
Vehicle Extension [s]	2.0	1.0	1.0	0.0	2.0	0.0
Minimum Recall	No	Yes	Yes		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80
g_i, Effective Green Time [s]	22	63	37	37	15	15	15
g / C, Green / Cycle	0.24	0.70	0.41	0.41	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.29	0.21	0.26	0.16	0.14	0.14	0.04
s, saturation flow rate [veh/h]	3459	3560	3560	1589	1781	1781	1589
c, Capacity [veh/h]	838	2476	1447	646	293	293	262
d1, Uniform Delay [s]	34.10	5.30	21.39	18.97	36.66	36.66	32.76
k, delay calibration	0.08	0.50	0.50	0.50	0.17	0.17	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	85.42	0.32	2.16	1.88	11.98	11.98	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.19	0.30	0.64	0.40	0.87	0.87	0.25
d, Delay for Lane Group [s/veh]	119.52	5.61	23.55	20.84	48.64	48.64	32.95
Lane Group LOS	F	A	C	C	D	D	C
Critical Lane Group	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	18.82	2.36	7.87	4.07	6.35	6.35	1.25
50th-Percentile Queue Length [ft/ln]	470.41	59.08	196.70	101.72	158.65	158.65	31.33
95th-Percentile Queue Length [veh/ln]	28.40	4.25	12.47	7.32	10.48	10.48	2.26
95th-Percentile Queue Length [ft/ln]	709.91	106.34	311.71	183.09	261.94	261.94	56.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	119.52	5.61	23.55	20.84	48.64	32.95
Movement LOS	F	A	C	C	D	C
d_A, Approach Delay [s/veh]	70.43		22.95		46.85	
Approach LOS	E		C		D	
d_I, Intersection Delay [s/veh]	50.52					
Intersection LOS	D					
Intersection V/C	0.796					

Emissions

Vehicle Miles Traveled [mph]	173.22	131.18	163.39	46.25	15.47	15.47	4.00
Stops [stops/h]	1505.31	189.06	629.45	162.75	253.85	253.85	50.13
Fuel consumption [US gal/h]	39.60	7.30	14.62	3.91	4.57	4.57	0.88
CO [g/h]	2767.76	510.53	1022.08	273.33	319.34	319.34	61.79
NOx [g/h]	538.50	99.33	198.86	53.18	62.13	62.13	12.02
VOC [g/h]	641.45	118.32	236.88	63.35	74.01	74.01	14.32

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1360	716	360
d_b, Bicycle Delay [s]	4.61	18.56	30.26
l_b,int, Bicycle LOS Score for Intersection	2.999	2.536	2.531
Bicycle LOS	C	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 24: Silva Valley Pkwy/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	24.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.707

Intersection Setup

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Approach	Northbound				Southbound			Westbound			Northeastbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	550.0	100.0	100.0	100.0	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No					
Crosswalk	No				No			No			No		

Volumes

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Base Volume Input [veh/h]	1	152	1111	0	0	559	236	562	1	263	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-1	0	0	9	0	52	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	47	0	0	30	0	0	0
Total Hourly Volume [veh/h]	1	152	1110	0	0	568	189	614	1	233	0	0	0
Peak Hour Factor	1.000	0.790	0.790	1.000	1.0000	0.7900	0.7900	0.7900	0.7900	0.7900	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	48	351	0	0	180	60	194	0	74	0	0	0
Total Analysis Volume [veh/h]	1	192	1405	0	0	719	239	777	1	295	0	0	0
Presence of On-Street Parking	No			No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	6	0	0	8	0	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	20	54	0	0	26	0	0	23	0	0	0	0
Amber [s]	0.0	3.7	4.8	0.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0
All red [s]	0.0	0.5	2.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	4.8	0.0	0.0	4.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	61	0	0	33	0	0	29	0	0	0	0
Lead / Lag	-	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	8	8	0	0	8	0	0	8	0	0	0	0
Vehicle Extension [s]	0.0	2.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No	Yes			Yes			No				
Maximum Recall		No	No			No			No				
Pedestrian Recall		No	No			No			No				

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	R	
C, Cycle Length [s]	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80	
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80	
g_i, Effective Green Time [s]	12	56	40	40	21	21	21	
g / C, Green / Cycle	0.13	0.62	0.45	0.45	0.24	0.24	0.24	
(v / s)_i Volume / Saturation Flow Rate	0.11	0.39	0.20	0.15	0.22	0.22	0.19	
s, saturation flow rate [veh/h]	1781	3560	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	231	2212	1584	707	425	425	380	
d1, Uniform Delay [s]	38.24	10.67	17.37	16.32	33.36	33.36	32.02	
k, delay calibration	0.04	0.50	0.50	0.50	0.18	0.18	0.09	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	3.07	1.41	0.94	1.29	12.52	12.50	2.96	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.84	0.64	0.45	0.34	0.91	0.91	0.78	
d, Delay for Lane Group [s/veh]	41.30	12.07	18.31	17.61	45.88	45.86	34.98	
Lane Group LOS	D	B	B	B	D	D	C	
Critical Lane Group	No	Yes	No	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	4.28	8.07	5.15	3.34	9.51	9.51	6.16	
50th-Percentile Queue Length [ft/ln]	107.12	201.83	128.84	83.58	237.87	237.82	154.03	
95th-Percentile Queue Length [veh/ln]	7.68	12.73	8.88	6.02	14.57	14.57	10.23	
95th-Percentile Queue Length [ft/ln]	191.99	318.32	221.92	150.44	364.34	364.28	255.80	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.30	41.30	12.07	0.00	0.00	18.31	17.61	45.87	45.86	34.98	0.00	0.00	0.00
Movement LOS	D	D	B			B	B	D	D	C			
d_A, Approach Delay [s/veh]	15.60				18.14			42.88			0.00		
Approach LOS	B				B			D			A		
d_I, Intersection Delay [s/veh]	24.34												
Intersection LOS	C												
Intersection V/C	0.707												

Emissions

Vehicle Miles Traveled [mph]	34.20	248.98	98.32	32.68	13.47	13.47	10.22
Stops [stops/h]	171.39	645.84	412.29	133.72	380.60	380.52	246.45
Fuel consumption [US gal/h]	3.98	17.27	9.00	2.94	6.29	6.29	3.88
CO [g/h]	277.99	1207.13	629.43	205.56	439.60	439.47	271.37
NOx [g/h]	54.09	234.86	122.46	39.99	85.53	85.50	52.80
VOC [g/h]	64.43	279.76	145.88	47.64	101.88	101.85	62.89

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1204	582	516	0
d_b, Bicycle Delay [s]	7.12	22.61	24.79	45.00
l_b,int, Bicycle LOS Score for Intersection	2.877	2.389	3.380	4.132
Bicycle LOS	C	B	C	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 25: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Base Volume Input [veh/h]	0	413	549	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	280	442	28	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	55	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	693	991	83	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	173	248	21	0	0
Total Analysis Volume [veh/h]	0	693	991	83	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	17.74
Movement LOS		A	A	A		C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		17.74	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 26: Latrobe/Wetsl-Oviatt

Control Type:	Two-way stop	Delay (sec / veh):	17.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.127

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Base Volume Input [veh/h]	0	306	465	20	27	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	49	14	25	14	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	355	479	45	41	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	89	120	11	10	1
Total Analysis Volume [veh/h]	3	355	479	45	41	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					Yes	
Storage Area [veh]	0		0		1	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.13	0.00
d_M, Delay for Movement [s/veh]	8.46	0.00	0.00	0.00	17.64	12.85
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.43	0.43
95th-Percentile Queue Length [ft/ln]	0.13	0.13	0.00	0.00	10.74	10.74
d_A, Approach Delay [s/veh]	0.07		0.00		17.41	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.84					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 27: Latrobe/S. Shingle

Control Type:	Two-way stop	Delay (sec / veh):	22.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.135

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Base Volume Input [veh/h]	0	185	66	45	288	40	10	37	2	47	20	84
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	0	14	-12	14	24	0	0	0	0	24
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	189	66	59	276	54	34	37	2	47	20	108
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	49	17	15	71	14	9	10	1	12	5	28
Total Analysis Volume [veh/h]	0	195	68	61	285	56	35	38	2	48	21	111
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free			Free			Stop			Stop		
Flared Lane							No			No		
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance							No			No		
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.05	0.00	0.00	0.14	0.11	0.00	0.16	0.06	0.14
d_M, Delay for Movement [s/veh]	7.96	0.00	0.00	7.84	0.00	0.00	22.82	19.40	13.86	20.67	19.27	13.30
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.11	0.11	0.11	0.96	0.96	0.96	1.59	1.59	1.59
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.72	2.72	2.72	24.02	24.02	24.02	39.76	39.76	39.76
d_A, Approach Delay [s/veh]	0.00			1.19			20.85			15.96		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	5.34											
Intersection LOS	C											

Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	693	1091	51	32
2	672	1058	49	31
3	658	1036	48	30
4	617	971	45	28
5	547	862	40	25
6	541	851	40	25
7	534	840	39	25
8	485	764	36	22
9	478	753	35	22
10	471	742	35	22
11	409	644	30	19
12	381	600	28	18
13	374	589	28	17
14	277	436	20	13
15	277	436	20	13
16	194	305	14	9
17	111	175	8	5
18	111	175	8	5
19	62	98	5	3
20	35	55	3	2
21	21	33	2	1
22	7	11	1	0
23	7	11	1	0
24	7	11	1	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1784	1	51	No	No	No	No	No	No	No	Yes	No	No
2	1	1730	1	49	No	No	No	No	No	No	No	Yes	No	No
3	1	1694	1	48	No	No	No	No	No	No	No	Yes	No	No
4	1	1588	1	45	No	No	No	No	No	No	No	Yes	No	No
5	1	1409	1	40	No	No	No	No	No	No	No	No	No	No
6	1	1392	1	40	No	No	No	No	No	No	No	No	No	No
7	1	1374	1	39	No	No	No	No	No	No	No	No	No	No
8	1	1249	1	36	No	No	No	No	No	No	No	No	No	No
9	1	1231	1	35	No	No	No	No	No	No	No	No	No	No
10	1	1213	1	35	No	No	No	No	No	No	No	No	No	No
11	1	1053	1	30	No	No	No	No	No	No	No	No	No	No
12	1	981	1	28	No	No	No	No	No	No	No	No	No	No
13	1	963	1	28	No	No	No	No	No	No	No	No	No	No
14	1	713	1	20	No	No	No	No	No	No	No	No	No	No
15	1	713	1	20	No	No	No	No	No	No	No	No	No	No
16	1	499	1	14	No	No	No	No	No	No	No	No	No	No
17	1	286	1	8	No	No	No	No	No	No	No	No	No	No
18	1	286	1	8	No	No	No	No	No	No	No	No	No	No
19	1	160	1	5	No	No	No	No	No	No	No	No	No	No
20	1	90	1	3	No	No	No	No	No	No	No	No	No	No
21	1	54	1	2	No	No	No	No	No	No	No	No	No	No
22	1	18	1	1	No	No	No	No	No	No	No	No	No	No
23	1	18	1	1	No	No	No	No	No	No	No	No	No	No
24	1	18	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	4	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	17.9	244.7
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:15	2:10
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	51	32
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1867	1867
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 12: Latrobe Rd/Royal Oaks Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	439	992	163	393
2	426	962	158	381
3	417	942	155	373
4	391	883	145	350
5	347	784	129	310
6	342	774	127	307
7	338	764	126	303
8	307	694	114	275
9	303	684	112	271
10	299	675	111	267
11	259	585	96	232
12	241	546	90	216
13	237	536	88	212
14	176	397	65	157
15	176	397	65	157
16	123	278	46	110
17	70	159	26	63
18	70	159	26	63
19	40	89	15	35
20	22	50	8	20
21	13	30	5	12
22	4	10	2	4
23	4	10	2	4
24	4	10	2	4

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1431	1	393	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	2	1388	1	381	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	2	1359	1	373	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	2	1274	1	350	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	2	1131	1	310	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	2	1116	1	307	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	2	1102	1	303	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	2	1001	1	275	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	2	987	1	271	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	2	974	1	267	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	2	844	1	232	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
12	2	787	1	216	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
13	2	773	1	212	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
14	2	573	1	157	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
15	2	573	1	157	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
16	2	401	1	110	No	No	No	Yes	No	No	No	No	No	No
17	2	229	1	63	No	No	No	No	No	No	No	No	No	No
18	2	229	1	63	No	No	No	No	No	No	No	No	No	No
19	2	129	1	35	No	No	No	No	No	No	No	No	No	No
20	2	72	1	20	No	No	No	No	No	No	No	No	No	No
21	2	43	1	12	No	No	No	No	No	No	No	No	No	No
22	2	14	1	4	No	No	No	No	No	No	No	No	No	No
23	2	14	1	4	No	No	No	No	No	No	No	No	No	No
24	2	14	1	4	No	No	No	No	No	No	No	No	No	No
Hours Met					13	15	15	16	10	13	13	15	15	13

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	280.2	2516.5
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	12:41	274:42
Delay Condition Met	Yes	Yes
Volume on Minor Street Approach During Same Hour	163	393
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	1987	1987
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	Yes	Yes
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 13: Golden Foothill/Robert J Mathews

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	1023	313	722
2	992	304	700
3	972	297	686
4	910	279	643
5	808	247	570
6	798	244	563
7	788	241	556
8	716	219	505
9	706	216	498
10	696	213	491
11	604	185	426
12	563	172	397
13	552	169	390
14	409	125	289
15	409	125	289
16	286	88	202
17	164	50	116
18	164	50	116
19	92	28	65
20	51	16	36
21	31	9	22
22	10	3	7
23	10	3	7
24	10	3	7

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1336	1	722	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1296	1	700	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1269	1	686	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1189	1	643	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	1055	1	570	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	1042	1	563	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1	1029	1	556	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	1	935	1	505	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	1	922	1	498	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	1	909	1	491	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	1	789	1	426	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	1	735	1	397	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
13	1	721	1	390	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
14	1	534	1	289	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
15	1	534	1	289	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
16	1	374	1	202	No	No	Yes	Yes	No	No	No	No	No	No
17	1	214	1	116	No	No	No	No	No	No	No	No	No	No
18	1	214	1	116	No	No	No	No	No	No	No	No	No	No
19	1	120	1	65	No	No	No	No	No	No	No	No	No	No
20	1	67	1	36	No	No	No	No	No	No	No	No	No	No
21	1	40	1	22	No	No	No	No	No	No	No	No	No	No
22	1	13	1	7	No	No	No	No	No	No	No	No	No	No
23	1	13	1	7	No	No	No	No	No	No	No	No	No	No
24	1	13	1	7	No	No	No	No	No	No	No	No	No	No
Hours Met					15	15	16	16	11	13	15	15	15	12

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	10000
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2005:33
Delay Condition Met	Yes
Volume on Minor Street Approach During Same Hour	722
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	2058
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	Yes
Warrant Met for Intersection	**Yes**

Signal Warrants Report For Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	324	448	226	42
2	314	435	219	41
3	308	426	215	40
4	288	399	201	37
5	256	354	179	33
6	253	349	176	33
7	249	345	174	32
8	227	314	158	29
9	224	309	156	29
10	220	305	154	29
11	191	264	133	25
12	178	246	124	23
13	175	242	122	23
14	130	179	90	17
15	130	179	90	17
16	91	125	63	12
17	52	72	36	7
18	52	72	36	7
19	29	40	20	4
20	16	22	11	2
21	10	13	7	1
22	3	4	2	0
23	3	4	2	0
24	3	4	2	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	772	1	226	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
2	1	749	1	219	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
3	1	734	1	215	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
4	1	687	1	201	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
5	1	610	1	179	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
6	1	602	1	176	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
7	1	594	1	174	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
8	1	541	1	158	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
9	1	533	1	156	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
10	1	525	1	154	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
11	1	455	1	133	No	Yes	Yes	Yes	No	No	No	Yes	No	No
12	1	424	1	124	No	Yes	Yes	Yes	No	No	No	Yes	No	No
13	1	417	1	122	No	Yes	Yes	Yes	No	No	No	No	No	No
14	1	309	1	90	No	No	No	Yes	No	No	No	No	No	No
15	1	309	1	90	No	No	No	Yes	No	No	No	No	No	No
16	1	216	1	63	No	No	No	No	No	No	No	No	No	No
17	1	124	1	36	No	No	No	No	No	No	No	No	No	No
18	1	124	1	36	No	No	No	No	No	No	No	No	No	No
19	1	69	1	20	No	No	No	No	No	No	No	No	No	No
20	1	38	1	11	No	No	No	No	No	No	No	No	No	No
21	1	23	1	7	No	No	No	No	No	No	No	No	No	No
22	1	7	1	2	No	No	No	No	No	No	No	No	No	No
23	1	7	1	2	No	No	No	No	No	No	No	No	No	No
24	1	7	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					10	13	13	15	1	6	10	12	4	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.3	10.9
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:01	0:07
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	226	42
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1040	1040
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	285	321	258
2	276	311	250
3	271	305	245
4	254	286	230
5	225	254	204
6	222	250	201
7	219	247	199
8	200	225	181
9	197	221	178
10	194	218	175
11	168	189	152
12	157	177	142
13	154	173	139
14	114	128	103
15	114	128	103
16	80	90	72
17	46	51	41
18	46	51	41
19	26	29	23
20	14	16	13
21	9	10	8
22	3	3	3
23	3	3	3
24	3	3	3

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	606	2	258	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
2	2	587	2	250	No	Yes	Yes	Yes	No	No	No	Yes	No	No
3	2	576	2	245	No	Yes	Yes	Yes	No	No	No	Yes	No	No
4	2	540	2	230	No	Yes	Yes	Yes	No	No	No	Yes	No	No
5	2	479	2	204	No	No	Yes	Yes	No	No	No	No	No	No
6	2	472	2	201	No	No	Yes	Yes	No	No	No	No	No	No
7	2	466	2	199	No	No	Yes	Yes	No	No	No	No	No	No
8	2	425	2	181	No	No	Yes	Yes	No	No	No	No	No	No
9	2	418	2	178	No	No	No	Yes	No	No	No	No	No	No
10	2	412	2	175	No	No	No	Yes	No	No	No	No	No	No
11	2	357	2	152	No	No	No	Yes	No	No	No	No	No	No
12	2	334	2	142	No	No	No	No	No	No	No	No	No	No
13	2	327	2	139	No	No	No	No	No	No	No	No	No	No
14	2	242	2	103	No	No	No	No	No	No	No	No	No	No
15	2	242	2	103	No	No	No	No	No	No	No	No	No	No
16	2	170	2	72	No	No	No	No	No	No	No	No	No	No
17	2	97	2	41	No	No	No	No	No	No	No	No	No	No
18	2	97	2	41	No	No	No	No	No	No	No	No	No	No
19	2	55	2	23	No	No	No	No	No	No	No	No	No	No
20	2	30	2	13	No	No	No	No	No	No	No	No	No	No
21	2	19	2	8	No	No	No	No	No	No	No	No	No	No
22	2	6	2	3	No	No	No	No	No	No	No	No	No	No
23	2	6	2	3	No	No	No	No	No	No	No	No	No	No
24	2	6	2	3	No	No	No	No	No	No	No	No	No	No
Hours Met					1	4	8	11	0	0	0	4	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	15.3
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:05
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	258
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	864
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 16: Carson Crossing Rd/Calypso Cir.

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	328	308	265
2	318	299	257
3	312	293	252
4	292	274	236
5	259	243	209
6	256	240	207
7	253	237	204
8	230	216	186
9	226	213	183
10	223	209	180
11	194	182	156
12	180	169	146
13	177	166	143
14	131	123	106
15	131	123	106
16	92	86	74
17	52	49	42
18	52	49	42
19	30	28	24
20	16	15	13
21	10	9	8
22	3	3	3
23	3	3	3
24	3	3	3

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	636	1	265	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
2	2	617	1	257	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
3	2	605	1	252	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
4	2	566	1	236	No	Yes	Yes	Yes	No	No	No	Yes	No	No
5	2	502	1	209	No	Yes	Yes	Yes	No	No	No	No	No	No
6	2	496	1	207	No	Yes	Yes	Yes	No	No	No	No	No	No
7	2	490	1	204	No	Yes	Yes	Yes	No	No	No	No	No	No
8	2	446	1	186	No	No	Yes	Yes	No	No	No	No	No	No
9	2	439	1	183	No	No	Yes	Yes	No	No	No	No	No	No
10	2	432	1	180	No	No	Yes	Yes	No	No	No	No	No	No
11	2	376	1	156	No	No	No	Yes	No	No	No	No	No	No
12	2	349	1	146	No	No	No	Yes	No	No	No	No	No	No
13	2	343	1	143	No	No	No	Yes	No	No	No	No	No	No
14	2	254	1	106	No	No	No	No	No	No	No	No	No	No
15	2	254	1	106	No	No	No	No	No	No	No	No	No	No
16	2	178	1	74	No	No	No	No	No	No	No	No	No	No
17	2	101	1	42	No	No	No	No	No	No	No	No	No	No
18	2	101	1	42	No	No	No	No	No	No	No	No	No	No
19	2	58	1	24	No	No	No	No	No	No	No	No	No	No
20	2	31	1	13	No	No	No	No	No	No	No	No	No	No
21	2	19	1	8	No	No	No	No	No	No	No	No	No	No
22	2	6	1	3	No	No	No	No	No	No	No	No	No	No
23	2	6	1	3	No	No	No	No	No	No	No	No	No	No
24	2	6	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					3	7	10	13	0	0	1	4	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	19.4
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:25
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	265
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	901
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 17: Carson Crossing Rd/Four Seasons Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	195	267	3
2	189	259	3
3	185	254	3
4	174	238	3
5	154	211	2
6	152	208	2
7	150	206	2
8	137	187	2
9	135	184	2
10	133	182	2
11	115	158	2
12	107	147	2
13	105	144	2
14	78	107	1
15	78	107	1
16	55	75	1
17	31	43	0
18	31	43	0
19	18	24	0
20	10	13	0
21	6	8	0
22	2	3	0
23	2	3	0
24	2	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	462	1	3	No	No	No	No	No	No	No	No	No	No
2	3	448	1	3	No	No	No	No	No	No	No	No	No	No
3	3	439	1	3	No	No	No	No	No	No	No	No	No	No
4	3	412	1	3	No	No	No	No	No	No	No	No	No	No
5	3	365	1	2	No	No	No	No	No	No	No	No	No	No
6	3	360	1	2	No	No	No	No	No	No	No	No	No	No
7	3	356	1	2	No	No	No	No	No	No	No	No	No	No
8	3	324	1	2	No	No	No	No	No	No	No	No	No	No
9	3	319	1	2	No	No	No	No	No	No	No	No	No	No
10	3	315	1	2	No	No	No	No	No	No	No	No	No	No
11	3	273	1	2	No	No	No	No	No	No	No	No	No	No
12	3	254	1	2	No	No	No	No	No	No	No	No	No	No
13	3	249	1	2	No	No	No	No	No	No	No	No	No	No
14	3	185	1	1	No	No	No	No	No	No	No	No	No	No
15	3	185	1	1	No	No	No	No	No	No	No	No	No	No
16	3	130	1	1	No	No	No	No	No	No	No	No	No	No
17	3	74	1	0	No	No	No	No	No	No	No	No	No	No
18	3	74	1	0	No	No	No	No	No	No	No	No	No	No
19	3	42	1	0	No	No	No	No	No	No	No	No	No	No
20	3	23	1	0	No	No	No	No	No	No	No	No	No	No
21	3	14	1	0	No	No	No	No	No	No	No	No	No	No
22	3	5	1	0	No	No	No	No	No	No	No	No	No	No
23	3	5	1	0	No	No	No	No	No	No	No	No	No	No
24	3	5	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	8
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	3
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	465
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 18: White Rock Rd/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	628	767	185	29
2	609	744	179	28
3	597	729	176	28
4	559	683	165	26
5	496	606	146	23
6	490	598	144	23
7	484	591	142	22
8	440	537	130	20
9	433	529	128	20
10	427	522	126	20
11	371	453	109	17
12	345	422	102	16
13	339	414	100	16
14	251	307	74	12
15	251	307	74	12
16	176	215	52	8
17	100	123	30	5
18	100	123	30	5
19	57	69	17	3
20	31	38	9	1
21	19	23	6	1
22	6	8	2	0
23	6	8	2	0
24	6	8	2	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1395	2	185	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
2	2	1353	2	179	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
3	2	1326	2	176	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
4	2	1242	2	165	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
5	2	1102	2	146	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
6	2	1088	2	144	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
7	2	1075	2	142	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
8	2	977	2	130	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
9	2	962	2	128	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
10	2	949	2	126	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
11	2	824	2	109	No	No	No	No	No	Yes	Yes	Yes	No	No
12	2	767	2	102	No	No	No	No	No	Yes	Yes	Yes	No	No
13	2	753	2	100	No	No	No	No	No	Yes	Yes	Yes	No	No
14	2	558	2	74	No	No	No	No	No	No	No	Yes	No	No
15	2	558	2	74	No	No	No	No	No	No	No	Yes	No	No
16	2	391	2	52	No	No	No	No	No	No	No	No	No	No
17	2	223	2	30	No	No	No	No	No	No	No	No	No	No
18	2	223	2	30	No	No	No	No	No	No	No	No	No	No
19	2	126	2	17	No	No	No	No	No	No	No	No	No	No
20	2	69	2	9	No	No	No	No	No	No	No	No	No	No
21	2	42	2	6	No	No	No	No	No	No	No	No	No	No
22	2	14	2	2	No	No	No	No	No	No	No	No	No	No
23	2	14	2	2	No	No	No	No	No	No	No	No	No	No
24	2	14	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	10	10	13	13	15	4	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	378.6	22.4
Number of Lanes on Minor Street Approach	2	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	19:27	0:10
Delay Condition Met	Yes	No
Volume on Minor Street Approach During Same Hour	185	29
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1609	1609
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	Yes	No
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 25: New Intersection

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	693	1074	0
2	672	1042	0
3	658	1020	0
4	617	956	0
5	547	848	0
6	541	838	0
7	534	827	0
8	485	752	0
9	478	741	0
10	471	730	0
11	409	634	0
12	381	591	0
13	374	580	0
14	277	430	0
15	277	430	0
16	194	301	0
17	111	172	0
18	111	172	0
19	62	97	0
20	35	54	0
21	21	32	0
22	7	11	0
23	7	11	0
24	7	11	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1767	1	0	No	No	No	No	No	No	No	No	No	No
2	1	1714	1	0	No	No	No	No	No	No	No	No	No	No
3	1	1678	1	0	No	No	No	No	No	No	No	No	No	No
4	1	1573	1	0	No	No	No	No	No	No	No	No	No	No
5	1	1395	1	0	No	No	No	No	No	No	No	No	No	No
6	1	1379	1	0	No	No	No	No	No	No	No	No	No	No
7	1	1361	1	0	No	No	No	No	No	No	No	No	No	No
8	1	1237	1	0	No	No	No	No	No	No	No	No	No	No
9	1	1219	1	0	No	No	No	No	No	No	No	No	No	No
10	1	1201	1	0	No	No	No	No	No	No	No	No	No	No
11	1	1043	1	0	No	No	No	No	No	No	No	No	No	No
12	1	972	1	0	No	No	No	No	No	No	No	No	No	No
13	1	954	1	0	No	No	No	No	No	No	No	No	No	No
14	1	707	1	0	No	No	No	No	No	No	No	No	No	No
15	1	707	1	0	No	No	No	No	No	No	No	No	No	No
16	1	495	1	0	No	No	No	No	No	No	No	No	No	No
17	1	283	1	0	No	No	No	No	No	No	No	No	No	No
18	1	283	1	0	No	No	No	No	No	No	No	No	No	No
19	1	159	1	0	No	No	No	No	No	No	No	No	No	No
20	1	89	1	0	No	No	No	No	No	No	No	No	No	No
21	1	53	1	0	No	No	No	No	No	No	No	No	No	No
22	1	18	1	0	No	No	No	No	No	No	No	No	No	No
23	1	18	1	0	No	No	No	No	No	No	No	No	No	No
24	1	18	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	17.7
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1767
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 26: Latrobe/Wetsl-Oviatt

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	358	524	43
2	347	508	42
3	340	498	41
4	319	466	38
5	283	414	34
6	279	409	34
7	276	403	33
8	251	367	30
9	247	362	30
10	243	356	29
11	211	309	25
12	197	288	24
13	193	283	23
14	143	210	17
15	143	210	17
16	100	147	12
17	57	84	7
18	57	84	7
19	32	47	4
20	18	26	2
21	11	16	1
22	4	5	0
23	4	5	0
24	4	5	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	882	1	43	No	No	No	No	No	No	No	Yes	No	No
2	1	855	1	42	No	No	No	No	No	No	No	Yes	No	No
3	1	838	1	41	No	No	No	No	No	No	No	No	No	No
4	1	785	1	38	No	No	No	No	No	No	No	No	No	No
5	1	697	1	34	No	No	No	No	No	No	No	No	No	No
6	1	688	1	34	No	No	No	No	No	No	No	No	No	No
7	1	679	1	33	No	No	No	No	No	No	No	No	No	No
8	1	618	1	30	No	No	No	No	No	No	No	No	No	No
9	1	609	1	30	No	No	No	No	No	No	No	No	No	No
10	1	599	1	29	No	No	No	No	No	No	No	No	No	No
11	1	520	1	25	No	No	No	No	No	No	No	No	No	No
12	1	485	1	24	No	No	No	No	No	No	No	No	No	No
13	1	476	1	23	No	No	No	No	No	No	No	No	No	No
14	1	353	1	17	No	No	No	No	No	No	No	No	No	No
15	1	353	1	17	No	No	No	No	No	No	No	No	No	No
16	1	247	1	12	No	No	No	No	No	No	No	No	No	No
17	1	141	1	7	No	No	No	No	No	No	No	No	No	No
18	1	141	1	7	No	No	No	No	No	No	No	No	No	No
19	1	79	1	4	No	No	No	No	No	No	No	No	No	No
20	1	44	1	2	No	No	No	No	No	No	No	No	No	No
21	1	27	1	1	No	No	No	No	No	No	No	No	No	No
22	1	9	1	0	No	No	No	No	No	No	No	No	No	No
23	1	9	1	0	No	No	No	No	No	No	No	No	No	No
24	1	9	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	2	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	17.4
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:12
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	43
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	925
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 27: Latrobe/S. Shingle

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

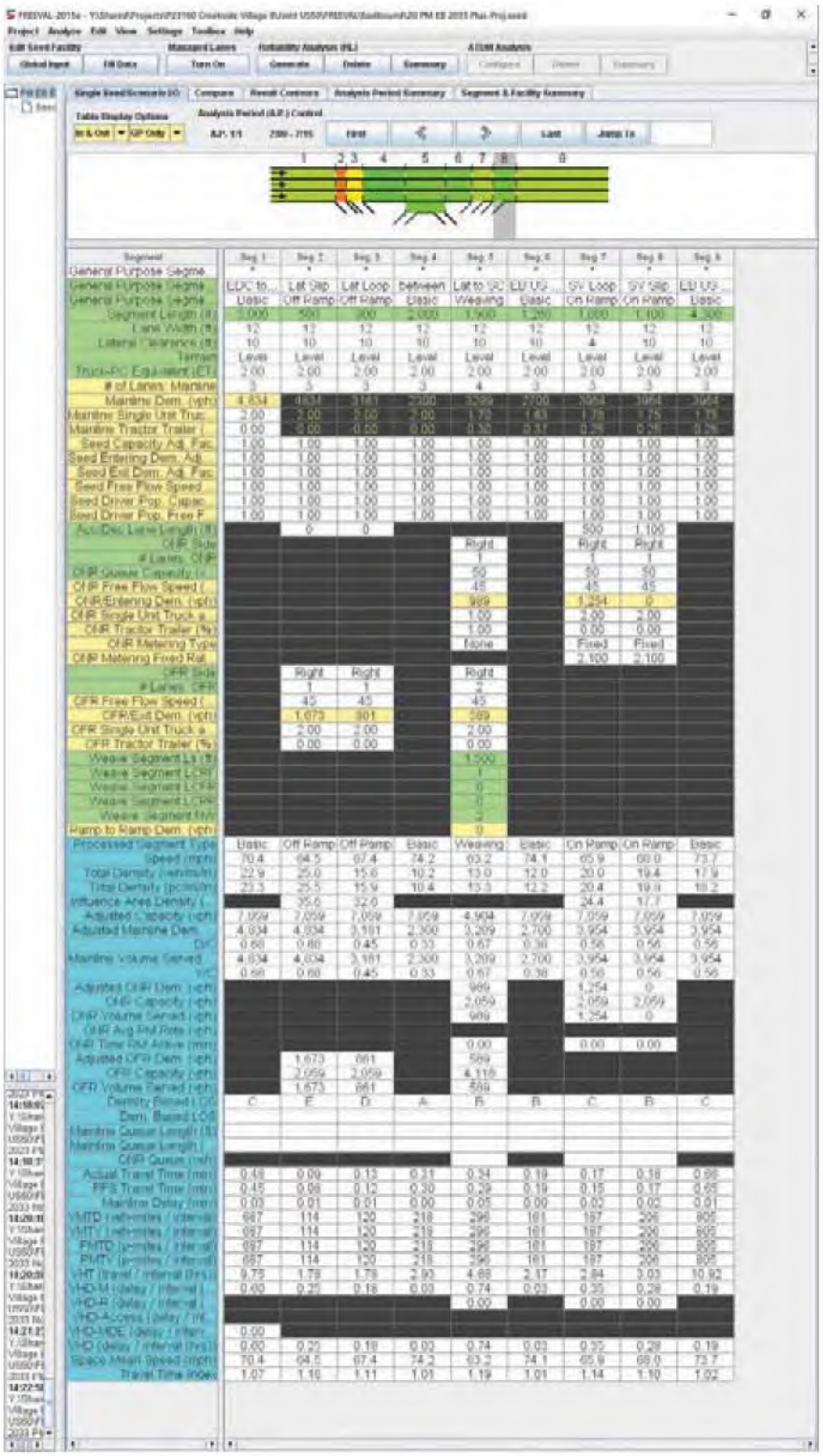
Hour	Major Streets		Minor Streets	
	S	N	E	W
1	255	389	175	73
2	247	377	170	71
3	242	370	166	69
4	227	346	156	65
5	201	307	138	58
6	199	303	137	57
7	196	300	135	56
8	179	272	122	51
9	176	268	121	50
10	173	265	119	50
11	150	230	103	43
12	140	214	96	40
13	138	210	95	39
14	102	156	70	29
15	102	156	70	29
16	71	109	49	20
17	41	62	28	12
18	41	62	28	12
19	23	35	16	7
20	13	19	9	4
21	8	12	5	2
22	3	4	2	1
23	3	4	2	1
24	3	4	2	1

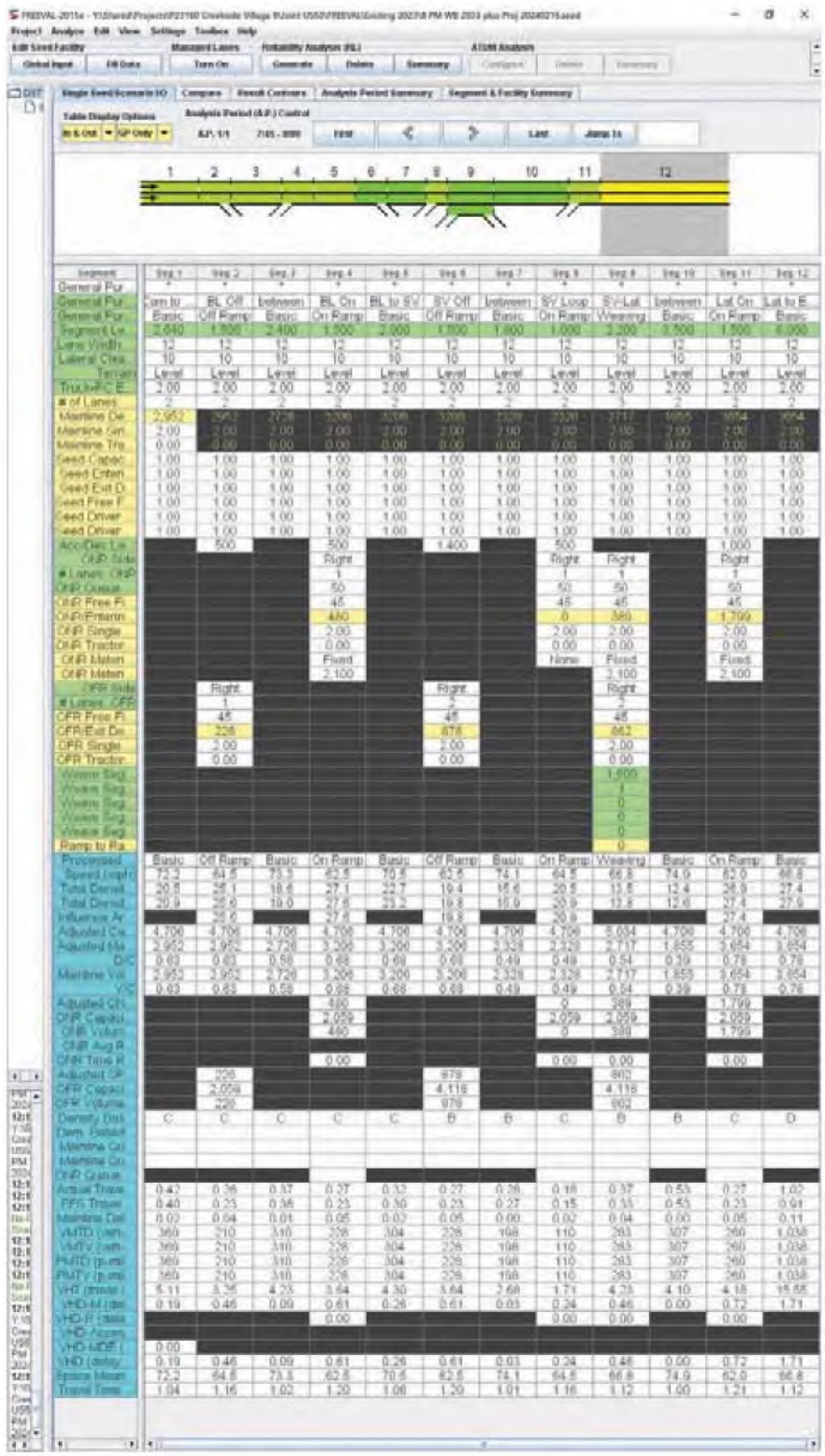
Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	644	1	175	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
2	1	624	1	170	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
3	1	612	1	166	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
4	1	573	1	156	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
5	1	508	1	138	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
6	1	502	1	137	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
7	1	496	1	135	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
8	1	451	1	122	No	Yes	Yes	Yes	No	No	No	Yes	No	No
9	1	444	1	121	No	Yes	Yes	Yes	No	No	No	Yes	No	No
10	1	438	1	119	No	No	Yes	Yes	No	No	No	Yes	No	No
11	1	380	1	103	No	No	No	Yes	No	No	No	No	No	No
12	1	354	1	96	No	No	No	Yes	No	No	No	No	No	No
13	1	348	1	95	No	No	No	Yes	No	No	No	No	No	No
14	1	258	1	70	No	No	No	No	No	No	No	No	No	No
15	1	258	1	70	No	No	No	No	No	No	No	No	No	No
16	1	180	1	49	No	No	No	No	No	No	No	No	No	No
17	1	103	1	28	No	No	No	No	No	No	No	No	No	No
18	1	103	1	28	No	No	No	No	No	No	No	No	No	No
19	1	58	1	16	No	No	No	No	No	No	No	No	No	No
20	1	32	1	9	No	No	No	No	No	No	No	No	No	No
21	1	20	1	5	No	No	No	No	No	No	No	No	No	No
22	1	7	1	2	No	No	No	No	No	No	No	No	No	No
23	1	7	1	2	No	No	No	No	No	No	No	No	No	No
24	1	7	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					4	9	10	13	0	3	4	10	7	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	16	20.8
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:46	0:25
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	175	73
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	892	892
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	





EPAP AM plus abated Project

Vistro File: C:\...\AM 918 DU 20240212 - ABATED.vistro Scenario 4 Abated 2033 AM with CCSP, + Project
Report File: C:\...\11 2033 AM plus abated Proj.pdf 2/14/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	SB Thru	1.293	123.7	F
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	NB Left	1.137	92.7	F
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	SB Left	1.017	42.2	D
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	NB Left	0.761	43.4	D
7	Latrobe Rd/Golden Foothill Pkwy N	Signalized	HCM 7th Edition	NB Right	0.962	43.4	D
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	WB Left	0.969	50.2	D
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	NB Left	0.980	13.8	B
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	EB Left	0.376	46.9	E
12	Latrobe Rd/Royal Oaks Dr	Signalized	HCM 6th Edition	SB Left	0.725	23.5	C
13	Golden Foothill/Robert J Mathews	Roundabout	HCM 6th Edition	EB Thru		8.3	A
18	White Rock Rd/Carson Crossing Rd	Signalized	HCM 6th Edition	EB Left	0.687	16.0	B
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 7th Edition	WB Thru	1.178	166.3	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Option 1: Copy of Latrobe Rd/US 50 EB

Number	4											
Intersection	Latrobe Rd/US 50 EB											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp	
Approach	Northbound			Southbound				Eastbound			Westbound	
Lane Configuration												
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	0	2219	463	0	520	1821	0	0	0	1266	0	0	528
Total Analysis Volume [veh/h]	0	2852	408	0	619	2124	0	0	0	1035	0	0	440

Intersection Settings

Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	50	0	0	39	50	0	0	0	45	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Minimum Recall		No			No	No				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

g / C, Green / Cycle	0.47	0.47	0.37	0.57	0.27	
(v / s)_i Volume / Saturation Flow Rate	0.48	0.47	0.35	0.31	0.25	
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	
Arrival type	3		3		3	3
s, saturation flow rate [veh/h]	5004	1718	1781	6702	4220	

s, saturation flow rate [veh/h]	5094	1718	1781	6792	4220	
c, Capacity [veh/h]	2401	810	659	3858	1152	
X, volume / capacity	1.02	1.01	0.94	0.55	0.90	
d, Delay for Lane Group [s/veh]	41.06	51.13	29.55	9.80	24.88	
Lane Group LOS	F	F	C	A	C	
Critical Lane Group	Yes	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	14.85	17.29	9.53	3.69	5.08	
50th-Percentile Queue Length [ft/ln]	371.27	432.34	238.32	92.34	126.94	
95th-Percentile Queue Length [veh/ln]	21.45	24.23	14.60	6.65	8.77	
95th-Percentile Queue Length [ft/ln]	536.28	605.67	364.91	166.21	219.32	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	42.49	51.13	29.55	29.55	9.80	0.00	0.00	0.00	24.88	0.00	0.00	0.00
Movement LOS		D	D	C	C	A				C			
Critical Movement		No	Yes	No	No	No				No			No
d_A, Approach Delay [s/veh]	43.57			14.26			24.88			0.00			
Approach LOS	D			B			C			A			
d_I, Intersection Delay [s/veh]	29.40												
Intersection LOS	C												
Intersection V/C	1.082												

Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	123.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.293

Intersection Setup

Name	El Dorado Hills Blvd			El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	500.00	100.00	100.00	500.0	100.0	100.0	300.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No			No		
Crosswalk	No			Yes				Yes			Yes		

Volumes

Name	El Dorado Hills Blvd			El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	414	988	150	1	218	1727	441	150	61	709	33	34	191
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	25	48	0	0	0	-14	0	0	0	-6	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	45	0	0	0	132	0	0	211	0	0	57
Total Hourly Volume [veh/h]	439	1036	105	1	218	1713	309	150	61	492	33	34	134
Peak Hour Factor	0.9300	0.9300	0.9300	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	118	278	28	0	59	460	83	40	16	132	9	9	36
Total Analysis Volume [veh/h]	472	1114	113	1	234	1842	332	161	66	529	35	37	144
Presence of On-Street Parking	No		No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0				0			0		
v_co, Outbound Pedestrian Volume crossing	0			0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0				0			0		
Bicycle Volume [bicycles/h]	0			0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	138
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Permi	Prote	Permi	Overl	Split	Split	Overlap	Split	Split	Split
Signal Group	5	2	0	0	1	6	7	7	7	5	3	8	0
Auxiliary Signal Groups							6,7			5,7			
Maximum Green [s]	32	50	0	0	32	50	24	24	24	32	0	16	0
Amber [s]	3.0	4.7	0.0	0.0	3.0	4.7	3.0	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	0	18	0	0	0	0	0	28	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.7	0.0	0.0	2.0	3.7	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	0.0	20.0	20.0	20.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	0.0	0.0	245.0	245.0	245.0	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	0.0	6.0	6.0	6.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	36	54	0	0	36	54	28	28	28	36	0	20	0
Lead / Lag	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	4	5	0	0	4	4	5	5	5	4	0	5	0
Vehicle Extension [s]	2.0	3.5	0.0	0.0	2.0	3.5	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No			No	No	No		No	No		No	
Maximum Recall	No	No			No	No	No		No	No		No	
Pedestrian Recall	No	No			No	No	No		No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Cycle Length [s]	140	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	4.00	4.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	32	62	62	20	50	80	24	24	80	16	16
g / C, Green / Cycle	0.23	0.44	0.44	0.15	0.36	0.57	0.17	0.17	0.57	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.27	0.23	0.23	0.13	0.52	0.21	0.06	0.06	0.33	0.04	0.11
s, saturation flow rate [veh/h]	1781	3560	1783	1781	3560	1589	1781	1831	1589	874	1640
c, Capacity [veh/h]	408	1567	785	262	1274	907	306	315	910	139	188
d1, Uniform Delay [s]	53.85	28.42	28.43	58.57	44.85	16.29	51.14	51.11	19.12	58.91	61.56
k, delay calibration	0.50	0.13	0.20	0.08	0.26	0.16	0.04	0.04	0.50	0.04	0.37
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	94.87	0.33	1.01	8.17	202.81	0.37	0.27	0.26	2.71	0.35	47.77
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.16	0.52	0.52	0.90	1.45	0.37	0.37	0.36	0.58	0.25	0.96
d, Delay for Lane Group [s/veh]	148.72	28.74	29.44	66.74	247.66	16.66	51.41	51.37	21.82	59.26	109.33
Lane Group LOS	F	C	C	E	F	B	D	D	C	E	F
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	24.69	9.69	9.87	8.60	57.08	5.59	3.53	3.60	11.55	1.18	8.90
50th-Percentile Queue Length [ft/ln]	617.37	242.22	246.75	214.95	1427.05	139.80	88.32	89.99	288.64	29.53	222.41
95th-Percentile Queue Length [veh/ln]	35.61	14.79	15.02	13.41	85.68	9.47	6.36	6.48	17.12	2.13	13.79
95th-Percentile Queue Length [ft/ln]	890.24	369.84	375.56	335.17	2141.91	236.75	158.98	161.98	427.96	53.16	344.70

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	148.72	28.93	29.44	66.74	66.74	247.6	16.66	51.41	51.37	21.82	59.26	109.33	109.33
Movement LOS	F	C	C	E	E	F	B	D	D	C	E	F	F
d_A, Approach Delay [s/veh]	62.24			198.17				30.70			101.22		
Approach LOS	E			F				C			F		
d_I, Intersection Delay [s/veh]	123.67												
Intersection LOS	F												
Intersection V/C	1.293												

Emissions

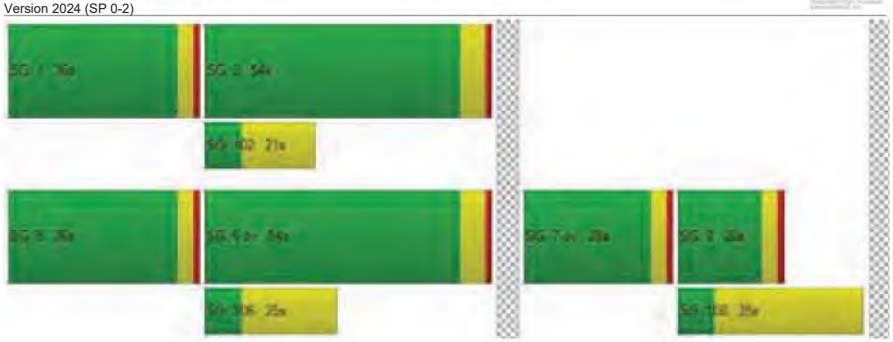
Vehicle Miles Traveled [mph]	88.83	153.79	77.12	56.13	439.93	79.29	7.01	7.15	32.99	1.71	8.83
Stops [stops/h]	636.38	499.35	254.34	221.57	2941.95	144.10	91.04	92.76	297.53	30.44	229.25
Fuel consumption [US gal/h]	25.24	16.26	8.26	7.87	144.47	5.64	1.97	2.00	5.35	0.66	5.66
CO [g/h]	1764.26	1136.57	577.43	550.11	10098.5	393.89	137.52	140.13	374.06	46.17	395.38
NOx [g/h]	343.26	221.13	112.35	107.03	1964.81	76.64	26.76	27.26	72.78	8.98	76.93
VOC [g/h]	408.88	263.41	133.82	127.49	2340.44	91.29	31.87	32.48	86.69	10.70	91.63

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	59.28	59.28	59.28
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.642	2.925	2.280
Crosswalk LOS	F	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	691	691	344	229
d_b, Bicycle Delay [s]	29.90	29.90	47.91	54.77
l_b,int, Bicycle LOS Score for Intersection	2.519	3.463	3.155	2.010
Bicycle LOS	B	C	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	92.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.137

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	500.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1417	1188	141	3	69	1353	1044	256	92	816	171	99	105
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	88	73	16	0	0	-20	0	0	0	-13	-4	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	47	0	0	0	313	0	0	241	0	0	32
Total Hourly Volume [veh/h]	1	1505	1261	110	3	69	1333	731	256	92	562	167	99	73
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	376	315	28	1	17	333	183	64	23	141	42	25	18
Total Analysis Volume [veh/h]	1	1505	1261	110	3	69	1333	731	256	92	562	167	99	73
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	134
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	37	62	0	0	14	39	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	45	68	0	0	19	42	28	0	28	0	0	20	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Cycle Length [s]	135	135	135	135	135	135	135	135	135	135	135
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	40	69	69	7	36	69	27	27	11	11	11
g / C, Green / Cycle	0.30	0.51	0.51	0.06	0.27	0.51	0.20	0.20	0.08	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.44	0.25	0.26	0.04	0.26	0.46	0.10	0.10	0.06	0.06	0.07
s, saturation flow rate [veh/h]	3459	3560	1796	1781	5094	1589	1781	1826	1781	1828	1673
c, Capacity [veh/h]	1035	1826	921	99	1372	808	359	368	144	148	136
d1, Uniform Delay [s]	33.83	5.40	5.44	62.73	48.82	30.19	47.64	47.63	60.88	60.84	60.99
k, delay calibration	0.21	0.50	0.50	0.04	0.50	0.50	0.08	0.08	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	207.07	0.95	2.03	3.75	18.44	15.49	0.74	0.72	3.58	3.33	4.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.46	0.49	0.51	0.73	0.97	0.90	0.48	0.48	0.79	0.78	0.81
d, Delay for Lane Group [s/veh]	240.91	6.35	7.47	66.48	67.26	45.68	48.38	48.35	64.46	64.17	65.26
Lane Group LOS	F	A	A	E	E	D	D	D	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	44.21	2.48	2.87	2.49	16.70	23.59	5.22	5.34	3.98	4.03	3.87
50th-Percentile Queue Length [ft/ln]	1105.27	62.04	71.85	62.33	417.49	589.81	130.52	133.50	99.56	100.80	96.66
95th-Percentile Queue Length [veh/ln]	67.10	4.47	5.17	4.49	23.40	31.56	8.97	9.13	7.17	7.26	6.96
95th-Percentile Queue Length [ft/ln]	1677.54	111.67	129.33	112.20	585.04	788.96	224.19	228.25	179.21	181.43	173.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	240.9	240.9	6.67	7.47	66.48	66.48	67.26	45.68	48.37	48.35	0.00	64.37	64.57	65.26
Movement LOS	F	F	A	A	E	E	E	D	D	D		E	E	E
d_A, Approach Delay [s/veh]	129.32				59.85				18.50			64.62		
Approach LOS	F				E				B			E		
d_I, Intersection Delay [s/veh]	92.67													
Intersection LOS	F													
Intersection V/C	1.137													

Emissions

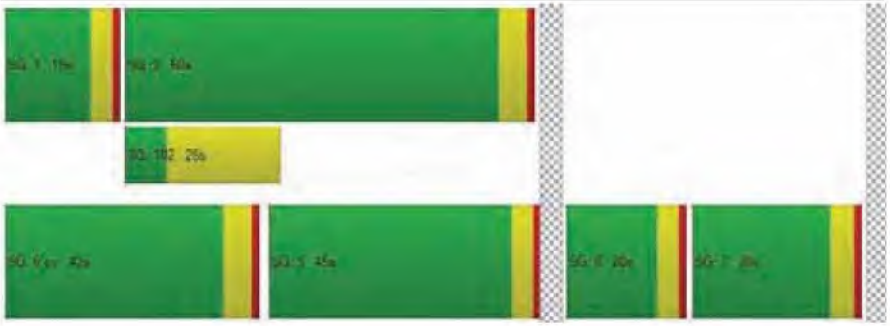
Vehicle Miles Traveled [mph]	257.93	154.08	80.73	13.55	250.86	137.57	7.95	8.14	3.62	3.67	3.49
Stops [stops/h]	2357.90	132.35	76.64	66.49	1335.98	629.13	139.22	142.40	106.20	107.51	103.11
Fuel consumption [US gal/h]	97.46	8.24	4.46	2.27	43.45	19.33	2.79	2.85	2.23	2.25	2.17
CO [g/h]	6812.47	575.74	312.00	158.33	3037.40	1351.32	194.99	199.47	155.76	157.54	151.63
NOx [g/h]	1325.46	112.02	60.70	30.80	590.97	262.92	37.94	38.81	30.30	30.65	29.50
VOC [g/h]	1578.86	133.43	72.31	36.69	703.95	313.18	45.19	46.23	36.10	36.51	35.14

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0				0.0				0.0				11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00				0.00				0.00				0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00				0.00				0.00				0.00	
d_p, Pedestrian Delay [s]	0.00				0.00				0.00				56.95	
l_p,int, Pedestrian LOS Score for Intersectio	0.000				0.000				0.000				2.364	
Crosswalk LOS	F				F				F				B	
s_b, Saturation Flow Rate of the bicycle lane	2000				2000				2000				2000	
c_b, Capacity of the bicycle lane [bicycles/h]	921				536				339				228	
d_b, Bicycle Delay [s]	19.63				36.15				46.54				52.98	
l_b,int, Bicycle LOS Score for Intersection	3.167				2.869				2.134				1.866	
Bicycle LOS	C				C				B				A	

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	42.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.017

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	68	1965	251	4	537	2174	372	156	9	24	1	72	32	557
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	204	19	0	0	-62	0	0	0	0	0	-2	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	81	0	0	0	112	0	0	7	0	0	0	167
Total Hourly Volume [veh/h]	1	74	2169	189	4	537	2112	260	156	9	17	1	70	32	390
Peak Hour Factor	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.9800	0.9800	0.9800	0.980	0.980	0.980	0.980
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	19	553	48	1	137	539	66	40	2	4	0	18	8	99
Total Analysis Volume [veh/h]	1	76	2213	193	4	548	2155	265	159	9	17	1	71	33	398
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	123
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	5	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	50	0	15	15	50	0	15	20	0	0	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	3.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.5	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	1.5	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	245.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	19	19	56	0	19	24	0	0	19	19	0
Lead / Lag	-	Lead	-	-	Lead	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	4	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	No			No	No			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	104	104	104	104	104	104	104	104	104	104	104	104
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	4	50	50	15	61	61	8	8	8	15	15	15
g / C, Green / Cycle	0.04	0.48	0.48	0.14	0.59	0.59	0.07	0.07	0.07	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.02	0.48	0.13	0.18	0.47	0.19	0.05	0.01	0.01	0.04	0.15	0.15
s, saturation flow rate [veh/h]	3113	4584	1431	3113	4584	1431	3113	1683	1431	1603	1464	1431
c, Capacity [veh/h]	127	2214	691	451	2691	840	227	123	104	232	212	207
d1, Uniform Delay [s]	48.86	26.77	16.01	44.30	16.68	10.85	46.91	44.75	45.05	39.67	44.30	44.30
k, delay calibration	0.04	0.04	0.04	0.09	0.04	0.04	0.08	0.08	0.08	0.08	0.45	0.45
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.72	5.29	0.08	105.05	0.22	0.08	2.89	0.19	0.54	0.56	65.94	66.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.61	1.00	0.28	1.22	0.80	0.32	0.70	0.07	0.16	0.31	1.03	1.03
d, Delay for Lane Group [s/veh]	50.59	32.06	16.09	149.36	16.90	10.93	49.80	44.94	45.58	40.23	110.24	110.93
Lane Group LOS	D	C	B	F	B	B	D	D	D	D	F	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.01	18.17	2.69	12.29	12.21	2.94	2.08	0.22	0.42	1.67	9.26	9.09
50th-Percentile Queue Length [ft/ln]	25.15	454.22	67.20	307.37	305.31	73.40	52.11	5.54	10.62	41.81	231.53	227.26
95th-Percentile Queue Length [veh/ln]	1.81	25.16	4.84	19.64	17.94	5.28	3.75	0.40	0.76	3.01	14.44	14.22
95th-Percentile Queue Length [ft/ln]	45.28	628.98	120.97	490.90	448.60	132.12	93.79	9.97	19.12	75.26	360.88	355.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.59	50.59	32.06	16.09	149.3	149.3	16.90	10.93	49.80	44.94	45.58	40.23	40.23	110.2	110.6
Movement LOS	D	D	C	B	F	F	B	B	D	D	D	D	D	F	F
d_A, Approach Delay [s/veh]	31.40				40.97				49.18			100.51			
Approach LOS	C				D				D			F			
d_I, Intersection Delay [s/veh]	42.22														
Intersection LOS	D														
Intersection V/C	1.017														

Emissions

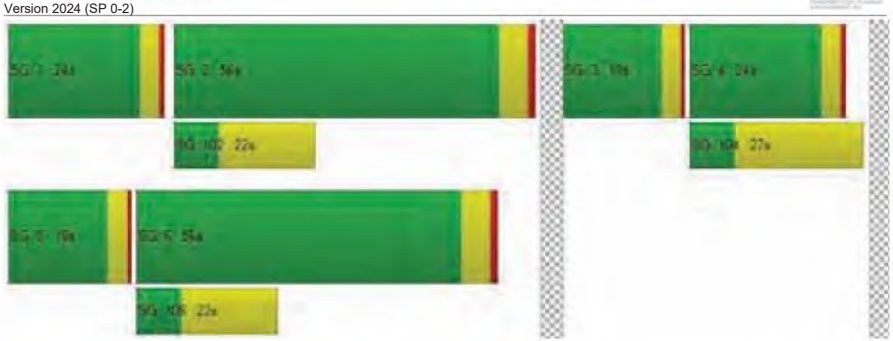
Vehicle Miles Traveled [mph]	17.18	493.89	43.07	79.87	311.82	38.34	20.28	1.15	2.17	25.27	76.50	74.77
Stops [stops/h]	69.98	1895.34	93.47	855.07	1274.01	102.09	144.96	7.70	14.77	58.15	322.04	316.10
Fuel consumption [US gal/h]	1.89	45.24	2.92	24.79	27.29	2.73	3.25	0.17	0.33	1.95	9.82	9.63
CO [g/h]	131.88	3162.47	204.21	1732.59	1907.29	190.97	226.97	12.03	22.97	136.37	686.27	673.31
NOx [g/h]	25.66	615.30	39.73	337.10	371.09	37.16	44.16	2.34	4.47	26.53	133.52	131.00
VOC [g/h]	30.56	732.93	47.33	401.54	442.03	44.26	52.60	2.79	5.32	31.61	159.05	156.05

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.35	0.00	41.35	41.35
l_p,int, Pedestrian LOS Score for Intersectio	3.493	0.000	2.580	2.837
Crosswalk LOS	C	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	976	976	396	299
d_b, Bicycle Delay [s]	13.58	13.58	33.29	37.42
l_b,int, Bicycle LOS Score for Intersection	2.969	2.954	1.718	2.548
Bicycle LOS	C	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	43.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.761

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	3	2	0	0	1	2	0	0	0	3	0	0
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	260.0	100.0	100.0	260.0	360.0	100.0	100.0	100.0	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	2	121	1681	388	1	95	1737	444	2	355	391	78	425	318	248
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	229	57	0	0	-64	0	0	0	0	0	-17	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	134	0	0	0	133	0	0	0	23	0	0	74
Total Hourly Volume [veh/h]	2	121	1910	311	1	95	1673	311	2	355	391	55	408	318	174
Peak Hour Factor	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	0.9400	0.9400	0.9400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	32	508	83	0	25	445	83	1	94	104	15	109	85	46
Total Analysis Volume [veh/h]	2	129	2032	331	1	101	1780	331	2	378	416	59	434	338	185
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	157
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups															
Maximum Green [s]	0	15	45	0	0	25	45	0	0	30	25	0	20	35	0
Amber [s]	0.0	4.0	4.7	0.0	0.0	4.0	4.7	0.0	0.0	4.5	4.7	0.0	4.5	4.7	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	39	0	0	0	37	0	0	0	48	0	0	50	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	3.7	0.0	0.0	3.0	3.7	0.0	0.0	4.0	3.7	0.0	4.0	3.7	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	19	51	0	0	29	51	0	0	36	31	0	26	41	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	7	0	0	10	7	0	0	10	10	0	10	10	0
Vehicle Extension [s]	0.0	1.5	3.0	0.0	0.0	1.5	3.0	0.0	0.0	1.5	2.0	0.0	1.5	2.0	0.0
Minimum Recall		No	Yes			No	Yes			No	No		No	No	
Maximum Recall		No	No			No	No			No	No		No	No	
Pedestrian Recall		No	No			No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	157	157	157	157	157	157	157	157	157	157	157	157
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	6.00	5.70	5.70	6.00	5.70	5.70
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	4.00	3.70	3.70	4.00	3.70	3.70
g_i, Effective Green Time [s]	13	82	82	10	79	79	20	23	23	20	23	23
g / C, Green / Cycle	0.09	0.52	0.52	0.06	0.50	0.50	0.12	0.14	0.14	0.13	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.07	0.30	0.21	0.03	0.35	0.21	0.11	0.13	0.13	0.13	0.10	0.12
s, saturation flow rate [veh/h]	1767	6737	1577	3431	5053	1577	3431	1855	1775	3431	3532	1577
c, Capacity [veh/h]	151	3520	824	218	2529	789	427	267	255	437	518	231
d1, Uniform Delay [s]	70.87	25.63	22.65	70.93	30.25	24.80	67.65	66.21	66.22	68.43	63.22	64.77
k, delay calibration	0.17	0.50	0.50	0.04	0.50	0.50	0.04	0.23	0.23	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	20.03	0.70	1.46	0.58	1.67	1.64	2.57	20.82	21.61	10.67	0.52	2.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.58	0.40	0.47	0.70	0.42	0.89	0.91	0.91	0.99	0.65	0.80
d, Delay for Lane Group [s/veh]	90.91	26.32	24.11	71.51	31.92	26.43	70.22	87.03	87.83	79.10	63.74	67.21
Lane Group LOS	F	C	C	E	C	C	E	F	F	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.08	13.20	7.84	1.98	17.07	7.99	7.69	11.16	10.75	9.38	6.46	7.35
50th-Percentile Queue Length [ft/ln]	151.91	330.00	195.97	49.43	426.80	199.70	192.37	279.09	268.70	234.62	161.38	183.85
95th-Percentile Queue Length [veh/ln]	10.12	19.16	12.43	3.56	23.85	12.62	12.24	16.64	16.12	14.41	10.62	11.80
95th-Percentile Queue Length [ft/ln]	252.98	478.97	310.76	88.98	596.21	315.58	306.10	416.08	403.12	360.23	265.55	295.03

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	90.91	90.91	26.32	24.11	71.51	71.51	31.92	26.43	70.22	70.22	87.36	87.83	79.10	63.74	67.21
Movement LOS	F	F	C	C	E	E	C	C	E	E	F	F	E	E	E
d_A, Approach Delay [s/veh]	29.42				32.92				79.78				71.38		
Approach LOS	C				C				E				E		
d_I, Intersection Delay [s/veh]	43.37														
Intersection LOS	D														
Intersection V/C	0.761														

Emissions

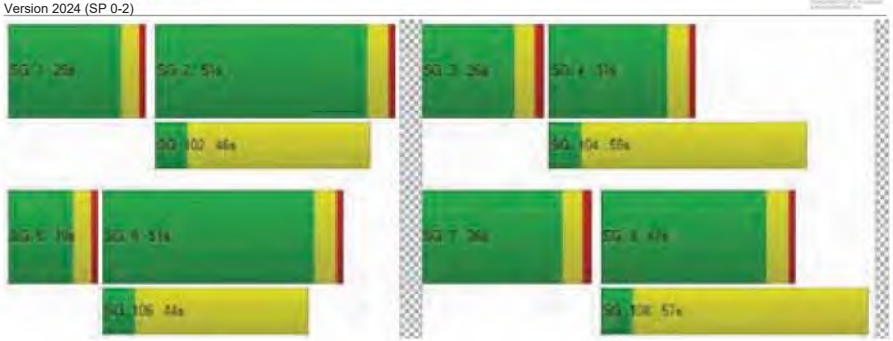
Vehicle Miles Traveled [mph]	52.16	809.00	131.78	22.76	397.26	73.87	94.70	60.47	57.91	45.50	35.44	19.40
Stops [stops/h]	139.33	1210.71	179.75	90.68	1174.39	183.17	352.88	255.98	246.45	430.39	296.03	168.62
Fuel consumption [US gal/h]	5.34	50.88	8.04	3.39	39.78	6.59	11.28	8.20	7.90	11.24	7.48	4.26
CO [g/h]	373.26	3556.32	562.15	237.09	2780.57	460.65	788.30	573.16	552.08	785.37	522.72	297.77
NOx [g/h]	72.62	691.93	109.37	46.13	541.00	89.62	153.37	111.52	107.41	152.80	101.70	57.94
VOC [g/h]	86.51	824.21	130.28	54.95	644.42	106.76	182.70	132.84	127.95	182.02	121.15	69.01

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	67.89	67.89	67.89	67.89
l_p,int, Pedestrian LOS Score for Intersectio	3.600	3.916	2.806	3.006
Crosswalk LOS	D	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	577	577	322	450
d_b, Bicycle Delay [s]	39.74	39.74	55.24	47.17
l_b,int, Bicycle LOS Score for Intersection	2.643	2.794	1.972	2.410
Bicycle LOS	B	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	43.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.962

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	100.0	200.0	100.0	100.0	180.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	57	1777	2	2	18	1704	532	257	5	15	4	9	15
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	286	0	0	0	-81	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	1	0	0	0	160	0	0	5	0	0	5
Total Hourly Volume [veh/h]	1	57	2063	1	2	18	1623	372	257	5	10	4	9	10
Peak Hour Factor	1.000	0.870	0.870	0.870	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	16	593	0	1	5	466	107	74	1	3	1	3	3
Total Analysis Volume [veh/h]	1	66	2371	1	2	21	1866	428	295	6	11	5	10	11
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	112
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	12	40	0	0	15	40	0	0	20	0	0	20	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	12	0	0	0	20	0	0	20	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	245.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	0	0	18	46	0	0	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	73	73	73	73	73	73	73	73	73
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	43	43	1	40	40	9	9	2
g / C, Green / Cycle	0.05	0.59	0.59	0.02	0.55	0.55	0.12	0.12	0.03
(v / s)_i Volume / Saturation Flow Rate	0.04	0.63	0.63	0.01	0.52	0.27	0.09	0.09	0.02
s, saturation flow rate [veh/h]	1781	1870	1870	1781	3560	1589	1781	1769	1725
c, Capacity [veh/h]	93	1093	1093	29	1954	872	219	217	51
d1, Uniform Delay [s]	34.04	15.14	15.14	35.72	15.59	10.15	30.74	30.75	34.85
k, delay calibration	0.04	0.50	0.50	0.04	0.15	0.15	0.11	0.11	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.98	53.40	53.46	16.02	4.85	0.61	4.33	4.37	2.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.72	1.09	1.09	0.79	0.95	0.49	0.72	0.72	0.51
d, Delay for Lane Group [s/veh]	38.01	68.54	68.60	51.75	20.43	10.76	35.07	35.11	37.79
Lane Group LOS	D	F	F	D	C	B	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.24	30.64	30.65	0.50	11.26	3.12	2.81	2.80	0.48
50th-Percentile Queue Length [ft/ln]	30.88	765.93	766.27	12.47	281.38	77.93	70.24	69.89	12.08
95th-Percentile Queue Length [veh/ln]	2.22	42.43	42.45	0.90	16.76	5.61	5.06	5.03	0.87
95th-Percentile Queue Length [ft/ln]	55.58	1060.81	1061.35	22.45	418.92	140.28	126.43	125.81	21.74

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.01	38.01	68.57	68.60	51.75	51.75	20.43	10.76	35.09	35.11	35.11	37.79	37.79	37.79
Movement LOS	D	D	F	E	D	D	C	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	67.73				18.96				35.09			37.79		
Approach LOS	E				B				D			D		
d_I, Intersection Delay [s/veh]	43.40													
Intersection LOS	D													
Intersection V/C	0.962													

Emissions

Vehicle Miles Traveled [mph]	23.71	419.68	419.68	9.16	742.91	170.40	37.68	37.46	0.49
Stops [stops/h]	61.15	1516.74	1517.42	24.70	1114.40	154.33	139.10	138.41	23.92
Fuel consumption [US gal/h]	1.83	42.20	42.22	1.01	53.31	9.50	3.44	3.42	0.35
CO [g/h]	128.06	2949.60	2950.88	70.41	3726.45	664.34	240.19	238.93	24.64
NOx [g/h]	24.92	573.88	574.13	13.70	725.03	129.26	46.73	46.49	4.79
VOC [g/h]	29.68	683.60	683.89	16.32	863.64	153.97	55.67	55.37	5.71

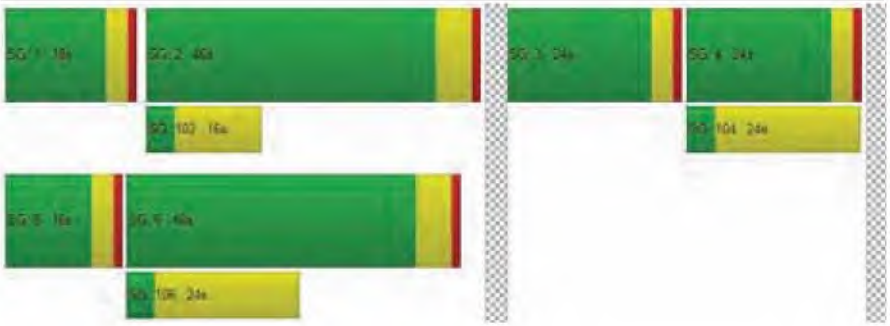
Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	28.80	0.00	28.80	28.80
l_p,int, Pedestrian LOS Score for Intersectio	3.137	0.000	2.258	1.743
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1100	1100	550	550
d_b, Bicycle Delay [s]	7.36	7.36	19.11	19.11
l_b,int, Bicycle LOS Score for Intersection	3.572	3.586	2.083	1.611
Bicycle LOS	D	D	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	50.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.969

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	24.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	260.00	100.00	200.00	530.00	100.00	300.00	100.00	100.00	200.00	250.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	53	773	21	249	386	750	514	69	78	136	241	520
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	4	0	100	0	0	0	0	17	0	0
Site-Generated Trips [veh/h]	91	333	38	0	64	-145	-35	-6	16	2	-25	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	19	0	0	182	0	0	28	0	0	156
Total Hourly Volume [veh/h]	144	1106	44	249	550	423	479	63	66	155	216	364
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	311	12	70	154	119	135	18	19	44	61	102
Total Analysis Volume [veh/h]	162	1243	49	280	618	475	538	71	74	174	243	409
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	5	2	0	1	6	3	3	8	0	7	4	1
Auxiliary Signal Groups						3,6						1,4
Maximum Green [s]	30	45	0	25	40	25	25	31	0	20	26	25
Amber [s]	3.0	4.0	0.0	3.0	4.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	2.0	0.0	1.0	2.0	1.0	1.0	2.0	0.0	1.0	2.0	1.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	31	0	0	31	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	2.0	4.0	2.0	2.0	3.0	0.0	2.0	3.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	20.0	20.0	20.0	0.0	20.0	20.0	20.0
Advanced Detector Location [ft]	245.0	245.0	0.0	245.0	245.0	245.0	245.0	245.0	0.0	245.0	245.0	245.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	6.0	6.0	6.0	0.0	6.0	6.0	6.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	9	9	0	0	0	9	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lag	-	-
Minimum Green [s]	5	5	0	5	5	5	5	5	0	5	5	5
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0
Minimum Recall	No	No		No	No	No	No	No		No	No	No
Maximum Recall	No	No		No	No	No	No	No		No	No	No
Pedestrian Recall	No	No		No	No	No	No	No		No	No	No

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Cycle Length [s]	133	133	133	133	133	133	133	133	133	133	133
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	4.00	4.00	5.00	4.00	5.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	0.00	2.00	3.00	2.00	3.00	0.00
g_i, Effective Green Time [s]	14	45	45	25	56	85	23	29	15	20	50
g / C, Green / Cycle	0.11	0.34	0.34	0.19	0.42	0.64	0.18	0.22	0.11	0.15	0.38
(v / s)_i Volume / Saturation Flow Rate	0.09	0.35	0.03	0.16	0.17	0.30	0.16	0.08	0.10	0.13	0.26
s, saturation flow rate [veh/h]	1781	3560	1653	1781	3560	1589	3459	1715	1781	1870	1589
c, Capacity [veh/h]	191	1207	560	335	1495	1021	613	372	201	285	601
d1, Uniform Delay [s]	58.20	43.89	29.90	51.90	27.03	12.10	53.21	44.47	57.91	54.82	34.55
k, delay calibration	0.11	0.11	0.11	0.32	0.11	0.50	0.11	0.11	0.18	0.18	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.91	20.74	0.07	14.62	0.18	1.52	4.21	0.67	16.28	11.40	6.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.85	1.03	0.09	0.84	0.41	0.47	0.88	0.39	0.87	0.85	0.68
d, Delay for Lane Group [s/veh]	68.12	64.63	29.97	66.53	27.21	13.63	57.41	45.14	74.19	66.23	40.66
Lane Group LOS	E	F	C	E	C	B	E	D	E	E	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.88	23.07	1.09	10.34	6.94	7.40	9.10	4.19	6.66	8.82	12.05
50th-Percentile Queue Length [ft/ln]	146.91	576.74	27.36	258.51	173.59	184.96	227.55	104.63	166.45	220.57	301.19
95th-Percentile Queue Length [veh/ln]	9.85	31.58	1.97	15.61	11.27	11.86	14.05	7.53	10.89	13.69	17.74
95th-Percentile Queue Length [ft/ln]	246.30	789.59	49.25	390.35	281.63	296.48	351.25	188.34	272.25	342.35	443.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	68.12	64.63	29.97	66.53	27.21	13.63	57.41	45.14	45.14	74.19	66.23	40.66
Movement LOS	E	F	C	E	C	B	E	D	D	E	E	D
d_A, Approach Delay [s/veh]	63.85			30.53			54.81			55.24		
Approach LOS	E			C			D			E		
d_I, Intersection Delay [s/veh]	50.24											
Intersection LOS	D											
Intersection V/C	0.969											

Emissions

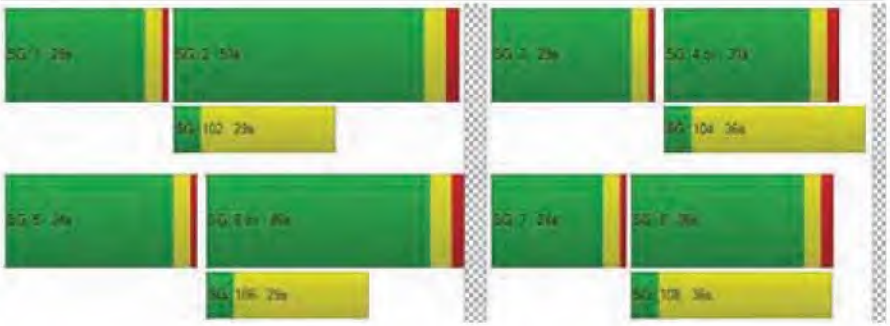
Vehicle Miles Traveled [mph]	93.40	716.64	28.25	195.70	431.94	331.99	40.44	10.90	19.40	27.09	45.60
Stops [stops/h]	159.46	1252.00	29.70	280.59	376.84	200.75	493.98	113.57	180.67	239.41	326.92
Fuel consumption [US gal/h]	6.97	52.77	1.63	13.40	23.29	16.09	10.68	2.41	4.42	5.71	7.07
CO [g/h]	487.28	3688.29	113.65	936.42	1627.66	1124.92	746.46	168.31	309.21	399.31	493.99
NOx [g/h]	94.81	717.61	22.11	182.19	316.68	218.87	145.23	32.75	60.16	77.69	96.11
VOC [g/h]	112.93	854.80	26.34	217.02	377.23	260.71	173.00	39.01	71.66	92.54	114.49

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	57.64	57.64	57.64	57.64
l_p,int, Pedestrian LOS Score for Intersectio	2.884	3.366	2.623	2.714
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	678	603	467	392
d_b, Bicycle Delay [s]	28.97	32.36	38.96	42.88
l_b,int, Bicycle LOS Score for Intersection	2.775	2.842	2.733	3.180
Bicycle LOS	C	C	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	13.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.980

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	122	575	254	291	262	88
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	27	0	1	130	0	0
Site-Generated Trips [veh/h]	-14	498	229	-148	-36	-4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	135	1073	484	273	226	84
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	298	134	76	63	23
Total Analysis Volume [veh/h]	150	1192	538	303	251	93
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	16	54	34	0	56	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	14	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	20	60	40	0	60	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C
C, Cycle Length [s]	48	48	48	48	48	48
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	5	32	23	23	7	7
g / C, Green / Cycle	0.11	0.65	0.46	0.46	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.08	0.64	0.29	0.19	0.10	0.10
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1669
c, Capacity [veh/h]	193	1225	869	739	247	232
d1, Uniform Delay [s]	21.10	7.96	9.78	8.60	20.01	20.02
k, delay calibration	0.04	0.07	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.54	5.25	0.27	0.14	1.45	1.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.97	0.62	0.41	0.72	0.72
d, Delay for Lane Group [s/veh]	23.64	13.21	10.05	8.74	21.46	21.59
Lane Group LOS	C	B	B	A	C	C
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.45	3.85	2.48	1.22	1.81	1.72
50th-Percentile Queue Length [ft/ln]	36.15	96.18	61.94	30.59	45.36	42.94
95th-Percentile Queue Length [veh/ln]	2.60	6.93	4.46	2.20	3.27	3.09
95th-Percentile Queue Length [ft/ln]	65.06	173.13	111.49	55.07	81.65	77.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.64	13.21	10.05	8.74	21.50	21.59
Movement LOS	C	B	B	A	C	C
d_A, Approach Delay [s/veh]	14.38		9.58		21.52	
Approach LOS	B		A		C	
d_I, Intersection Delay [s/veh]	13.75					
Intersection LOS	B					
Intersection V/C	0.980					

Emissions

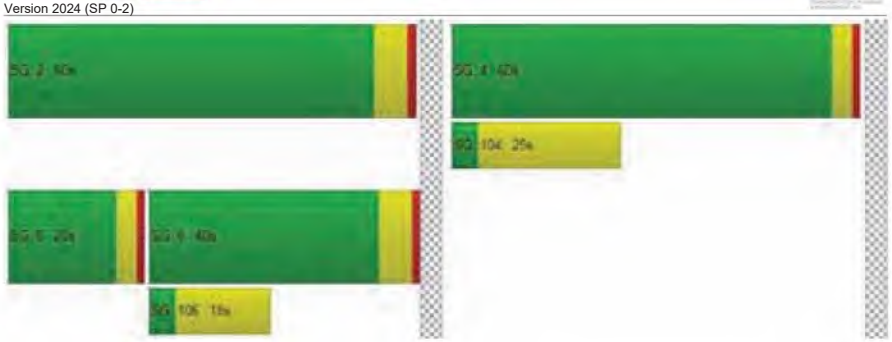
Vehicle Miles Traveled [mph]	18.51	147.07	310.18	174.69	41.60	39.19
Stops [stops/h]	107.32	285.59	183.92	90.83	134.68	127.49
Fuel consumption [US gal/h]	3.33	13.43	14.89	8.07	3.23	3.05
CO [g/h]	233.07	938.68	1040.96	564.08	225.80	213.26
NOx [g/h]	45.35	182.63	202.53	109.75	43.93	41.49
VOC [g/h]	54.02	217.55	241.25	130.73	52.33	49.43

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	16.91	0.00	16.91
l_p,int, Pedestrian LOS Score for Intersectio	3.086	0.000	2.170
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	2227	1402	2309
d_b, Bicycle Delay [s]	0.31	2.17	0.58
l_b,int, Bicycle LOS Score for Intersection	3.774	2.947	2.127
Bicycle LOS	D	C	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	46.9
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.376

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	658	0	14	328	0	0	0	0	0	0	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	3	7	0	0	0	0	0
Site-Generated Trips [veh/h]	2	446	0	0	213	13	38	0	5	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	1104	0	14	541	16	45	0	5	0	0	39
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	300	0	4	147	4	12	0	1	0	0	10
Total Analysis Volume [veh/h]	2	1200	0	14	588	17	49	0	5	0	0	39
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			Yes	Yes
Storage Area [veh]	0	0	1	1
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.02	0.01	0.00	0.38	0.00	0.01	0.00	0.00	0.17
d_M, Delay for Movement [s/veh]	8.71	0.00	0.00	11.34	0.00	0.00	46.92	39.86	26.49	30.90	28.25	24.27
Movement LOS	A	A	A	B	A	A	E	E	D	D	D	C
95th-Percentile Queue Length [veh/ln]	0.01	0.00	0.00	0.07	0.00	0.00	1.58	1.58	1.58	0.61	0.61	0.61
95th-Percentile Queue Length [ft/ln]	0.15	0.00	0.00	1.85	0.00	0.00	39.55	39.55	39.55	15.28	15.28	15.28
d_A, Approach Delay [s/veh]	0.01			0.26			45.03			24.27		
Approach LOS	A			A			E			C		
d_I, Intersection Delay [s/veh]	1.86											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Signalized	Delay (sec / veh):	23.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.725

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	200.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	408	41	74	254	0	0	0	0	11	0	250
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	5	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	22	4	0	0	9	141	445	6	51	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	37	0	0	0	0	0	37	0	18	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	12	0	0	42	0	0	21	0	0	75
Total Hourly Volume [veh/h]	59	412	29	74	268	99	482	6	48	11	2	175
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	111	8	20	72	27	130	2	13	3	1	47
Total Analysis Volume [veh/h]	63	443	31	80	288	106	518	6	52	12	2	188
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	11	0	0	18	0	0	14	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	9	9	0	9	9	0	0	9	0	0	9	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	C
C, Cycle Length [s]	58	58	58	58	58	58	58	58	58
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	17	4	18	18	12	12	12	9
g / C, Green / Cycle	0.06	0.30	0.06	0.31	0.31	0.20	0.20	0.20	0.16
(v / s)_i Volume / Saturation Flow Rate	0.04	0.26	0.04	0.15	0.07	0.15	0.15	0.03	0.13
s, saturation flow rate [veh/h]	1781	1849	1781	1870	1589	1781	1783	1589	1602
c, Capacity [veh/h]	99	552	112	572	486	359	359	320	258
d1, Uniform Delay [s]	26.82	19.19	26.66	16.51	14.96	21.68	21.68	19.11	23.36
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.64	4.03	8.10	0.69	0.22	2.85	2.85	0.24	5.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.64	0.86	0.71	0.50	0.22	0.73	0.73	0.16	0.78
d, Delay for Lane Group [s/veh]	33.46	23.22	34.77	17.20	15.19	24.53	24.53	19.35	28.53
Lane Group LOS	C	C	C	B	B	C	C	B	C
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.91	5.23	1.18	2.53	0.84	3.33	3.34	0.55	2.82
50th-Percentile Queue Length [ft/ln]	22.74	130.85	29.38	63.34	20.97	83.34	83.42	13.87	70.42
95th-Percentile Queue Length [veh/ln]	1.64	8.99	2.12	4.56	1.51	6.00	6.01	1.00	5.07
95th-Percentile Queue Length [ft/ln]	40.93	224.65	52.88	114.00	37.75	150.01	150.15	24.97	126.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.46	23.22	23.22	34.77	17.20	15.19	24.53	24.53	19.35	28.53	28.53	28.53
Movement LOS	C	C	C	C	B	B	C	C	B	C	C	C
d_A, Approach Delay [s/veh]	24.42			19.71			24.06			28.53		
Approach LOS	C			B			C			C		
d_I, Intersection Delay [s/veh]	23.52											
Intersection LOS	C											
Intersection V/C	0.725											

Emissions

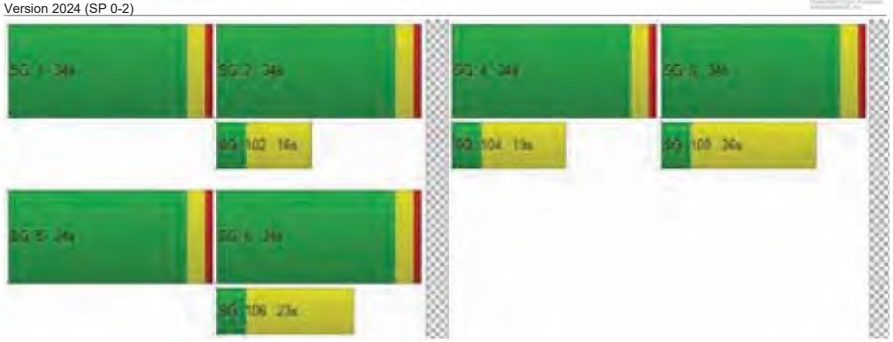
Vehicle Miles Traveled [mph]	21.37	160.78	8.11	29.20	10.75	17.43	17.45	3.46	170.53
Stops [stops/h]	56.69	326.20	73.24	157.89	52.28	207.75	207.95	34.58	175.54
Fuel consumption [US gal/h]	2.20	13.68	2.20	4.92	1.66	3.17	3.18	0.54	9.16
CO [g/h]	153.56	956.04	153.61	343.71	115.91	221.75	221.97	37.62	640.47
NOx [g/h]	29.88	186.01	29.89	66.87	22.55	43.15	43.19	7.32	124.61
VOC [g/h]	35.59	221.57	35.60	79.66	26.86	51.39	51.44	8.72	148.43

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	20.58	20.58	20.58	20.58
l_p,int, Pedestrian LOS Score for Intersectio	2.485	2.960	2.337	1.998
Crosswalk LOS	B	C	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1039	1039	1039	1039
d_b, Bicycle Delay [s]	6.67	6.67	6.67	6.67
l_b,int, Bicycle LOS Score for Intersection	2.465	2.411	2.545	2.017
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Roundabout	Delay (sec / veh):	8.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	150.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	13	460	201	51	0	862	182
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-13	-41	16	-52	0	-170	91
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	6	0	0	37	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	6	419	217	36	0	692	273
Peak Hour Factor	1.0000	0.9060	0.9060	0.9060	0.9060	1.0000	0.9060	0.9060
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	116	60	10	0	191	75
Total Analysis Volume [veh/h]	0	7	462	240	40	0	764	301
Pedestrian Volume [ped/h]	0			0		0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1		1		
Circulating Flow Rate [veh/h]	245			779		7		
Exiting Flow Rate [veh/h]	820			314		716		
Demand Flow Rate [veh/h]	0	6	419	217	36	0	692	273
Adjusted Demand Flow Rate [veh/h]	0	7	462	240	40	0	764	301

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1380.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00102	0.00091	0.00091
HV Adjustment Factor	0.98	0.98	0.98	0.98	0.98
Entry Flow Rate [veh/h]	8	472	286	780	308
Capacity of Entry and Bypass Lanes [veh/h]	1137	1137	624	1411	1411
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1115	1115	612	1384	1384
X, volume / capacity	0.01	0.41	0.46	0.55	0.22

Movement, Approach, & Intersection Results

Lane LOS	A	A	B	A	A
95th-Percentile Queue Length [veh]	0.02	2.07	2.40	3.54	0.83
95th-Percentile Queue Length [ft]	0.47	51.82	59.96	88.50	20.73
Approach Delay [s/veh]	7.51		13.07	7.36	
Approach LOS	A		B	A	
Intersection Delay [s/veh]	8.28				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Signalized	Delay (sec / veh):	16.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.687

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	65	0	18	66	1	8	4	296	125	50	536	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	80	0	0	0	0	0	0	0	-31	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	145	0	18	66	1	8	4	296	94	50	536	15
Peak Hour Factor	0.9700	1.0000	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	0	5	17	0	2	1	76	24	13	138	4
Total Analysis Volume [veh/h]	149	0	19	68	1	8	4	305	97	52	553	15
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	24	0	0	11	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	9	0	0	9	0	9	9	0	9	9	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C
C, Cycle Length [s]	40	40	40	40	40	40	40
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	5	3	0	14	2	16
g / C, Green / Cycle	0.13	0.13	0.07	0.01	0.35	0.06	0.40
(v / s)_i Volume / Saturation Flow Rate	0.09	0.01	0.05	0.00	0.25	0.03	0.34
s, saturation flow rate [veh/h]	1603	1431	1584	1603	1614	1603	1675
c, Capacity [veh/h]	206	184	115	9	564	89	669
d1, Uniform Delay [s]	16.99	15.62	18.36	20.12	11.44	18.72	11.08
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.73	0.24	6.63	31.16	1.69	5.96	3.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.72	0.10	0.67	0.45	0.71	0.58	0.85
d, Delay for Lane Group [s/veh]	21.73	15.86	24.99	51.28	13.13	24.68	14.21
Lane Group LOS	C	B	C	D	B	C	B
Critical Lane Group	Yes	No	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.41	0.15	0.82	0.11	2.64	0.56	3.91
50th-Percentile Queue Length [ft/ln]	35.16	3.64	20.53	2.77	65.92	14.07	97.74
95th-Percentile Queue Length [veh/ln]	2.53	0.26	1.48	0.20	4.75	1.01	7.04
95th-Percentile Queue Length [ft/ln]	63.29	6.55	36.96	4.98	118.65	25.32	175.93

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.73	15.86	15.86	24.99	24.99	24.99	51.28	13.13	13.13	24.68	14.21	14.21
Movement LOS	C	B	B	C	C	C	D	B	B	C	B	B
d_A, Approach Delay [s/veh]	21.06			24.99			13.51			15.09		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	15.98											
Intersection LOS	B											
Intersection V/C	0.687											

Emissions

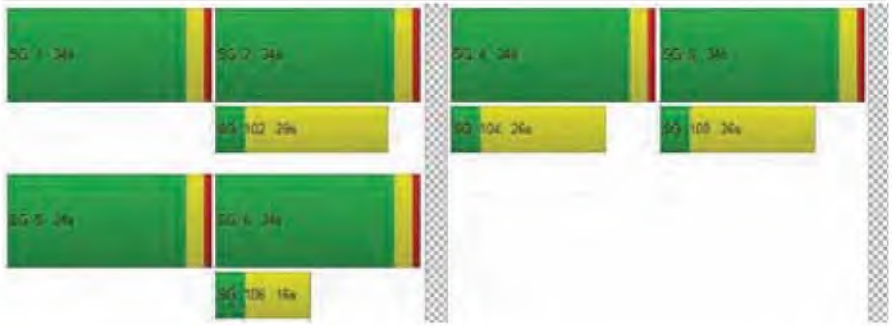
Vehicle Miles Traveled [mph]	44.23	5.64	1.72	0.57	57.56	43.76	477.99
Stops [stops/h]	125.20	12.95	73.10	9.86	234.71	50.09	348.01
Fuel consumption [US gal/h]	3.17	0.37	0.87	0.12	4.74	2.34	23.24
CO [g/h]	221.68	25.52	60.54	8.37	331.38	163.52	1624.69
NOx [g/h]	43.13	4.97	11.78	1.63	64.48	31.82	316.11
VOC [g/h]	51.38	5.91	14.03	1.94	76.80	37.90	376.54

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	12.22	12.22	12.22	12.22
l_p,int, Pedestrian LOS Score for Intersectio	2.166	1.719	2.261	2.227
Crosswalk LOS	B	A	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1484	1484	1484	1484
d_b, Bicycle Delay [s]	1.35	1.35	1.35	1.35
l_b,int, Bicycle LOS Score for Intersection	1.837	1.687	2.230	2.583
Bicycle LOS	A	A	B	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	166.3
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.178

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	375.00	100.00	220.00	400.00	100.00	220.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	115	53	383	193	45	46	218	278	224	320	839	307
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-1	30	0	-6	10	21	39	0	0	-15	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	124	0	0	17	0	0	67	0	0	92
Total Hourly Volume [veh/h]	115	52	289	193	39	39	239	317	157	320	824	215
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	15	83	55	11	11	69	91	45	92	237	62
Total Analysis Volume [veh/h]	132	60	332	222	45	45	275	364	180	368	947	247
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	163
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	0	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	35	0	0	40	0	25	45	0	25	35	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	0	0	44	0	39	50	0	29	41	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	0.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	R
C, Cycle Length [s]	125	125	125	125	125	125	125	125	125	125
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	3.50	5.30	5.30	3.50	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	1.50	3.30	3.30	1.50	4.00	4.00
g_i, Effective Green Time [s]	32	32	18	18	21	32	32	25	35	35
g / C, Green / Cycle	0.26	0.26	0.15	0.15	0.17	0.26	0.26	0.20	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.07	0.24	0.12	0.05	0.15	0.19	0.11	0.21	0.51	0.16
s, saturation flow rate [veh/h]	1781	1627	1781	1718	1781	1870	1589	1781	1870	1589
c, Capacity [veh/h]	462	422	263	253	302	478	406	356	524	446
d1, Uniform Delay [s]	37.02	45.15	51.85	47.89	50.90	42.98	39.03	49.95	44.94	38.30
k, delay calibration	0.13	0.36	0.13	0.13	0.25	0.11	0.11	0.48	0.50	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.42	23.42	8.95	1.05	20.02	2.60	0.76	55.06	370.61	1.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.29	0.93	0.85	0.36	0.91	0.76	0.44	1.03	1.81	0.55
d, Delay for Lane Group [s/veh]	37.44	68.57	60.79	48.95	70.92	45.58	39.79	105.01	415.55	39.69
Lane Group LOS	D	E	E	D	E	D	D	F	F	D
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.30	14.51	7.41	2.61	10.10	10.70	4.74	16.51	70.00	6.62
50th-Percentile Queue Length [ft/ln]	82.57	362.76	185.32	65.14	252.48	267.51	118.41	412.80	1750.07	165.40
95th-Percentile Queue Length [veh/ln]	5.94	20.76	11.88	4.69	15.31	16.07	8.31	23.59	108.63	10.83
95th-Percentile Queue Length [ft/ln]	148.62	518.95	296.94	117.25	382.78	401.63	207.63	589.66	2715.73	270.86

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.44	68.57	68.57	60.79	48.95	48.95	70.92	45.58	39.79	105.01	415.55	39.69
Movement LOS	D	E	E	E	D	D	E	D	D	F	F	D
d_A, Approach Delay [s/veh]	60.73			57.38			52.82			282.96		
Approach LOS	E			E			D			F		
d_I, Intersection Delay [s/veh]	166.29											
Intersection LOS	F											
Intersection V/C	1.178											

Emissions

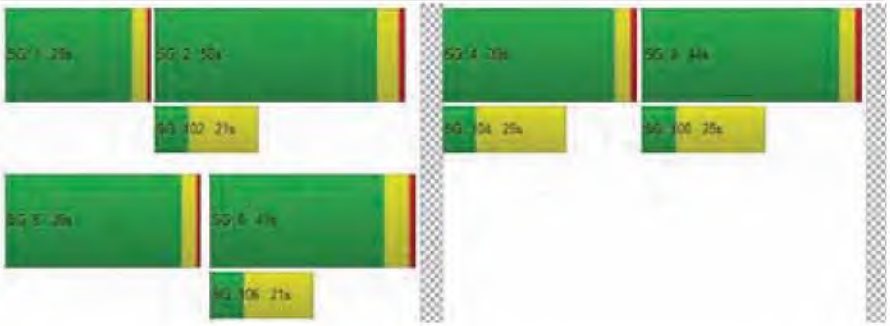
Vehicle Miles Traveled [mph]	227.13	674.49	45.01	18.25	96.29	127.46	63.03	166.05	427.31	111.45
Stops [stops/h]	95.34	418.88	213.98	75.21	291.54	308.90	136.72	476.66	2020.80	190.98
Fuel consumption [US gal/h]	10.88	35.55	5.78	2.06	9.54	10.33	4.81	17.33	108.82	7.64
CO [g/h]	760.67	2484.96	404.10	144.20	667.08	722.06	336.05	1211.50	7606.53	533.90
NOx [g/h]	148.00	483.48	78.62	28.06	129.79	140.49	65.38	235.71	1479.95	103.88
VOC [g/h]	176.29	575.91	93.66	33.42	154.60	167.34	77.88	280.78	1762.89	123.74

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.84	51.84	51.84	51.84
l_p,int, Pedestrian LOS Score for Intersectio	2.557	2.306	2.736	2.935
Crosswalk LOS	B	B	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	558	638	717	561
d_b, Bicycle Delay [s]	32.41	28.90	25.67	32.27
l_b,int, Bicycle LOS Score for Intersection	2.629	2.102	3.022	4.289
Bicycle LOS	B	B	C	E

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	1106	571	39	50
2	1073	554	38	49
3	1051	542	37	48
4	984	508	35	45
5	874	451	31	40
6	863	445	30	39
7	852	440	30	39
8	774	400	27	35
9	763	394	27	35
10	752	388	27	34
11	653	337	23	30
12	608	314	21	28
13	597	308	21	27
14	442	228	16	20
15	442	228	16	20
16	310	160	11	14
17	177	91	6	8
18	177	91	6	8
19	100	51	4	5
20	55	29	2	3
21	33	17	1	2
22	11	6	0	1
23	11	6	0	1
24	11	6	0	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1677	1	50	No	No	No	No	No	No	No	Yes	No	No
2	2	1627	1	49	No	No	No	No	No	No	No	Yes	No	No
3	2	1593	1	48	No	No	No	No	No	No	No	Yes	No	No
4	2	1492	1	45	No	No	No	No	No	No	No	Yes	No	No
5	2	1325	1	40	No	No	No	No	No	No	No	No	No	No
6	2	1308	1	39	No	No	No	No	No	No	No	No	No	No
7	2	1292	1	39	No	No	No	No	No	No	No	No	No	No
8	2	1174	1	35	No	No	No	No	No	No	No	No	No	No
9	2	1157	1	35	No	No	No	No	No	No	No	No	No	No
10	2	1140	1	34	No	No	No	No	No	No	No	No	No	No
11	2	990	1	30	No	No	No	No	No	No	No	No	No	No
12	2	922	1	28	No	No	No	No	No	No	No	No	No	No
13	2	905	1	27	No	No	No	No	No	No	No	No	No	No
14	2	670	1	20	No	No	No	No	No	No	No	No	No	No
15	2	670	1	20	No	No	No	No	No	No	No	No	No	No
16	2	470	1	14	No	No	No	No	No	No	No	No	No	No
17	2	268	1	8	No	No	No	No	No	No	No	No	No	No
18	2	268	1	8	No	No	No	No	No	No	No	No	No	No
19	2	151	1	5	No	No	No	No	No	No	No	No	No	No
20	2	84	1	3	No	No	No	No	No	No	No	No	No	No
21	2	50	1	2	No	No	No	No	No	No	No	No	No	No
22	2	17	1	1	No	No	No	No	No	No	No	No	No	No
23	2	17	1	1	No	No	No	No	No	No	No	No	No	No
24	2	17	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	4	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	24.3	45
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:15	0:37
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	39	50
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1766	1766
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

EPAP PM plus abated Project

Vistro File: C:\...\PM 918 DU 20240212 - ABATED.vistro Scenario 4 Abated 2033 PM with CCSP, + Project
Report File: C:\...\12 2033 PM plus abated Proj.pdf 2/14/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	WB Right	1.174	76.9	E
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	SB Thru	1.000	54.2	D
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	NB Thru	0.995	50.1	D
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	NB Left	0.847	53.2	D
7	Latrobe Rd/Golden Foothill Pkwy N	Signalized	HCM 7th Edition	SB Thru	1.031	64.9	E
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	SB Left	0.845	40.1	D
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	SB Thru	1.018	59.8	E
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	WB Left	0.063	119.7	F
12	Latrobe Rd/Royal Oaks Dr	Signalized	HCM 6th Edition	NB Left	0.647	19.1	B
13	Golden Foothill/Robert J Mathews	Roundabout	HCM 6th Edition	EB Thru		13.8	B
18	White Rock Rd/Carson Crossing Rd	Signalized	HCM 6th Edition	EB Left	0.827	28.6	C
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 6th Edition	EB Thru	1.276	178.2	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Option 1: Copy of Latrobe Rd/US 50 EB

Number	4											
Intersection	Latrobe Rd/US 50 EB											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp	
Approach	Northbound			Southbound				Eastbound			Westbound	
Lane Configuration												
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	0	2456	609	1	388	1504	0	0	0	1591	0	0	861
Total Analysis Volume [veh/h]	0	2571	501	1	462	1689	0	0	0	1394	0	0	718

Intersection Settings

Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	30	0	0	26	34	0	0	0	22	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Minimum Recall		Yes			No	Yes				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

g / C, Green / Cycle	0.55	0.55	0.29	0.51	0.33	
(v / s)_i Volume / Saturation Flow Rate	0.45	0.46	0.26	0.25	0.33	
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	
Arrival type	3		3		3	3
s, saturation flow rate [veh/h]	5004	1677	1781	6702	4220	

s, saturation flow rate [veh/h]	5094	1677	1781	6792	4220	
c, Capacity [veh/h]	2809	925	516	3476	1390	
X, volume / capacity	0.82	0.83	0.90	0.49	1.00	
d, Delay for Lane Group [s/veh]	15.32	21.21	31.97	11.28	30.29	
Lane Group LOS	B	C	C	B	F	
Critical Lane Group	No	Yes	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	7.60	9.14	7.43	3.30	7.72	
50th-Percentile Queue Length [ft/ln]	189.94	228.44	185.84	82.43	193.09	
95th-Percentile Queue Length [veh/ln]	12.12	14.10	11.90	5.94	12.30	
95th-Percentile Queue Length [ft/ln]	302.95	352.38	297.62	148.38	307.54	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	15.93	21.21	31.97	31.97	11.28	0.00	0.00	0.00	30.29	0.00	0.00	0.00
Movement LOS		B	C	C	C	B				F			
Critical Movement		No	No	No	Yes	No				No			No
d_A, Approach Delay [s/veh]	16.79			15.73			30.29			0.00			
Approach LOS	B			B			C			A			
d_I, Intersection Delay [s/veh]	19.29												
Intersection LOS	B												
Intersection V/C	0.939												

Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	76.9
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.174

Intersection Setup

Name	El Dorado Hills Blvd			El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	500.00	100.00	100.00	500.0	100.0	100.0	300.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No			No		
Crosswalk	No			Yes				Yes			Yes		

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TKEAR

Volumes

Name	El Dorado Hills Blvd			El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	447	1616	173	4	218	1133	198	380	48	586	63	107	286
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-1	-5	0	0	0	43	0	0	0	22	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	52	0	0	0	59	0	0	182	0	0	86
Total Hourly Volume [veh/h]	446	1611	121	4	218	1176	139	380	48	426	63	107	200
Peak Hour Factor	0.9300	0.9300	0.9300	0.930	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	120	433	33	1	59	316	37	102	13	115	17	29	54
Total Analysis Volume [veh/h]	480	1732	130	4	234	1265	149	409	52	458	68	115	215
Presence of On-Street Parking	No		No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0				0			0		
v_co, Outbound Pedestrian Volume crossing	0			0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0				0			0		
Bicycle Volume [bicycles/h]	0			0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	138
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Permi	Prote	Permi	Overl	Split	Split	Overlap	Split	Split	Split
Signal Group	5	2	0	0	1	6	7	7	7	5	3	8	0
Auxiliary Signal Groups							6,7			5,7			
Maximum Green [s]	32	50	0	0	32	50	24	24	24	32	0	16	0
Amber [s]	3.0	4.7	0.0	0.0	3.0	4.7	3.0	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	0	18	0	0	0	0	0	28	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.7	0.0	0.0	2.0	3.7	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	0.0	20.0	20.0	20.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	0.0	0.0	245.0	245.0	245.0	100.0	100.0	100.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	0.0	6.0	6.0	6.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	36	54	0	0	36	54	28	28	28	36	0	20	0
Lead / Lag	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	4	5	0	0	4	4	5	5	5	4	0	5	0
Vehicle Extension [s]	2.0	3.5	0.0	0.0	2.0	3.5	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No			No	No	No		No	No		No	
Maximum Recall	No	No			No	No	No		No	No		No	
Pedestrian Recall	No	No			No	No	No		No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Cycle Length [s]	140	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	4.00	4.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	32	61	61	21	50	80	24	24	80	16	16
g / C, Green / Cycle	0.23	0.44	0.44	0.15	0.36	0.57	0.17	0.17	0.57	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.27	0.35	0.35	0.13	0.36	0.09	0.13	0.13	0.29	0.07	0.20
s, saturation flow rate [veh/h]	1781	3560	1804	1781	3560	1589	1781	1800	1589	933	1677
c, Capacity [veh/h]	408	1561	791	264	1274	907	306	309	910	145	192
d1, Uniform Delay [s]	53.85	33.65	33.88	58.46	44.67	14.22	55.02	54.96	17.92	61.00	61.85
k, delay calibration	0.50	0.13	0.43	0.09	0.13	0.13	0.22	0.21	0.50	0.10	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	102.32	1.11	7.24	8.76	11.29	0.10	7.35	6.90	1.99	2.18	344.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.18	0.79	0.80	0.90	0.99	0.16	0.75	0.75	0.50	0.47	1.72
d, Delay for Lane Group [s/veh]	156.17	34.76	41.12	67.22	55.96	14.32	62.38	61.85	19.90	63.17	405.99
Lane Group LOS	F	C	D	E	E	B	E	E	B	E	F
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	25.54	17.35	19.28	8.75	22.95	2.18	8.36	8.34	9.32	2.44	25.19
50th-Percentile Queue Length [ft/ln]	638.46	433.69	481.94	218.70	573.63	54.49	209.00	208.41	232.89	60.93	629.77
95th-Percentile Queue Length [veh/ln]	36.98	24.18	26.48	13.60	30.80	3.92	13.10	13.07	14.32	4.39	39.77
95th-Percentile Queue Length [ft/ln]	924.59	604.46	661.96	339.97	770.03	98.09	327.55	326.78	358.03	109.67	994.17

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	156.17	36.60	41.12	67.22	67.22	55.96	14.32	62.15	61.85	19.90	63.17	405.99	405.99
Movement LOS	F	D	D	E	E	E	B	E	E	B	E	F	F
d_A, Approach Delay [s/veh]	61.36			53.82				41.08			347.42		
Approach LOS	E			D				D			F		
d_I, Intersection Delay [s/veh]	76.94												
Intersection LOS	E												
Intersection V/C	1.174												

Emissions

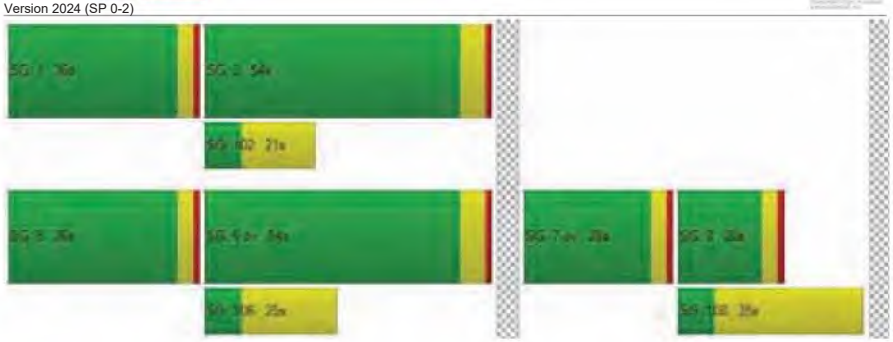
Vehicle Miles Traveled [mph]	90.01	230.73	118.45	56.84	302.12	35.59	14.36	14.39	28.56	3.32	16.09
Stops [stops/h]	658.11	894.08	496.78	225.43	1182.58	56.17	215.44	214.82	240.06	62.80	649.15
Fuel consumption [US gal/h]	26.52	27.73	15.52	8.01	39.46	2.35	4.70	4.68	4.36	1.36	31.51
CO [g/h]	1853.72	1938.11	1084.98	559.66	2758.46	164.43	328.77	327.39	304.58	94.89	2202.33
NOx [g/h]	360.67	377.09	211.10	108.89	536.70	31.99	63.97	63.70	59.26	18.46	428.49
VOC [g/h]	429.62	449.18	251.45	129.71	639.30	38.11	76.20	75.88	70.59	21.99	510.41

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	59.28	59.28	59.28
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.567	2.875	2.393
Crosswalk LOS	F	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	691	691	344	229
d_b, Bicycle Delay [s]	29.90	29.90	47.91	54.77
l_b,int, Bicycle LOS Score for Intersection	2.876	2.778	3.376	2.358
Bicycle LOS	C	C	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	54.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.000

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	500.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1224	1679	414	0	37	1252	493	306	130	404	236	88	251
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-6	-6	-2	0	0	65	0	0	0	22	14	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	124	0	0	0	148	0	0	128	0	0	75
Total Hourly Volume [veh/h]	1	1218	1673	288	0	37	1317	345	306	130	298	250	88	176
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	305	418	72	0	9	329	86	77	33	75	63	22	44
Total Analysis Volume [veh/h]	1	1218	1673	288	0	37	1317	345	306	130	298	250	88	176
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	136
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	45	62	0	0	14	29	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	50	68	0	0	19	35	28	0	28	0	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	45	74	74	6	34	59	19	19	17	17	17
g / C, Green / Cycle	0.33	0.54	0.54	0.04	0.25	0.43	0.14	0.14	0.12	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.35	0.36	0.39	0.02	0.26	0.22	0.12	0.12	0.09	0.09	0.11
s, saturation flow rate [veh/h]	3459	3532	1725	1781	5053	1589	1781	1832	1781	1826	1589
c, Capacity [veh/h]	1155	1914	935	81	1279	685	249	257	223	228	199
d1, Uniform Delay [s]	45.28	22.44	23.45	63.30	50.79	28.15	57.19	57.19	57.46	57.43	58.55
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.16	0.16	0.14	0.14	0.24
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	26.99	1.90	4.82	1.51	33.07	2.64	12.23	11.91	6.44	6.04	23.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.06	0.67	0.72	0.46	1.03	0.50	0.86	0.86	0.75	0.75	0.89
d, Delay for Lane Group [s/veh]	72.28	24.34	28.27	64.81	83.86	30.79	69.42	69.09	63.90	63.47	81.69
Lane Group LOS	F	C	C	E	F	C	E	E	E	E	F
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	23.66	15.06	17.23	1.26	17.98	8.41	8.08	8.29	5.97	6.06	7.25
50th-Percentile Queue Length [ft/ln]	591.41	376.46	430.68	31.57	449.56	210.16	202.11	207.30	149.28	151.56	181.22
95th-Percentile Queue Length [veh/ln]	32.79	21.42	24.03	2.27	25.38	13.16	12.75	13.01	9.98	10.10	11.66
95th-Percentile Queue Length [ft/ln]	819.85	535.56	600.86	56.82	634.56	329.04	318.69	325.36	249.47	252.51	291.61

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	72.28	72.28	25.25	28.27	64.81	64.81	83.86	30.79	69.32	69.09	0.00	63.76	63.47	81.69
Movement LOS	E	F	C	C	E	E	F	C	E	E		E	E	F
d_A, Approach Delay [s/veh]	43.55				72.67				41.14			69.85		
Approach LOS	D				E				D			E		
d_I, Intersection Delay [s/veh]	54.18													
Intersection LOS	D													
Intersection V/C	1.000													

Emissions

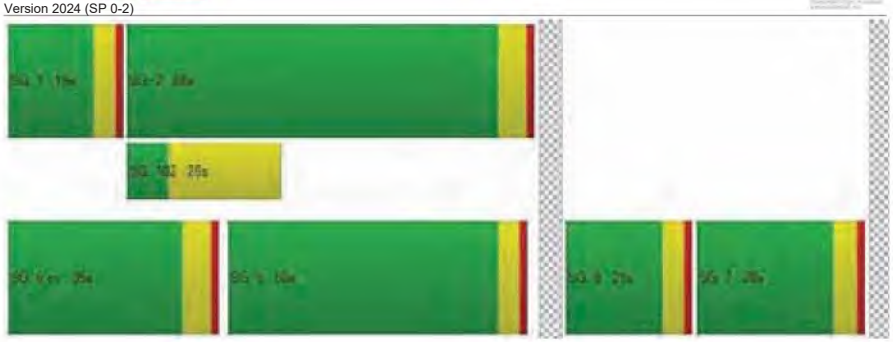
Vehicle Miles Traveled [mph]	209.67	221.15	116.15	6.94	246.97	64.70	9.94	10.23	5.32	5.43	5.60
Stops [stops/h]	1252.39	797.20	456.02	33.42	1428.03	222.52	214.00	219.49	158.06	160.48	191.88
Fuel consumption [US gal/h]	33.48	19.88	11.19	1.14	48.69	7.15	4.63	4.74	3.27	3.31	4.22
CO [g/h]	2340.08	1389.30	781.85	79.78	3403.66	499.52	323.47	331.43	228.46	231.64	294.70
NOx [g/h]	455.29	270.31	152.12	15.52	662.23	97.19	62.93	64.48	44.45	45.07	57.34
VOC [g/h]	542.34	321.98	181.20	18.49	788.83	115.77	74.97	76.81	52.95	53.68	68.30

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	57.44
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.542
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	915	429	337	241
d_b, Bicycle Delay [s]	20.02	41.93	47.03	52.59
l_b,int, Bicycle LOS Score for Intersection	3.376	2.555	2.279	2.046
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	50.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.995

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	160.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	24	1987	233	3	570	1937	585	460	37	83	1	92	6	615
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-22	0	0	0	183	0	0	0	4	0	16	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	70	0	0	0	176	0	0	26	0	0	0	185
Total Hourly Volume [veh/h]	1	24	1965	163	3	570	2120	409	460	37	61	1	108	6	430
Peak Hour Factor	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.9600	0.9600	0.9600	0.960	0.960	0.960	0.960
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	6	512	42	1	148	552	107	120	10	16	0	28	2	112
Total Analysis Volume [veh/h]	1	25	2047	170	3	594	2208	426	479	39	64	1	113	6	448
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	138
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	0	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	40	0	0	20	60	0	20	20	0	0	20	20	0
Amber [s]	0.0	3.0	4.5	0.0	0.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.0	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	0.0	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	46	0	0	24	66	0	24	24	0	0	24	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	0	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	Yes			No	Yes			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	114	114	114	114	114	114	114	114	114	114	114	114
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	2	42	42	20	59	59	18	18	18	18	18	18
g / C, Green / Cycle	0.02	0.36	0.36	0.18	0.52	0.52	0.16	0.16	0.16	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.01	0.40	0.11	0.17	0.43	0.27	0.14	0.02	0.04	0.06	0.14	0.14
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	1870	1589	1781	1596	1589
c, Capacity [veh/h]	71	1859	580	607	2648	826	547	296	252	287	257	256
d1, Uniform Delay [s]	55.13	36.22	25.76	46.87	23.21	17.96	46.90	41.26	42.10	42.86	46.79	46.79
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.08	0.08	0.08	0.08	0.30	0.30
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.18	46.46	0.10	7.33	0.27	0.19	3.48	0.15	0.39	0.66	22.10	22.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.37	1.10	0.29	0.98	0.83	0.52	0.88	0.13	0.25	0.40	0.88	0.88
d, Delay for Lane Group [s/veh]	56.32	82.68	25.86	54.20	23.48	18.15	50.38	41.41	42.49	43.52	68.89	68.97
Lane Group LOS	E	F	C	D	C	B	D	D	D	D	E	E
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.38	24.77	3.29	8.98	16.02	7.19	6.86	0.96	1.61	2.93	7.85	7.83
50th-Percentile Queue Length [ft/ln]	9.49	619.26	82.26	224.51	400.45	179.71	171.62	23.94	40.26	73.32	196.30	195.69
95th-Percentile Queue Length [veh/ln]	0.68	35.13	5.92	13.90	22.58	11.59	11.16	1.72	2.90	5.28	12.45	12.42
95th-Percentile Queue Length [ft/ln]	17.09	878.37	148.07	347.38	564.54	289.63	279.04	43.10	72.47	131.98	311.19	310.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.32	56.32	82.68	25.86	54.20	54.20	23.48	18.15	50.38	41.41	42.49	43.52	43.52	68.89	68.93
Movement LOS	E	E	F	C	D	D	C	B	D	D	D	D	D	E	E
d_A, Approach Delay [s/veh]	78.06				28.46				48.91			63.83			
Approach LOS	E				C				D			E			
d_I, Intersection Delay [s/veh]	50.08														
Intersection LOS	D														
Intersection V/C	0.995														

Emissions

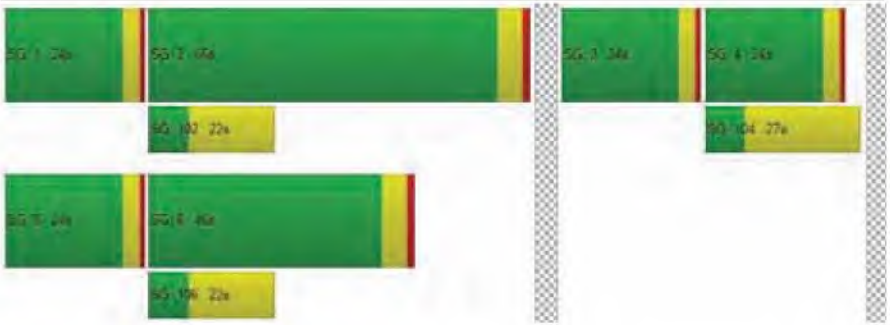
Vehicle Miles Traveled [mph]	5.80	456.97	37.95	86.38	319.49	61.64	61.10	4.97	8.16	40.01	79.82	79.52
Stops [stops/h]	24.02	2350.13	104.07	568.02	1519.74	227.34	434.20	30.29	50.93	92.75	248.33	247.55
Fuel consumption [US gal/h]	0.67	66.23	3.03	13.28	32.10	5.37	9.82	0.70	1.17	3.17	7.85	7.82
CO [g/h]	46.80	4629.51	211.93	928.16	2243.84	375.16	686.72	48.98	81.84	221.52	548.45	546.67
NOx [g/h]	9.11	900.74	41.23	180.59	436.57	72.99	133.61	9.53	15.92	43.10	106.71	106.36
VOC [g/h]	10.85	1072.93	49.12	215.11	520.03	86.95	159.16	11.35	18.97	51.34	127.11	126.70

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	46.45	0.00	46.45	46.45
l_p,int, Pedestrian LOS Score for Intersectio	3.472	0.000	2.703	2.891
Crosswalk LOS	C	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	712	1063	360	360
d_b, Bicycle Delay [s]	23.62	12.49	38.26	38.26
l_b,int, Bicycle LOS Score for Intersection	2.831	3.107	2.061	2.616
Bicycle LOS	C	C	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	53.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.847

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	3	2	0	0	1	2	0	0	0	3	0	0
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	260.0	100.0	100.0	260.0	360.0	100.0	100.0	100.0	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	6	125	1673	518	2	253	1422	436	2	376	472	124	516	223	194
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-22	-7	0	0	204	0	0	0	0	0	48	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	153	0	0	0	131	0	0	0	37	0	0	58
Total Hourly Volume [veh/h]	6	125	1651	358	2	253	1626	305	2	376	472	87	564	223	136
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	34	444	96	1	68	437	82	1	101	127	23	152	60	37
Total Analysis Volume [veh/h]	6	134	1775	385	2	272	1748	328	2	404	508	94	606	240	146
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	158
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	3	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	50	36	0	20	50	0	0	23	31	0	36	44	0
Amber [s]	0.0	4.0	4.7	4.5	0.0	4.0	4.7	0.0	0.0	4.5	4.7	0.0	4.5	4.7	0.0
All red [s]	0.0	1.0	1.0	1.5	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	39	0	0	0	37	0	0	0	48	0	0	50	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	3.7	4.0	0.0	3.0	3.7	0.0	0.0	4.0	3.7	0.0	4.0	3.7	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	56	42	0	25	56	0	0	29	37	0	42	50	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	7	10	0	10	7	0	0	10	10	0	10	10	0
Vehicle Extension [s]	0.0	1.5	3.0	1.5	0.0	1.5	3.0	0.0	0.0	1.5	2.0	0.0	1.5	2.0	0.0
Minimum Recall		No	Yes			No	Yes			No	No		No	No	
Maximum Recall		No	No			No	No			No	No		No	No	
Pedestrian Recall		No	No			No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	160	160	160	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	6.00	5.70	5.70	6.00	5.70	5.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	4.00	3.70	3.70	4.00	3.70	3.70
g_i, Effective Green Time [s]	14	64	64	15	64	64	21	29	29	30	38	38
g / C, Green / Cycle	0.09	0.40	0.40	0.09	0.40	0.40	0.13	0.18	0.18	0.19	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.08	0.26	0.24	0.08	0.34	0.21	0.12	0.17	0.17	0.18	0.07	0.09
s, saturation flow rate [veh/h]	1781	6792	1589	3459	5094	1589	3459	1870	1770	3459	3560	1589
c, Capacity [veh/h]	161	2721	637	318	2048	639	448	335	317	651	848	378
d1, Uniform Delay [s]	71.81	38.91	37.92	71.65	43.55	36.04	68.70	64.58	64.58	63.91	49.80	51.15
k, delay calibration	0.08	0.50	0.50	0.04	0.50	0.50	0.04	0.18	0.18	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.40	1.23	4.22	2.71	4.78	2.93	2.94	15.66	16.34	2.73	0.07	0.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.65	0.60	0.86	0.85	0.51	0.91	0.92	0.92	0.93	0.28	0.39
d, Delay for Lane Group [s/veh]	82.22	40.14	42.14	74.36	48.33	38.98	71.64	80.24	80.92	66.64	49.87	51.39
Lane Group LOS	F	D	D	E	D	D	E	F	F	E	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.17	14.50	12.81	5.60	21.31	10.03	8.42	13.91	13.22	12.44	3.99	5.01
50th-Percentile Queue Length [ft/ln]	154.26	362.38	320.22	139.88	532.69	250.64	210.48	347.69	330.57	311.06	99.87	125.16
95th-Percentile Queue Length [veh/ln]	10.24	20.74	18.68	9.47	28.88	15.22	13.18	20.02	19.19	18.23	7.19	8.68
95th-Percentile Queue Length [ft/ln]	256.11	518.48	466.95	236.86	721.95	380.45	329.45	500.59	479.66	455.68	179.76	216.89

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	82.22	82.22	40.14	42.14	74.36	74.36	48.33	38.98	71.64	71.64	80.51	80.92	66.64	49.87	51.39
Movement LOS	F	F	D	D	E	E	D	D	E	E	F	F	E	D	D
d_A, Approach Delay [s/veh]	43.03				50.06				76.97				60.34		
Approach LOS	D				D				E				E		
d_I, Intersection Delay [s/veh]	53.24														
Intersection LOS	D														
Intersection V/C	0.847														

Emissions

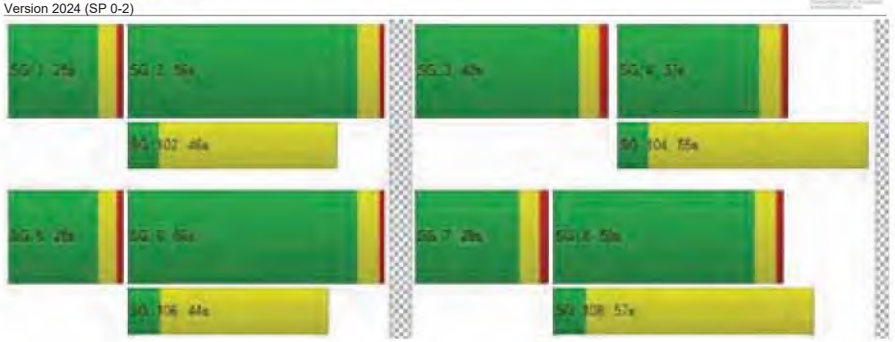
Vehicle Miles Traveled [mph]	55.73	706.61	153.26	61.17	390.22	73.22	101.33	77.19	73.05	63.32	25.08	15.25
Stops [stops/h]	138.84	1304.57	288.19	251.79	1438.27	225.57	378.86	312.92	297.51	559.90	179.76	112.64
Fuel consumption [US gal/h]	5.40	50.79	11.20	9.37	48.45	7.92	12.18	9.96	9.47	13.92	4.46	2.78
CO [g/h]	377.69	3550.39	783.10	655.15	3386.54	553.32	851.54	695.91	661.99	972.78	311.81	194.10
NOx [g/h]	73.48	690.78	152.36	127.47	658.90	107.66	165.68	135.40	128.80	189.27	60.67	37.76
VOC [g/h]	87.53	822.84	181.49	151.84	784.86	128.24	197.35	161.28	153.42	225.45	72.27	44.98

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	69.38	69.38	69.38	69.38
l_p,int, Pedestrian LOS Score for Intersectio	3.629	3.891	2.838	3.034
Crosswalk LOS	D	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	629	629	391	554
d_b, Bicycle Delay [s]	37.61	37.61	51.76	41.83
l_b,int, Bicycle LOS Score for Intersection	2.569	2.775	2.088	2.426
Bicycle LOS	B	C	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	64.9
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.031

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	100.0	200.0	100.0	100.0	180.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	11	1588	30	0	34	1590	454	703	9	27	1	6	19
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-29	0	0	0	252	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	9	0	0	0	136	0	0	8	0	0	6
Total Hourly Volume [veh/h]	1	11	1559	21	0	34	1842	318	703	9	19	1	6	13
Peak Hour Factor	1.000	0.890	0.890	0.870	1.000	0.870	0.890	0.890	0.8900	0.8700	0.8900	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	438	6	0	10	517	89	197	3	5	0	2	4
Total Analysis Volume [veh/h]	1	12	1752	24	0	39	2070	357	790	10	21	1	7	15
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	112
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	12	40	0	0	14	42	0	0	20	0	0	20	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	12	0	0	0	20	0	0	20	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	245.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	0	0	18	48	0	0	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	84	84	84	84	84	84	84	84	84
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	41	41	2	42	42	20	20	2
g / C, Green / Cycle	0.02	0.49	0.49	0.03	0.50	0.50	0.24	0.24	0.03
(v / s)_i Volume / Saturation Flow Rate	0.01	0.48	0.48	0.02	0.58	0.22	0.23	0.23	0.01
s, saturation flow rate [veh/h]	1781	1870	1861	1781	3560	1589	1781	1772	1674
c, Capacity [veh/h]	30	917	912	51	1788	798	426	424	45
d1, Uniform Delay [s]	40.72	20.72	20.78	40.33	20.82	13.37	31.48	31.50	40.17
k, delay calibration	0.04	0.43	0.44	0.04	0.17	0.15	0.40	0.41	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.65	21.23	21.97	8.30	73.50	0.56	31.48	32.10	3.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.97	0.97	0.76	1.16	0.45	0.97	0.97	0.51
d, Delay for Lane Group [s/veh]	44.37	41.95	42.75	48.63	94.32	13.93	62.96	63.60	43.53
Lane Group LOS	D	D	D	D	F	B	E	E	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.29	20.51	20.70	0.86	31.73	3.58	11.61	11.65	0.50
50th-Percentile Queue Length [ft/ln]	7.29	512.81	517.43	21.42	793.35	89.54	290.26	291.21	12.54
95th-Percentile Queue Length [veh/ln]	0.52	27.94	28.16	1.54	45.60	6.45	17.20	17.25	0.90
95th-Percentile Queue Length [ft/ln]	13.11	698.50	703.96	38.56	1139.96	161.17	429.96	431.15	22.57

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.37	44.37	42.34	42.75	48.63	48.63	94.32	13.93	63.27	63.60	63.60	43.53	43.53	43.53
Movement LOS	D	D	D	D	D	D	F	B	E	E	E	D	D	D
d_A, Approach Delay [s/veh]	42.36				81.96				63.28			43.53		
Approach LOS	D				F				E			D		
d_I, Intersection Delay [s/veh]	64.89													
Intersection LOS	E													
Intersection V/C	1.031													

Emissions

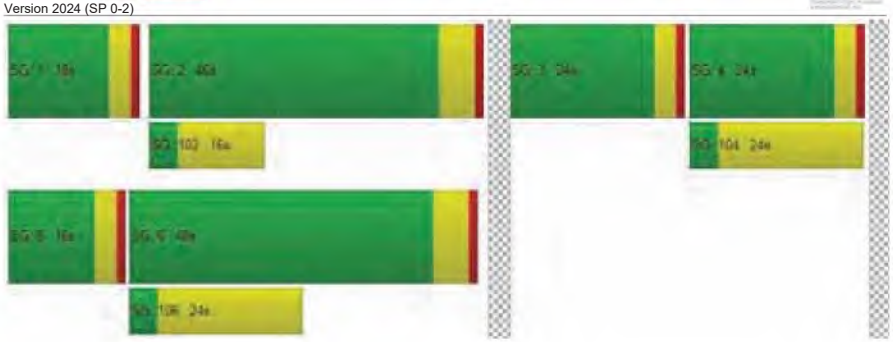
Vehicle Miles Traveled [mph]	4.60	314.45	314.01	15.53	824.04	142.12	98.99	98.73	0.44
Stops [stops/h]	12.56	884.28	892.25	36.94	2736.08	154.40	500.52	502.16	21.62
Fuel consumption [US gal/h]	0.38	25.42	25.58	1.59	118.11	8.63	12.11	12.14	0.34
CO [g/h]	26.29	1776.58	1787.70	111.24	8256.20	603.52	846.27	848.86	23.85
NOx [g/h]	5.12	345.66	347.82	21.64	1606.36	117.42	164.65	165.16	4.64
VOC [g/h]	6.09	411.74	414.32	25.78	1913.45	139.87	196.13	196.73	5.53

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.14	0.00	34.14	34.14
l_p,int, Pedestrian LOS Score for Intersectio	3.072	0.000	2.386	1.776
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	958	1006	479	479
d_b, Bicycle Delay [s]	11.33	10.32	24.15	24.15
l_b,int, Bicycle LOS Score for Intersection	3.042	3.674	2.927	1.607
Bicycle LOS	C	D	C	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	40.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.845

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	24.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	260.00	100.00	200.00	530.00	100.00	300.00	100.00	100.00	200.00	250.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	108	575	28	352	446	809	686	216	57	68	155	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	21	98	10	0	46	0	0	0	0	0	12	0
Site-Generated Trips [veh/h]	30	117	12	0	331	-67	-142	-25	91	36	-12	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	15	0	0	223	0	0	44	0	0	45
Total Hourly Volume [veh/h]	159	790	35	352	823	519	544	191	104	104	155	105
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	217	10	97	226	143	149	52	29	29	43	29
Total Analysis Volume [veh/h]	175	868	38	387	904	570	598	210	114	114	170	115
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	5	2	0	1	6	3	3	8	0	7	4	1
Auxiliary Signal Groups						3,6						1,4
Maximum Green [s]	30	45	0	25	40	25	25	31	0	20	26	25
Amber [s]	3.0	4.0	0.0	3.0	4.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	2.0	0.0	1.0	2.0	1.0	1.0	2.0	0.0	1.0	2.0	1.0
Walk [s]	0	5	0	0	5	0	0	5	0	5	5	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	31	0	31	31	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	2.0	4.0	2.0	2.0	3.0	0.0	2.0	3.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	20.0	20.0	20.0	0.0	20.0	20.0	20.0
Advanced Detector Location [ft]	245.0	245.0	0.0	245.0	245.0	245.0	245.0	245.0	0.0	245.0	245.0	245.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	6.0	6.0	6.0	0.0	6.0	6.0	6.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	9	9	0	0	0	9	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lag	-	-
Minimum Green [s]	5	5	0	5	5	5	5	5	0	5	5	5
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0
Minimum Recall	No	No		No	No	No	No	No		No	No	No
Maximum Recall	No	No		No	No	No	No	No		No	No	No
Pedestrian Recall	No	No		No	No	No	No	No		No	No	No

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Cycle Length [s]	112	112	112	112	112	112	112	112	112	112	112
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	4.00	4.00	5.00	4.00	5.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	0.00	2.00	3.00	2.00	3.00	0.00
g_i, Effective Green Time [s]	13	31	31	25	43	73	25	28	9	13	43
g / C, Green / Cycle	0.12	0.28	0.28	0.22	0.38	0.65	0.22	0.25	0.08	0.11	0.38
(v / s)_i Volume / Saturation Flow Rate	0.10	0.24	0.02	0.22	0.25	0.36	0.17	0.18	0.06	0.09	0.07
s, saturation flow rate [veh/h]	1781	3560	1653	1781	3560	1589	3459	1761	1781	1870	1589
c, Capacity [veh/h]	210	989	459	395	1360	1039	755	442	143	211	603
d1, Uniform Delay [s]	48.59	38.82	30.05	43.54	28.81	10.53	41.60	38.73	50.85	48.72	23.37
k, delay calibration	0.11	0.11	0.11	0.43	0.11	0.50	0.11	0.19	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.38	2.68	0.08	36.85	0.56	2.08	1.92	4.21	9.50	6.99	0.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.88	0.08	0.98	0.66	0.55	0.79	0.73	0.79	0.80	0.19
d, Delay for Lane Group [s/veh]	56.98	41.50	30.12	80.39	29.37	12.61	43.52	42.94	60.35	55.70	23.52
Lane Group LOS	E	D	C	F	C	B	D	D	E	E	C
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	5.28	11.66	0.77	14.62	10.04	7.64	7.98	8.66	3.52	5.05	2.07
50th-Percentile Queue Length [ft/ln]	131.88	291.42	19.37	365.60	250.97	191.00	199.60	216.52	88.11	126.25	51.71
95th-Percentile Queue Length [veh/ln]	9.04	17.26	1.39	20.90	15.23	12.17	12.62	13.49	6.34	8.74	3.72
95th-Percentile Queue Length [ft/ln]	226.05	431.41	34.86	522.39	380.87	304.33	315.45	337.18	158.60	218.39	93.07

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.98	41.50	30.12	80.39	29.37	12.61	43.52	42.94	42.94	60.35	55.70	23.52
Movement LOS	E	D	C	F	C	B	D	D	D	E	E	C
d_A, Approach Delay [s/veh]	43.61			34.85			43.32			47.76		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	40.11											
Intersection LOS	D											
Intersection V/C	0.845											

Emissions

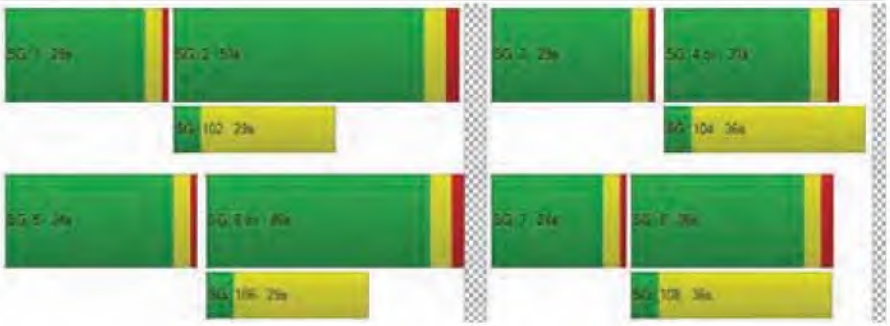
Vehicle Miles Traveled [mph]	101.07	501.29	21.95	269.18	628.78	396.46	44.99	24.37	12.61	18.80	12.72
Stops [stops/h]	168.98	746.77	24.82	468.43	643.11	244.72	511.48	277.42	112.89	161.76	66.25
Fuel consumption [US gal/h]	7.12	32.09	1.27	20.00	34.84	19.14	9.97	5.37	2.54	3.59	1.44
CO [g/h]	497.89	2243.26	89.02	1397.95	2435.40	1337.62	697.17	375.15	177.74	251.26	100.66
NOx [g/h]	96.87	436.46	17.32	271.99	473.84	260.25	135.64	72.99	34.58	48.89	19.58
VOC [g/h]	115.39	519.90	20.63	323.99	564.43	310.01	161.58	86.95	41.19	58.23	23.33

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	47.56	47.56	47.56	47.56
l_p,int, Pedestrian LOS Score for Intersectio	2.856	3.385	2.719	2.474
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	801	712	552	463
d_b, Bicycle Delay [s]	20.20	23.31	29.47	33.20
l_b,int, Bicycle LOS Score for Intersection	2.464	3.279	3.154	2.292
Bicycle LOS	B	C	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	59.8
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.018

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	100.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	148	314	452	119	397	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	129	0
Site-Generated Trips [veh/h]	-5	305	526	-68	-146	-14
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	15	0	0
Total Hourly Volume [veh/h]	143	619	978	36	380	106
Peak Hour Factor	0.9000	0.9000	0.9000	0.7900	0.7900	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	172	272	11	120	29
Total Analysis Volume [veh/h]	159	688	1087	46	481	118
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	16	54	34	0	56	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	14	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	20	60	40	0	60	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C
C, Cycle Length [s]	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	8	46	34	34	14	14
g / C, Green / Cycle	0.11	0.66	0.49	0.49	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.09	0.37	0.58	0.03	0.17	0.17
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1698
c, Capacity [veh/h]	200	1227	910	774	357	341
d1, Uniform Delay [s]	30.22	6.53	17.93	9.48	26.96	26.97
k, delay calibration	0.04	0.04	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.71	0.15	98.29	0.01	2.34	2.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.56	1.19	0.06	0.86	0.86
d, Delay for Lane Group [s/veh]	32.93	6.68	116.22	9.49	29.30	29.46
Lane Group LOS	C	A	F	A	C	C
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.45	2.91	35.31	0.28	4.90	4.70
50th-Percentile Queue Length [ft/ln]	61.30	72.74	882.79	7.05	122.42	117.42
95th-Percentile Queue Length [veh/ln]	4.41	5.24	51.12	0.51	8.53	8.25
95th-Percentile Queue Length [ft/ln]	110.33	130.93	1278.01	12.69	213.15	206.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.93	6.68	116.22	9.49	29.36	29.46
Movement LOS	C	A	F	A	C	C
d_A, Approach Delay [s/veh]	11.61		111.89		29.37	
Approach LOS	B		F		C	
d_I, Intersection Delay [s/veh]	59.79					
Intersection LOS	E					
Intersection V/C	1.018					

Emissions

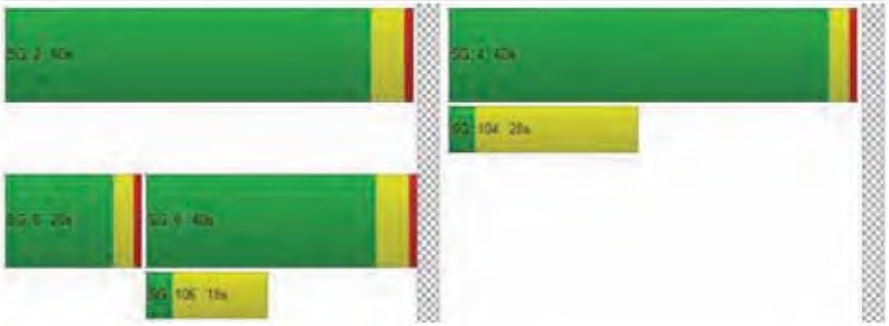
Vehicle Miles Traveled [mph]	19.62	84.89	627.77	26.57	71.93	68.76
Stops [stops/h]	126.60	150.23	1823.29	14.57	252.85	242.52
Fuel consumption [US gal/h]	4.07	6.57	80.57	1.25	6.18	5.93
CO [g/h]	284.71	458.91	5631.98	87.24	432.24	414.19
NOx [g/h]	55.40	89.29	1095.78	16.97	84.10	80.59
VOC [g/h]	65.99	106.36	1305.26	20.22	100.18	95.99

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0		0.0		8.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	27.32		0.00		27.32	
l_p,int, Pedestrian LOS Score for Intersectio	3.153		0.000		2.196	
Crosswalk LOS	C		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	1549		975		1606	
d_b, Bicycle Delay [s]	1.77		9.15		1.35	
l_b,int, Bicycle LOS Score for Intersection	2.957		3.454		2.548	
Bicycle LOS	C		C		B	

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	119.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.063

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	413	0	25	547	0	0	0	0	2	0	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	7	4	0	0	0	0	0
Site-Generated Trips [veh/h]	5	275	0	0	467	45	25	0	3	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	688	0	25	1014	52	29	0	3	2	0	49
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	187	0	6	276	14	8	0	1	1	0	12
Total Analysis Volume [veh/h]	5	748	0	25	1102	57	32	0	3	2	0	49
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free		Free		Stop		Stop	
Flared Lane					Yes		Yes	
Storage Area [veh]	0		0		1		1	
Two-Stage Gap Acceptance					Yes		Yes	
Number of Storage Spaces in Median	0		0		1		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.03	0.01	0.00	0.23	0.00	0.01	0.06	0.00	0.12
d_M, Delay for Movement [s/veh]	11.02	0.00	0.00	9.31	0.00	0.00	37.73	33.37	26.45	119.71	94.16	15.20
Movement LOS	B	A	A	A	A	A	E	D	D	F	F	C
95th-Percentile Queue Length [veh/ln]	0.03	0.00	0.00	0.09	0.00	0.00	0.85	0.85	0.85	0.46	0.46	0.46
95th-Percentile Queue Length [ft/ln]	0.63	0.00	0.00	2.24	0.00	0.00	21.15	21.15	21.15	11.52	11.52	11.52
d_A, Approach Delay [s/veh]	0.07			0.20			36.76			19.30		
Approach LOS	A			A			E			C		
d_I, Intersection Delay [s/veh]	1.26											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Signalized	Delay (sec / veh):	19.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.647

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	200.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	314	19	123	426	0	0	0	0	59	0	99
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	6	0	0	1	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	53	10	0	0	8	434	270	0	31	0	5	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	37	0	0	0	0	0	37	0	55	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	6	0	0	130	0	0	26	0	0	30
Total Hourly Volume [veh/h]	90	330	13	123	435	304	307	0	60	59	5	69
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	89	3	33	117	82	83	0	16	16	1	19
Total Analysis Volume [veh/h]	97	355	14	132	468	327	330	0	65	63	5	74
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	4	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	30	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	5	5	0	5	0	0	5	0
Pedestrian Clearance [s]	0	11	0	0	18	14	0	14	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	9	9	0	9	9	9	0	9	0	0	9	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	5	0	5	0	0	5	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	C
C, Cycle Length [s]	47	47	47	47	47	47	47	47	47
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	14	5	15	15	7	7	7	5
g / C, Green / Cycle	0.08	0.29	0.10	0.32	0.32	0.15	0.15	0.15	0.11
(v / s)_i Volume / Saturation Flow Rate	0.05	0.20	0.07	0.25	0.21	0.09	0.09	0.04	0.08
s, saturation flow rate [veh/h]	1781	1858	1781	1870	1589	1781	1781	1589	1678
c, Capacity [veh/h]	137	548	180	596	507	271	271	242	191
d1, Uniform Delay [s]	21.31	14.67	20.65	14.64	13.82	18.72	18.72	17.71	20.30
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.53	1.45	5.71	2.33	1.38	2.19	2.19	0.59	5.69
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.71	0.67	0.73	0.79	0.65	0.61	0.61	0.27	0.75
d, Delay for Lane Group [s/veh]	27.83	16.12	26.36	16.97	15.20	20.92	20.92	18.30	25.99
Lane Group LOS	C	B	C	B	B	C	C	B	C
Critical Lane Group	Yes	No	No	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.08	2.62	1.39	3.44	2.21	1.66	1.66	0.60	1.65
50th-Percentile Queue Length [ft/ln]	26.88	65.46	34.75	86.08	55.29	41.45	41.45	14.90	41.35
95th-Percentile Queue Length [veh/ln]	1.94	4.71	2.50	6.20	3.98	2.98	2.98	1.07	2.98
95th-Percentile Queue Length [ft/ln]	48.38	117.82	62.54	154.95	99.53	74.61	74.61	26.81	74.43

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.83	16.12	16.12	26.36	16.97	15.20	20.92	20.92	18.30	25.99	25.99	25.99
Movement LOS	C	B	B	C	B	B	C	C	B	C	C	C
d_A, Approach Delay [s/veh]	18.56			17.68			20.49			25.99		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	19.08											
Intersection LOS	B											
Intersection V/C	0.647											

Emissions

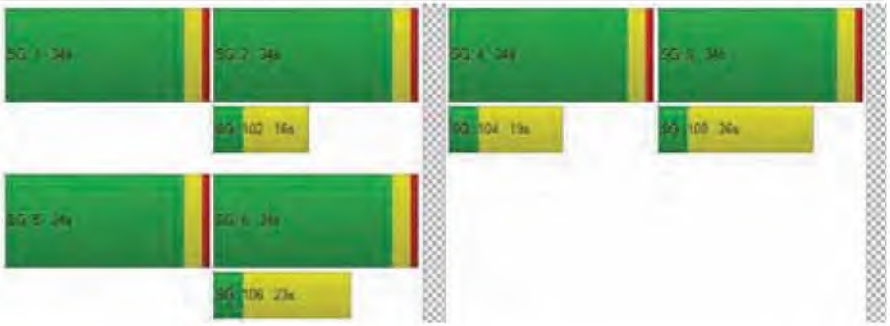
Vehicle Miles Traveled [mph]	32.89	125.13	13.39	47.48	33.18	8.98	8.98	3.54	119.88
Stops [stops/h]	82.18	200.12	106.23	263.19	169.06	126.73	126.73	45.54	126.42
Fuel consumption [US gal/h]	3.18	9.11	3.13	8.09	5.26	1.77	1.77	0.64	6.38
CO [g/h]	222.02	637.07	218.74	565.70	367.79	123.87	123.87	44.69	446.28
NOx [g/h]	43.20	123.95	42.56	110.06	71.56	24.10	24.10	8.69	86.83
VOC [g/h]	51.45	147.65	50.70	131.11	85.24	28.71	28.71	10.36	103.43

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	15.41	15.41	15.41	15.41
l_p,int, Pedestrian LOS Score for Intersectio	2.568	3.112	2.374	1.882
Crosswalk LOS	B	C	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1274	1274	1274	1274
d_b, Bicycle Delay [s]	3.10	3.10	3.10	3.10
l_b,int, Bicycle LOS Score for Intersection	2.338	3.304	2.254	1.843
Bicycle LOS	B	C	B	A

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Roundabout	Delay (sec / veh):	13.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	150.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	114	790	168	55	1	886	185
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-52	-167	91	-24	0	-79	30
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	37	0	0	23	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	99	623	259	54	1	807	215
Peak Hour Factor	1.0000	0.8800	0.8800	0.8800	0.8800	1.0000	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	28	177	74	15	0	229	61
Total Analysis Volume [veh/h]	0	113	708	294	61	1	917	244
Pedestrian Volume [ped/h]	0			0		0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1		1		
Circulating Flow Rate [veh/h]	301			936		115		
Exiting Flow Rate [veh/h]	998			364		1023		
Demand Flow Rate [veh/h]	0	99	623	259	54	1	807	215
Adjusted Demand Flow Rate [veh/h]	0	113	708	294	61	1	917	244

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1380.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00102	0.00091	0.00091
HV Adjustment Factor	0.98	0.98	0.98	0.98	0.98
Entry Flow Rate [veh/h]	116	723	363	937	249
Capacity of Entry and Bypass Lanes [veh/h]	1080	1080	531	1279	1279
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1059	1059	521	1254	1254
X, volume / capacity	0.11	0.67	0.68	0.73	0.19

Movement, Approach, & Intersection Results

Lane LOS	A	B	C	B	A
95th-Percentile Queue Length [veh]	0.36	5.39	5.15	7.03	0.72
95th-Percentile Queue Length [ft]	8.93	134.83	128.76	175.74	18.02
Approach Delay [s/veh]	12.08		23.87	11.96	
Approach LOS	B		C	B	
Intersection Delay [s/veh]	13.81				
Intersection LOS	B				

Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Signalized	Delay (sec / veh):	28.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.827

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	172	0	29	7	1	21	5	578	115	81	536	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-16	0	0	0	0	0	0	0	69	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	156	0	29	7	1	21	5	578	184	81	536	11
Peak Hour Factor	0.9700	1.0000	0.9300	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9300	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	0	8	2	0	5	1	149	47	22	138	3
Total Analysis Volume [veh/h]	161	0	31	7	1	22	5	596	190	87	553	11
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	24	0	0	11	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	9	0	0	9	0	9	9	0	9	9	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C
C, Cycle Length [s]	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	8	2	0	30	4	34
g / C, Green / Cycle	0.13	0.13	0.03	0.01	0.50	0.07	0.56
(v / s)_i Volume / Saturation Flow Rate	0.10	0.02	0.02	0.00	0.49	0.05	0.34
s, saturation flow rate [veh/h]	1603	1431	1475	1603	1614	1603	1677
c, Capacity [veh/h]	215	192	50	12	802	113	939
d1, Uniform Delay [s]	25.16	23.13	28.78	29.85	14.90	27.59	8.81
k, delay calibration	0.11	0.11	0.11	0.11	0.44	0.11	0.21
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.14	0.39	11.22	23.02	25.27	10.57	1.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.16	0.60	0.43	0.98	0.77	0.60
d, Delay for Lane Group [s/veh]	30.30	23.52	40.00	52.86	40.17	38.17	10.04
Lane Group LOS	C	C	D	D	D	D	B
Critical Lane Group	Yes	No	Yes	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.39	0.39	0.56	0.14	14.08	1.50	4.12
50th-Percentile Queue Length [ft/ln]	59.67	9.72	14.05	3.58	352.09	37.45	102.91
95th-Percentile Queue Length [veh/ln]	4.30	0.70	1.01	0.26	20.24	2.70	7.41
95th-Percentile Queue Length [ft/ln]	107.40	17.50	25.29	6.45	505.95	67.41	185.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.30	23.52	23.52	40.00	40.00	40.00	52.86	40.17	40.17	38.17	10.04	10.04
Movement LOS	C	C	C	D	D	D	D	D	D	D	B	B
d_A, Approach Delay [s/veh]	29.21			40.00			40.25			13.79		
Approach LOS	C			D			D			B		
d_I, Intersection Delay [s/veh]	28.62											
Intersection LOS	C											
Intersection V/C	0.827											

Emissions

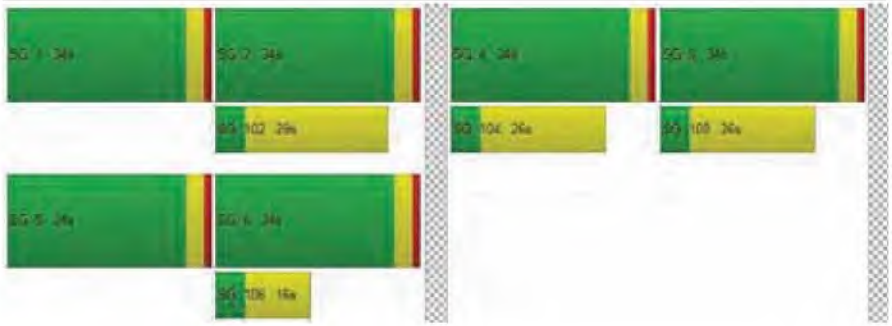
Vehicle Miles Traveled [mph]	47.71	9.19	0.67	0.72	112.54	73.23	474.73
Stops [stops/h]	142.61	23.24	33.58	8.57	841.53	89.51	245.95
Fuel consumption [US gal/h]	3.74	0.65	0.46	0.13	15.71	4.18	22.05
CO [g/h]	261.75	45.78	31.96	9.13	1098.00	292.52	1541.56
NOx [g/h]	50.93	8.91	6.22	1.78	213.63	56.91	299.93
VOC [g/h]	60.66	10.61	7.41	2.12	254.47	67.79	357.27

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.80	21.80	21.80	21.80
l_p,int, Pedestrian LOS Score for Intersectio	2.227	1.718	2.417	2.339
Crosswalk LOS	B	A	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	996	996	996	996
d_b, Bicycle Delay [s]	7.59	7.59	7.59	7.59
l_b,int, Bicycle LOS Score for Intersection	1.876	1.609	2.865	2.634
Bicycle LOS	A	A	C	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	178.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.276

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	375.00	100.00	220.00	400.00	100.00	220.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	102	74	453	315	125	60	66	907	231	350	734	187
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-6	4	0	-3	22	12	-7	0	28	32	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	137	0	0	25	0	0	69	0	0	56
Total Hourly Volume [veh/h]	102	68	320	315	122	57	78	900	162	378	766	131
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	18	82	81	31	15	20	232	42	97	197	34
Total Analysis Volume [veh/h]	105	70	330	325	126	59	80	928	167	390	790	135
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	163
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	0	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	35	0	0	40	0	25	45	0	25	35	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	0	0	44	0	39	50	0	29	41	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	0.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	R
C, Cycle Length [s]	153	153	153	153	153	153	153	153	153	153
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	3.50	5.30	5.30	3.50	6.00	6.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	1.50	3.30	3.30	1.50	4.00	4.00
g_i, Effective Green Time [s]	35	35	31	31	9	45	45	25	61	61
g / C, Green / Cycle	0.23	0.23	0.20	0.20	0.06	0.29	0.29	0.16	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.06	0.25	0.18	0.10	0.04	0.50	0.11	0.22	0.42	0.08
s, saturation flow rate [veh/h]	1781	1632	1781	1770	1781	1870	1589	1781	1870	1589
c, Capacity [veh/h]	407	373	360	357	101	550	467	291	740	629
d1, Uniform Delay [s]	48.41	59.06	59.65	54.45	71.33	54.06	42.65	64.06	46.25	30.53
k, delay calibration	0.13	0.50	0.25	0.13	0.04	0.50	0.11	0.50	0.50	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.41	67.09	17.09	1.45	5.18	317.68	0.46	174.90	52.43	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.26	1.07	0.90	0.52	0.79	1.69	0.36	1.34	1.07	0.21
d, Delay for Lane Group [s/veh]	48.83	126.15	76.74	55.90	76.51	371.74	43.11	238.95	98.67	30.75
Lane Group LOS	D	F	E	E	E	F	D	F	F	C
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.38	21.42	14.05	6.56	3.26	69.62	5.12	25.49	38.70	3.40
50th-Percentile Queue Length [ft/ln]	84.62	535.59	351.36	164.01	81.62	1740.49	128.10	637.22	967.62	84.98
95th-Percentile Queue Length [veh/ln]	6.09	30.21	20.20	10.76	5.88	106.78	8.84	38.45	51.33	6.12
95th-Percentile Queue Length [ft/ln]	152.31	755.19	505.07	269.02	146.91	2669.60	220.91	961.31	1283.13	152.96

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.83	126.15	126.15	76.74	55.90	55.90	76.51	371.74	43.11	238.95	98.67	30.75
Movement LOS	D	F	F	E	E	E	E	F	D	F	F	C
d_A, Approach Delay [s/veh]	110.07			69.18			304.93			133.30		
Approach LOS	F			E			F			F		
d_I, Intersection Delay [s/veh]	178.16											
Intersection LOS	F											
Intersection V/C	1.276											

Emissions

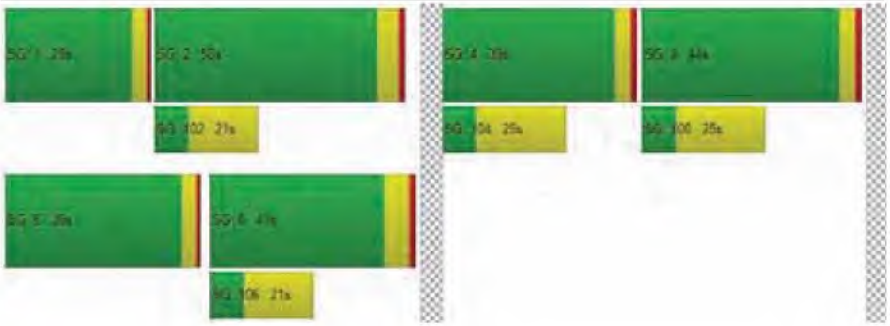
Vehicle Miles Traveled [mph]	180.67	688.26	65.89	37.51	28.01	324.95	58.48	175.98	356.47	60.92
Stops [stops/h]	79.60	503.83	330.53	154.28	76.78	1637.28	120.50	599.44	910.24	79.94
Fuel consumption [US gal/h]	8.92	41.38	9.61	4.50	2.82	92.61	4.54	29.52	35.56	3.79
CO [g/h]	623.53	2892.68	671.94	314.60	197.31	6473.27	317.21	2063.21	2485.93	265.19
NOx [g/h]	121.32	562.81	130.73	61.21	38.39	1259.46	61.72	401.43	483.67	51.60
VOC [g/h]	144.51	670.41	155.73	72.91	45.73	1500.24	73.52	478.17	576.14	61.46

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	65.93	65.93	65.93	65.93
l_p,int, Pedestrian LOS Score for Intersectio	2.613	2.286	2.796	2.989
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	455	520	584	457
d_b, Bicycle Delay [s]	45.69	41.91	38.36	45.54
l_b,int, Bicycle LOS Score for Intersection	2.619	2.442	3.612	3.822
Bicycle LOS	B	B	D	D

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	693	1091	51	32
2	672	1058	49	31
3	658	1036	48	30
4	617	971	45	28
5	547	862	40	25
6	541	851	40	25
7	534	840	39	25
8	485	764	36	22
9	478	753	35	22
10	471	742	35	22
11	409	644	30	19
12	381	600	28	18
13	374	589	28	17
14	277	436	20	13
15	277	436	20	13
16	194	305	14	9
17	111	175	8	5
18	111	175	8	5
19	62	98	5	3
20	35	55	3	2
21	21	33	2	1
22	7	11	1	0
23	7	11	1	0
24	7	11	1	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1784	1	51	No	No	No	No	No	No	No	Yes	No	No
2	2	1730	1	49	No	No	No	No	No	No	No	Yes	No	No
3	2	1694	1	48	No	No	No	No	No	No	No	Yes	No	No
4	2	1588	1	45	No	No	No	No	No	No	No	Yes	No	No
5	2	1409	1	40	No	No	No	No	No	No	No	No	No	No
6	2	1392	1	40	No	No	No	No	No	No	No	No	No	No
7	2	1374	1	39	No	No	No	No	No	No	No	No	No	No
8	2	1249	1	36	No	No	No	No	No	No	No	No	No	No
9	2	1231	1	35	No	No	No	No	No	No	No	No	No	No
10	2	1213	1	35	No	No	No	No	No	No	No	No	No	No
11	2	1053	1	30	No	No	No	No	No	No	No	No	No	No
12	2	981	1	28	No	No	No	No	No	No	No	No	No	No
13	2	963	1	28	No	No	No	No	No	No	No	No	No	No
14	2	713	1	20	No	No	No	No	No	No	No	No	No	No
15	2	713	1	20	No	No	No	No	No	No	No	No	No	No
16	2	499	1	14	No	No	No	No	No	No	No	No	No	No
17	2	286	1	8	No	No	No	No	No	No	No	No	No	No
18	2	286	1	8	No	No	No	No	No	No	No	No	No	No
19	2	160	1	5	No	No	No	No	No	No	No	No	No	No
20	2	90	1	3	No	No	No	No	No	No	No	No	No	No
21	2	54	1	2	No	No	No	No	No	No	No	No	No	No
22	2	18	1	1	No	No	No	No	No	No	No	No	No	No
23	2	18	1	1	No	No	No	No	No	No	No	No	No	No
24	2	18	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	4	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	19.3	36.8
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:16	0:19
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	51	32
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1867	1867
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Cumulative AM no Project

Vistro File: C:\...\AM 918 DU 20240213.vistro Scenario 5 2040 AM with CCSP, No Project
Report File: C:\...\13 2040 AM no Proj.pdf 2/14/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	El Dorado Hills Blvd/Serrano Pkwy	Signalized	HCM 7th Edition	SB Right	1.186	196.7	F
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	EB Right	0.981	55.5	E
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	NB Left	1.179	120.8	F
4	Latrobe Rd/US 50 EB	Signalized	HCM 7th Edition	EB Right	1.013	37.3	D
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	SB Left	0.929	36.2	D
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	NB Left	0.797	41.5	D
7	Latrobe Rd/Golden Foothill Pkwy N	Signalized	HCM 7th Edition	SB Left	0.708	15.4	B
8	Latrobe Rd/Suncast Ln	Signalized	HCM 7th Edition	SB Right	0.930	28.5	C
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	EB Thru	1.207	143.8	F
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	NB Left	0.783	12.1	B
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	WB Right	0.090	14.1	B
12	Latrobe Rd/Royal Oaks Dr	Two-way stop	HCM 7th Edition	WB Left	0.058	27.6	D
13	Golden Foothill/Robert J Mathews	Two-way stop	HCM 7th Edition	NB Right	0.800	10,000.0	F
14	Investment Blvd/Robert J Mathews Pkwy	All-way stop	HCM 7th Edition	SB Thru	2.305	372.9	F
15	Golden Foothill Pkwy/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.389	17.4	C
16	Carson Crossing Rd/Calypso Cir.	Two-way stop	HCM 7th Edition	NB Left	0.508	33.8	D
17	Carson Crossing Rd/Four Seasons Dr	All-way stop	HCM 7th Edition	WB Left	0.126	8.1	A
	White Rock Rd/Carson		HCM 7th				

18	White Rock Rd/Carson Crossing Rd	Signalized	HCM 7th Edition	EB Left	0.443	16.6	B
19	White Rock Rd/Windfield Way	Signalized	HCM 7th Edition	EB Left	0.656	35.0	C
20	White Rock Rd/Post St	Signalized	HCM 7th Edition	NB Left	0.629	44.8	D
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 7th Edition	NB Left	0.770	26.9	C
22	White Rock Rd/Clarksville Crossing	Signalized	HCM 7th Edition	SB Right	0.948	43.1	D
23	White Rock Rd/US 50 EB	Signalized	HCM 7th Edition	EB Left	0.575	11.1	B
24	Silva Valley Pkwy/US 50 WB	Signalized	HCM 7th Edition	WB Left	1.026	52.2	D
25	New Intersection	Two-way stop	HCM 7th Edition	NB Thru	0.007	0.0	A
26	Latrobe/Wetsl-Oviatt	Two-way stop	HCM 7th Edition	EB Left	0.010	14.4	B
27	Latrobe/S. Shingle	Two-way stop	HCM 7th Edition	EB Left	0.146	20.8	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: El Dorado Hills Blvd/Serrano Pkwy

Control Type:	Signalized	Delay (sec / veh):	196.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.186

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	260.0	100.0	100.0	100.0	110.00	100.00	100.00	100.00	100.00	100.00	430.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No			No		
Crosswalk	No				Yes			Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Base Volume Input [veh/h]	5	242	863	301	72	1684	51	27	16	270	494	70	114
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	1	0	0	-13	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	15	0	0	81	0	0	34
Total Hourly Volume [veh/h]	5	242	864	301	72	1671	36	27	16	189	494	70	80
Peak Hour Factor	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	70	248	86	21	480	10	8	5	54	142	20	23
Total Analysis Volume [veh/h]	5	278	993	346	83	1921	41	31	18	217	568	80	92
Presence of On-Street Parking	No			No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	1	6	0	7	7	0	0	8	0
Auxiliary Signal Groups													
Maximum Green [s]	0	25	40	0	25	40	0	35	35	0	0	35	0
Amber [s]	0.0	3.0	4.7	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	12	0	0	12	0	0	0	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	100.0	245.0	0.0	100.0	100.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	29	46	0	29	46	0	39	39	0	0	39	0
Lead / Lag	-	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	3	6	0	3	3	0	3	3	0	0	3	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	4.0	0.0
Minimum Recall		No	No		No	No			No			No	
Maximum Recall		No	No		No	No			No			No	
Pedestrian Recall		No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C
C, Cycle Length [s]	134	134	134	134	134	134	134	134	134	134
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	55	55	8	40	40	22	22	31	31
g / C, Green / Cycle	0.17	0.41	0.41	0.06	0.30	0.30	0.16	0.16	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.16	0.28	0.22	0.05	0.52	0.53	0.02	0.15	0.21	0.21
s, saturation flow rate [veh/h]	1781	3560	1589	1781	1870	1856	1781	1608	1781	1746
c, Capacity [veh/h]	308	1467	655	106	558	554	289	261	417	409
d1, Uniform Delay [s]	54.51	32.16	29.64	62.22	47.06	47.06	47.90	55.12	49.70	49.77
k, delay calibration	0.31	0.04	0.19	0.04	0.50	0.50	0.04	0.07	0.33	0.34
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	24.16	0.21	1.19	4.72	348.86	354.68	0.06	7.28	17.52	18.42
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.68	0.53	0.78	1.76	1.77	0.11	0.90	0.89	0.90
d, Delay for Lane Group [s/veh]	78.67	32.37	30.84	66.94	395.92	401.74	47.96	62.40	67.22	68.19
Lane Group LOS	E	C	C	E	F	F	D	E	E	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	11.22	12.62	8.30	2.87	71.93	72.30	0.90	8.31	14.09	14.00
50th-Percentile Queue Length [ft/ln]	280.41	315.61	207.48	71.84	1798.17	1807.40	22.42	207.73	352.26	349.91
95th-Percentile Queue Length [veh/ln]	16.71	18.45	13.02	5.17	111.31	112.03	1.61	13.04	20.25	20.13
95th-Percentile Queue Length [ft/ln]	417.72	461.28	325.59	129.31	2782.72	2800.70	40.36	325.92	506.16	503.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	78.67	78.67	32.37	30.84	66.94	398.77	401.74	47.96	62.40	62.40	67.56	68.19	68.19
Movement LOS	E	E	C	C	E	F	F	D	E	E	E	E	E
d_A, Approach Delay [s/veh]	40.12				385.36			60.72			67.70		
Approach LOS	D				F			E			E		
d_I, Intersection Delay [s/veh]	196.74												
Intersection LOS	F												
Intersection V/C	1.186												

Emissions

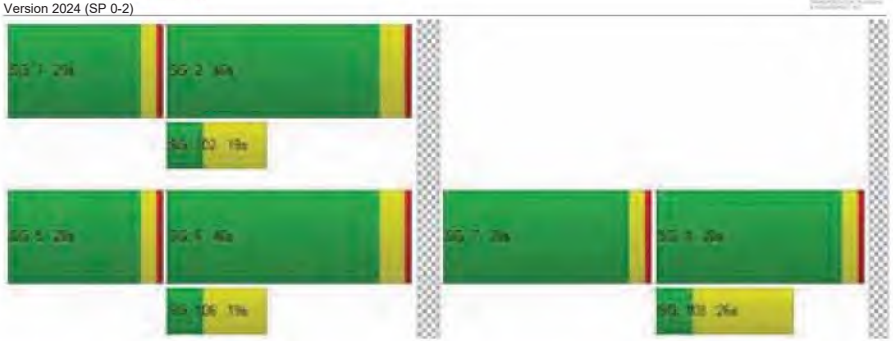
Vehicle Miles Traveled [mph]	67.59	237.16	82.64	12.20	144.23	144.23	1.32	10.04	19.50	19.22
Stops [stops/h]	301.70	679.15	223.24	77.29	1934.75	1944.68	24.12	223.51	379.02	376.49
Fuel consumption [US gal/h]	10.60	23.11	7.78	2.51	108.02	109.31	0.49	4.63	7.99	7.97
CO [g/h]	740.79	1615.64	543.77	175.44	7550.55	7640.43	34.27	323.78	558.80	556.96
NOx [g/h]	144.13	314.35	105.80	34.13	1469.06	1486.55	6.67	63.00	108.72	108.36
VOC [g/h]	171.69	374.44	126.02	40.66	1749.91	1770.74	7.94	75.04	129.51	129.08

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	56.37	56.37	56.37
I_p,int, Pedestrian LOS Score for Intersectio	0.000	3.279	2.322	2.404
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	602	602	523	523
d_b, Bicycle Delay [s]	32.68	32.68	36.49	36.49
I_b,int, Bicycle LOS Score for Intersection	2.894	3.259	2.132	2.837
Bicycle LOS	C	C	B	C

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	55.5
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.981

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	500.0	100.0	100.0	100.0	500.0	100.0	100.0	300.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	1	420	988	150	1	218	1793	441	150	61	724	68	52	272
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	1	0	0	0	-13	0	0	0	-7	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	45	0	0	0	132	0	0	215	0	0	82
Total Hourly Volume [veh/h]	1	420	989	105	1	218	1780	309	150	61	502	68	52	190
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	113	266	28	0	59	478	83	40	16	135	18	14	51
Total Analysis Volume [veh/h]	1	452	1063	113	1	234	1914	332	161	66	540	73	56	204
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	0	3	8	0
Auxiliary Signal Groups														
Maximum Green [s]	0	20	50	0	0	20	50	0	20	20	0	0	20	0
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	14	0	0	0	24	0	0	0	0	0	31	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	0	24	56	0	24	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Cycle Length [s]	126	126	126	126	126	126	126	126	126	126	126
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	18	50	50	18	50	50	20	20	20	20	20
g / C, Green / Cycle	0.15	0.40	0.40	0.15	0.40	0.40	0.16	0.16	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.13	0.22	0.22	0.13	0.38	0.21	0.06	0.06	0.19	0.04	0.16
s, saturation flow rate [veh/h]	3459	3560	1779	1781	5094	1589	1781	1831	2813	1781	1643
c, Capacity [veh/h]	508	1410	705	261	2017	629	282	290	446	282	260
d1, Uniform Delay [s]	52.85	29.52	29.53	52.91	36.88	29.10	47.68	47.65	53.09	46.58	53.07
k, delay calibration	0.04	0.13	0.14	0.28	0.13	0.13	0.04	0.04	0.09	0.04	0.42
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.25	0.42	0.92	22.63	3.73	0.83	0.34	0.32	98.76	0.18	50.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.56	0.56	0.90	0.95	0.53	0.40	0.39	1.21	0.26	1.00
d, Delay for Lane Group [s/veh]	55.10	29.94	30.44	75.54	40.61	29.93	48.02	47.98	151.85	46.76	103.56
Lane Group LOS	E	C	C	E	D	C	D	D	F	D	F
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	7.02	8.92	9.03	8.77	18.68	7.53	3.22	3.28	13.16	2.04	11.87
50th-Percentile Queue Length [ft/ln]	175.59	223.10	225.64	219.33	466.91	188.20	80.45	81.90	329.09	50.96	296.64
95th-Percentile Queue Length [veh/ln]	11.37	13.82	13.95	13.63	25.76	12.03	5.79	5.90	20.78	3.67	17.52
95th-Percentile Queue Length [ft/ln]	284.25	345.58	348.81	340.77	644.10	300.69	144.81	147.43	519.51	91.72	437.88

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.10	55.10	30.07	30.44	75.54	75.54	40.61	29.93	48.02	47.98	151.85	46.76	103.56	103.56
Movement LOS	E	E	C	C	E	E	D	C	D	D	F	D	F	F
d_A, Approach Delay [s/veh]	37.06				42.49				121.11			91.11		
Approach LOS	D				D				F			F		
d_I, Intersection Delay [s/veh]	55.47													
Intersection LOS	E													
Intersection V/C	0.981													

Emissions

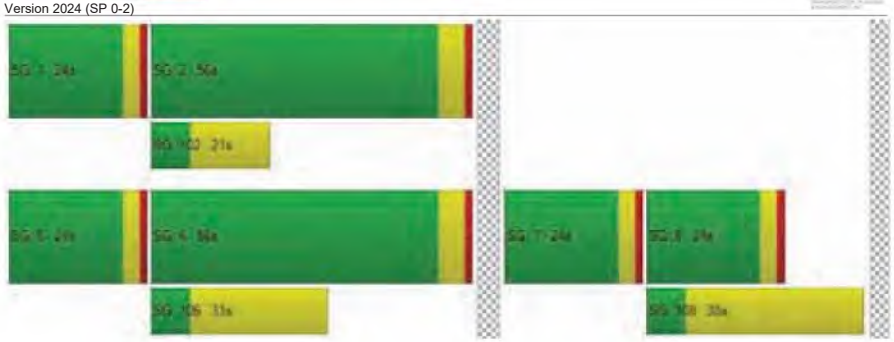
Vehicle Miles Traveled [mph]	85.25	147.53	73.78	56.13	457.13	79.29	7.01	7.14	33.68	3.56	12.68
Stops [stops/h]	400.97	509.46	257.63	250.43	1599.32	214.88	91.86	93.52	751.49	58.18	338.70
Fuel consumption [US gal/h]	12.99	16.17	8.16	8.65	51.37	7.41	1.89	1.93	22.22	1.16	7.87
CO [g/h]	907.79	1130.08	570.45	604.60	3590.75	518.07	132.45	134.85	1553.29	81.26	550.23
NOx [g/h]	176.62	219.87	110.99	117.63	698.63	100.80	25.77	26.24	302.21	15.81	107.06
VOC [g/h]	210.39	261.91	132.21	140.12	832.19	120.07	30.70	31.25	359.99	18.83	127.52

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	52.54	52.54	52.54
I_p,int, Pedestrian LOS Score for Intersectio	0.000	3.683	3.092	2.357
Crosswalk LOS	F	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	798	798	317	317
d_b, Bicycle Delay [s]	22.79	22.79	44.65	44.65
I_b,int, Bicycle LOS Score for Intersection	2.480	2.868	3.180	2.244
Bicycle LOS	B	C	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	120.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.179

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1588	1190	150	3	70	1406	1107	260	92	837	171	104	106
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-1	1	1	0	0	-20	0	0	0	-9	-4	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	45	0	0	0	332	0	0	248	0	0	32
Total Hourly Volume [veh/h]	1	1587	1191	106	3	70	1386	775	260	92	580	167	104	74
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	397	298	27	1	18	347	194	65	23	145	42	26	19
Total Analysis Volume [veh/h]	1	1587	1191	106	3	70	1386	775	260	92	580	167	104	74
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	134
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7						
Maximum Green [s]	0	37	62	0	0	14	39	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	42	68	0	0	19	45	28	0	28	0	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	37	69	69	8	39	72	28	28	11	11	11
g / C, Green / Cycle	0.28	0.51	0.51	0.06	0.29	0.53	0.21	0.21	0.08	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.46	0.24	0.25	0.04	0.27	0.49	0.10	0.10	0.07	0.06	0.07
s, saturation flow rate [veh/h]	3459	3560	1795	1781	5094	1589	1781	1826	1781	1830	1674
c, Capacity [veh/h]	951	1813	914	99	1475	846	366	375	147	151	138
d1, Uniform Delay [s]	36.83	5.68	5.72	63.26	47.14	29.02	47.60	47.59	61.25	61.20	61.36
k, delay calibration	0.30	0.50	0.50	0.04	0.50	0.50	0.08	0.08	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	304.12	0.88	1.86	4.00	12.87	16.21	0.71	0.69	3.57	3.31	4.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.67	0.47	0.49	0.74	0.94	0.92	0.48	0.47	0.79	0.78	0.81
d, Delay for Lane Group [s/veh]	340.96	6.55	7.58	67.25	60.01	45.22	48.31	48.28	64.82	64.51	65.60
Lane Group LOS	F	A	A	E	E	D	D	D	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	53.92	2.45	2.82	2.55	16.54	25.13	5.30	5.42	4.08	4.14	3.96
50th-Percentile Queue Length [ft/ln]	1347.98	61.28	70.49	63.87	413.58	628.21	132.49	135.51	102.05	103.40	99.04
95th-Percentile Queue Length [veh/ln]	83.52	4.41	5.08	4.60	23.21	33.35	9.08	9.24	7.35	7.44	7.13
95th-Percentile Queue Length [ft/ln]	2087.99	110.31	126.88	114.97	580.35	833.74	226.88	230.96	183.69	186.12	178.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	340.9	340.9	6.85	7.58	67.25	67.25	60.01	45.22	48.30	48.28	0.00	64.72	64.91	65.60
Movement LOS	F	F	A	A	E	E	E	D	D	D		E	E	E
d_A, Approach Delay [s/veh]	190.78				55.12				18.24			64.97		
Approach LOS	F				E				B			E		
d_I, Intersection Delay [s/veh]	120.76													
Intersection LOS	F													
Intersection V/C	1.179													

Emissions

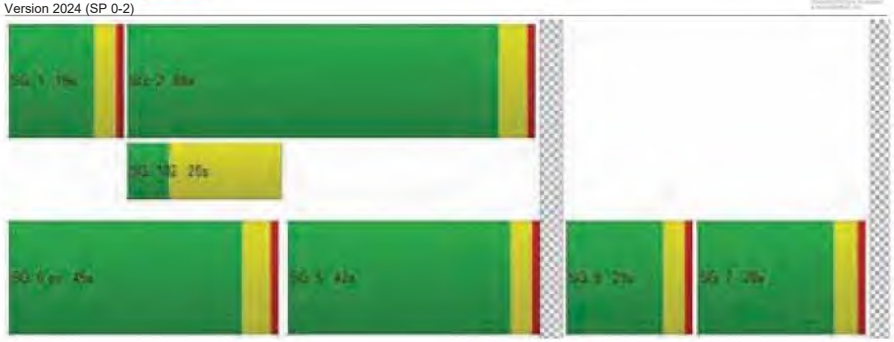
Vehicle Miles Traveled [mph]	271.98	145.74	76.40	13.74	260.84	145.85	8.05	8.23	3.68	3.74	3.55
Stops [stops/h]	2854.54	129.77	74.63	67.63	1313.74	665.17	140.28	143.48	108.05	109.48	104.86
Fuel consumption [US gal/h]	137.12	7.85	4.25	2.31	42.20	20.40	2.82	2.88	2.28	2.30	2.21
CO [g/h]	9585.00	548.78	296.76	161.52	2949.80	1426.05	196.87	201.36	159.06	161.02	154.78
NOx [g/h]	1864.89	106.77	57.74	31.43	573.92	277.46	38.30	39.18	30.95	31.33	30.11
VOC [g/h]	2221.42	127.18	68.78	37.43	683.64	330.50	45.63	46.67	36.86	37.32	35.87

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		57.44	
l_p,int, Pedestrian LOS Score for Intersectio	0.000		0.000		0.000		2.365	
Crosswalk LOS	F		F		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	915		576		337		241	
d_b, Bicycle Delay [s]	20.02		34.45		47.03		52.59	
l_b,int, Bicycle LOS Score for Intersection	3.171		2.932		2.140		1.871	
Bicycle LOS	C		C		B		A	

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Latrobe Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	37.3
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.013

Intersection Setup

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	2	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	300.00	570.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No			No		
Crosswalk	No			No				No			Yes		

Volumes

Name	Latrobe Rd			El Dorado Hills Blvd			US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Base Volume Input [veh/h]	0	2400	463	0	529	1886	0	0	1410	0	0	529
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	1	0	0	-33	0	0	0	-25	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	139	0	0	0	0	0	0	416	0	0	159
Total Hourly Volume [veh/h]	0	2401	325	0	529	1853	0	0	0	969	0	0	370
Peak Hour Factor	1.0000	0.8400	0.8400	1.000	0.840	0.840	1.000	1.0000	1.0000	0.8400	1.0000	1.0000	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	715	97	0	157	551	0	0	0	288	0	0	110
Total Analysis Volume [veh/h]	0	2858	387	0	630	2206	0	0	0	1154	0	0	440
Presence of On-Street Parking	No		No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	74.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	50	0	0	39	50	0	0	0	45	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No				No			
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	4.2	0.0	0.0	2.6	4.2	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	2.5	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Minimum Recall		No			No	No				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	R	
C, Cycle Length [s]	68	68	68	68	68	
L, Total Lost Time per Cycle [s]	6.20	6.20	4.60	6.20	4.60	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	4.20	4.20	2.60	4.20	2.60	
g_i, Effective Green Time [s]	32	32	26	35	22	
g / C, Green / Cycle	0.47	0.47	0.38	0.51	0.33	
(v / s)_i Volume / Saturation Flow Rate	0.42	0.24	0.35	0.32	0.41	
s, saturation flow rate [veh/h]	6792	1589	1781	6792	2813	
c, Capacity [veh/h]	3159	739	670	3476	927	
d1, Uniform Delay [s]	16.79	12.85	20.49	12.00	22.80	
k, delay calibration	0.50	0.50	0.15	0.50	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	4.85	2.64	9.26	0.89	111.12	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.90	0.52	0.94	0.63	1.25	
d, Delay for Lane Group [s/veh]	21.64	15.49	29.74	12.90	133.92	
Lane Group LOS	C	B	C	B	F	
Critical Lane Group	Yes	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	9.11	3.88	9.75	4.84	21.06	
50th-Percentile Queue Length [ft/ln]	227.79	96.98	243.76	120.92	526.57	
95th-Percentile Queue Length [veh/ln]	14.06	6.98	14.87	8.44	32.41	
95th-Percentile Queue Length [ft/ln]	351.54	174.56	371.78	211.09	810.33	

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	21.64	15.49	29.74	29.74	12.90	0.00	0.00	0.00	133.92	0.00	0.00	0.00
Movement LOS		C	B	C	C	B				F			
d_A, Approach Delay [s/veh]		20.91			16.64				133.92			0.00	
Approach LOS		C			B				F			A	
d_I, Intersection Delay [s/veh]	37.26												
Intersection LOS	D												
Intersection V/C	1.013												

Emissions

Vehicle Miles Traveled [mph]	413.54	56.00	107.90	377.82	82.58	
Stops [stops/h]	1929.48	205.37	516.19	1024.25	2230.20	
Fuel consumption [US gal/h]	50.75	5.69	13.93	31.48	47.17	
CO [g/h]	3547.65	397.96	973.70	2200.22	3296.97	
NOx [g/h]	690.24	77.43	189.45	428.08	641.47	
VOC [g/h]	822.20	92.23	225.66	509.92	764.10	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00	0.00
d_p, Pedestrian Delay [s]	0.00		0.00		0.00	23.89
I_p,int, Pedestrian LOS Score for Intersectio	0.000		0.000		0.000	2.263
Crosswalk LOS	F		F		F	B
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	906		1024		659	0
d_b, Bicycle Delay [s]	10.18		8.10		15.29	34.00
I_b,int, Bicycle LOS Score for Intersection	2.956		2.470		1.560	1.560
Bicycle LOS	C		B		A	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	36.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.929

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	73	2071	262	4	570	2319	403	184	10	32	1	74	33	604
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	2	0	0	0	-58	0	0	0	-1	0	-4	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	79	0	0	0	121	0	0	9	0	0	0	181
Total Hourly Volume [veh/h]	1	73	2073	183	4	570	2261	282	184	10	22	1	70	33	423
Peak Hour Factor	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.9800	0.9800	0.9800	0.980	0.980	0.980	0.980
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	19	529	47	1	145	577	72	47	3	6	0	18	8	108
Total Analysis Volume [veh/h]	1	74	2115	187	4	582	2307	288	188	10	22	1	71	34	432
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	123
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	5	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	50	0	15	15	50	0	15	20	0	0	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	3.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.5	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	1.5	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	245.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	19	19	56	0	19	24	0	0	19	19	0
Lead / Lag	-	Lead	-	-	Lead	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	4	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	No			No	No			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	103	103	103	103	103	103	103	103	103	103	103	103
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	4	49	49	15	60	60	8	8	8	15	15	15
g / C, Green / Cycle	0.04	0.48	0.48	0.15	0.58	0.58	0.08	0.08	0.08	0.15	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.02	0.42	0.12	0.17	0.45	0.18	0.05	0.01	0.01	0.04	0.14	0.14
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	1870	1589	1781	1625	1589
c, Capacity [veh/h]	132	2420	755	505	2970	927	268	145	123	260	237	232
d1, Uniform Delay [s]	48.61	24.21	16.05	43.89	16.34	10.92	46.26	43.98	44.36	39.07	43.84	43.84
k, delay calibration	0.04	0.04	0.04	0.07	0.04	0.04	0.08	0.08	0.08	0.08	0.42	0.42
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.44	0.41	0.06	75.69	0.17	0.07	2.50	0.15	0.51	0.42	51.83	52.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.87	0.25	1.16	0.78	0.31	0.70	0.07	0.18	0.28	0.99	0.99
d, Delay for Lane Group [s/veh]	50.05	24.63	16.11	119.58	16.51	10.99	48.76	44.13	44.87	39.49	95.68	96.33
Lane Group LOS	D	C	B	F	B	B	D	D	D	D	F	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.97	14.66	2.57	11.65	12.68	3.18	2.42	0.24	0.54	1.64	9.33	9.17
50th-Percentile Queue Length [ft/ln]	24.20	366.55	64.36	291.21	316.91	79.46	60.57	6.04	13.51	41.03	233.16	229.19
95th-Percentile Queue Length [veh/ln]	1.74	20.94	4.63	18.39	18.52	5.72	4.36	0.43	0.97	2.95	14.33	14.13
95th-Percentile Queue Length [ft/ln]	43.56	523.54	115.86	459.86	462.89	143.04	109.03	10.87	24.32	73.86	358.37	353.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.05	50.05	24.63	16.11	119.5	119.5	16.51	10.99	48.76	44.13	44.87	39.49	39.49	95.68	96.02
Movement LOS	D	D	C	B	F	F	B	B	D	D	D	D	D	F	F
d_A, Approach Delay [s/veh]	24.76				35.00				48.16			88.44			
Approach LOS	C				C				D			F			
d_I, Intersection Delay [s/veh]	36.15														
Intersection LOS	D														
Intersection V/C	0.929														

Emissions

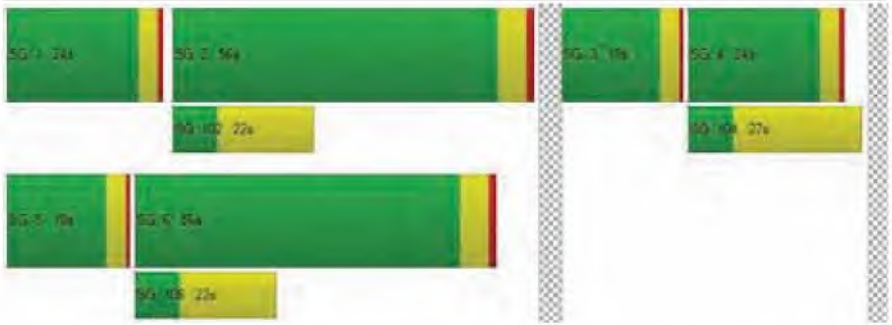
Vehicle Miles Traveled [mph]	16.74	472.02	41.73	84.79	333.82	41.67	23.98	1.28	2.81	25.27	82.66	80.89
Stops [stops/h]	67.89	1542.54	90.29	817.00	1333.66	111.47	169.93	8.47	18.95	57.56	327.07	321.50
Fuel consumption [US gal/h]	1.83	38.55	2.83	22.26	28.86	2.98	3.79	0.19	0.42	1.94	9.80	9.62
CO [g/h]	127.78	2694.83	197.82	1556.15	2017.32	207.97	265.01	13.22	29.43	135.38	684.67	672.68
NOx [g/h]	24.86	524.32	38.49	302.77	392.50	40.46	51.56	2.57	5.73	26.34	133.21	130.88
VOC [g/h]	29.61	624.55	45.85	360.65	467.53	48.20	61.42	3.06	6.82	31.38	158.68	155.90

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	40.92	0.00	40.92	40.92
I_p,int, Pedestrian LOS Score for Intersectio	3.495	0.000	2.593	2.871
Crosswalk LOS	C	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	984	984	399	302
d_b, Bicycle Delay [s]	13.25	13.25	32.87	37.00
I_b,int, Bicycle LOS Score for Intersection	2.910	3.056	1.749	2.629
Bicycle LOS	C	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	41.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.797

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	2	0	0	1	2	0	0	1	1	0	2
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	260.0	100.0	100.0	260.0	360.0	100.0	100.0	300.0	400.00	100.00	300.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	2	157	1794	426	1	98	1858	469	2	355	447	90	517	381	257
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	2	2	0	0	-63	0	0	0	0	0	-15	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	128	0	0	0	141	0	0	0	27	0	0	77
Total Hourly Volume [veh/h]	2	157	1796	300	1	98	1795	328	2	355	447	63	502	381	180
Peak Hour Factor	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	0.9400	0.9400	0.9400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	42	478	80	0	26	477	87	1	94	119	17	134	101	48
Total Analysis Volume [veh/h]	2	167	1911	319	1	104	1910	349	2	378	476	67	534	405	191
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	160
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Overl	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	3	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups				2,3											
Maximum Green [s]	0	15	45	36	0	25	45	0	0	21	25	0	36	35	0
Amber [s]	0.0	4.0	4.7	4.5	0.0	4.0	4.7	0.0	0.0	4.5	4.7	0.0	4.5	4.7	0.0
All red [s]	0.0	1.0	1.0	1.5	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	5	0	0	0	5	0	0	0	4	0	0	5	0
Pedestrian Clearance [s]	0	0	28	0	0	0	24	0	0	0	31	0	0	31	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	3.0	3.7	4.0	0.0	3.0	3.7	0.0	0.0	4.0	3.7	0.0	4.0	3.7	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	58	42	0	25	58	0	0	27	35	0	42	50	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	9	9	9	0	9	9	0	0	9	9	0	9	9	0
Vehicle Extension [s]	0.0	1.0	1.5	1.0	0.0	1.0	1.5	0.0	0.0	1.0	1.5	0.0	1.0	1.5	0.0
Minimum Recall		No	Yes	No		No	Yes			No	No		No	No	
Maximum Recall		No	No	No		No	No			No	No		No	No	
Pedestrian Recall		No	No	No		No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	160	160	160	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	5.00	5.70	6.00	5.00	5.70	5.70	6.00	5.70	5.70	6.00	5.70	5.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.70	0.00	3.00	3.70	3.70	4.00	3.70	3.70	4.00	3.70	3.70
g_i, Effective Green Time [s]	10	78	111	9	77	77	20	24	24	27	31	31
g / C, Green / Cycle	0.06	0.49	0.69	0.06	0.48	0.48	0.12	0.15	0.15	0.17	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.05	0.28	0.20	0.03	0.38	0.22	0.11	0.13	0.04	0.16	0.11	0.12
s, saturation flow rate [veh/h]	3431	6737	1577	3431	5053	1577	3431	3532	1577	3431	3532	1577
c, Capacity [veh/h]	212	3298	1091	193	2445	763	419	521	232	572	678	303
d1, Uniform Delay [s]	74.05	29.10	9.51	73.50	34.25	27.36	69.31	67.22	60.74	52.45	44.34	44.68
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.58	0.75	0.68	0.89	2.56	1.97	3.09	2.76	0.25	3.17	0.31	0.81
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.58	0.29	0.54	0.78	0.46	0.91	0.91	0.29	0.93	0.60	0.63
d, Delay for Lane Group [s/veh]	76.63	29.85	10.20	74.39	36.81	29.33	72.40	69.98	60.99	55.62	44.66	45.49
Lane Group LOS	E	C	B	E	D	C	E	E	E	E	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.53	13.37	4.52	2.10	20.40	9.10	7.90	9.83	2.47	9.50	5.71	5.52
50th-Percentile Queue Length [ft/ln]	88.15	334.22	113.04	52.57	509.92	227.39	197.48	245.76	61.65	237.45	142.74	137.92
95th-Percentile Queue Length [veh/ln]	6.35	19.37	8.01	3.79	27.80	14.04	12.51	14.97	4.44	14.55	9.63	9.37
95th-Percentile Queue Length [ft/ln]	158.67	484.13	200.22	94.63	695.09	351.05	312.71	374.31	110.98	363.81	240.71	234.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	76.63	76.63	29.85	10.20	74.39	74.39	36.81	29.33	72.40	72.40	69.98	60.99	55.62	44.66	45.49
Movement LOS	E	E	C	B	E	E	D	C	E	E	E	E	E	D	D
d_A, Approach Delay [s/veh]	30.53				37.38				70.32				49.98		
Approach LOS	C				D				E				D		
d_I, Intersection Delay [s/veh]	41.52														
Intersection LOS	D														
Intersection V/C	0.797														

Emissions

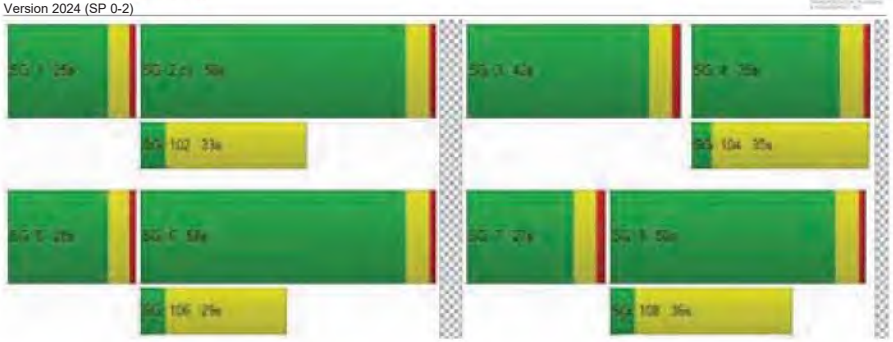
Vehicle Miles Traveled [mph]	67.35	761.60	127.13	23.43	426.27	77.89	94.70	118.62	16.70	55.98	42.46	20.02
Stops [stops/h]	158.67	1203.18	101.74	94.63	1376.78	204.65	355.46	442.37	55.49	427.41	256.93	124.13
Fuel consumption [US gal/h]	6.28	49.61	6.46	3.57	46.04	7.30	11.46	14.10	1.83	10.71	6.85	3.28
CO [g/h]	439.27	3467.47	451.38	249.48	3218.02	510.11	801.08	985.91	127.59	748.58	478.65	229.13
NOx [g/h]	85.47	674.64	87.82	48.54	626.11	99.25	155.86	191.82	24.82	145.65	93.13	44.58
VOC [g/h]	101.81	803.62	104.61	57.82	745.81	118.22	185.66	228.49	29.57	173.49	110.93	53.10

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	72.20	71.25	71.25	71.25
l_p,int, Pedestrian LOS Score for Intersectio	3.671	3.936	2.941	3.043
Crosswalk LOS	D	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	654	654	366	554
d_b, Bicycle Delay [s]	36.25	36.25	53.38	41.83
l_b,int, Bicycle LOS Score for Intersection	2.601	2.880	2.032	2.555
Bicycle LOS	B	C	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	15.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.708

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0	0	1	1	0	1	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	300.0	200.0	100.0	100.0	100.0	320.00	100.00	320.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	74	1954	3	2	19	1885	577	279	6	21	5	11	15
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	4	0	0	0	-78	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	1	0	0	0	173	0	0	6	0	0	5
Total Hourly Volume [veh/h]	1	74	1958	2	2	19	1807	404	279	6	15	5	11	10
Peak Hour Factor	1.000	0.870	0.870	0.870	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	21	563	1	1	5	519	116	80	2	4	1	3	3
Total Analysis Volume [veh/h]	1	85	2251	2	2	22	2077	464	321	7	17	6	13	11
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	ProtP	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	5	34	0	0	15	34	0	0	36	0	0	16	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	11	0	0	0	18	0	0	24	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	20	40	0	0	20	40	0	0	40	0	0	20	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		Yes	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	C
C, Cycle Length [s]	67	67	67	67	67	67	67	67	67	67
L, Total Lost Time per Cycle [s]	6.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	42	37	37	1	34	34	9	9	9	2
g / C, Green / Cycle	0.63	0.55	0.55	0.02	0.51	0.51	0.13	0.13	0.13	0.03
(v / s)_i Volume / Saturation Flow Rate	0.24	0.41	0.41	0.01	0.41	0.29	0.09	0.09	0.01	0.02
s, saturation flow rate [veh/h]	364	3560	1869	1781	5094	1589	1781	1785	1589	1740
c, Capacity [veh/h]	342	1951	1024	31	2574	803	239	239	213	58
d1, Uniform Delay [s]	13.01	11.75	11.75	32.95	13.91	11.63	27.81	27.80	25.52	32.01
k, delay calibration	0.15	0.15	0.32	0.04	0.15	0.17	0.11	0.11	0.11	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.54	0.88	3.37	14.47	0.89	1.01	3.49	3.48	0.16	2.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.25	0.76	0.76	0.78	0.81	0.58	0.69	0.69	0.08	0.52
d, Delay for Lane Group [s/veh]	13.55	12.63	15.12	47.42	14.80	12.65	31.29	31.28	25.68	34.65
Lane Group LOS	B	B	B	D	B	B	C	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.42	7.20	8.27	0.47	6.27	3.62	2.63	2.63	0.24	0.51
50th-Percentile Queue Length [ft/ln]	10.54	180.06	206.82	11.80	156.82	90.57	65.71	65.82	5.94	12.63
95th-Percentile Queue Length [veh/ln]	0.76	11.60	12.99	0.85	10.38	6.52	4.73	4.74	0.43	0.91
95th-Percentile Queue Length [ft/ln]	18.96	290.10	324.75	21.24	259.51	163.03	118.29	118.48	10.70	22.73

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.55	13.55	13.49	15.12	47.42	47.42	14.80	12.65	31.29	31.28	25.68	34.65	34.65	34.65
Movement LOS	B	B	B	B	D	D	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	13.49				14.72				31.01			34.65		
Approach LOS	B				B				C			C		
d_I, Intersection Delay [s/veh]	15.35													
Intersection LOS	B													
Intersection V/C	0.708													

Emissions

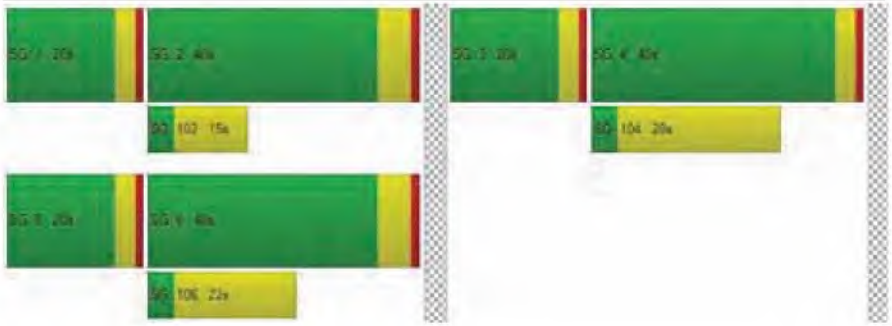
Vehicle Miles Traveled [mph]	30.40	522.18	274.18	9.56	827.75	184.92	39.45	39.52	4.09	0.57
Stops [stops/h]	22.60	772.40	443.59	25.31	1009.05	194.27	140.95	141.18	12.74	27.09
Fuel consumption [US gal/h]	1.61	29.56	16.12	1.02	52.69	10.99	3.45	3.45	0.33	0.38
CO [g/h]	112.78	2066.35	1127.13	71.42	3682.95	768.10	240.87	241.29	22.91	26.89
NOx [g/h]	21.94	402.04	219.30	13.90	716.57	149.44	46.87	46.95	4.46	5.23
VOC [g/h]	26.14	478.90	261.22	16.55	853.56	178.01	55.82	55.92	5.31	6.23

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.05	0.00	26.05	26.05
l_p,int, Pedestrian LOS Score for Intersectio	3.268	0.000	2.458	1.743
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1013	1013	1072	477
d_b, Bicycle Delay [s]	8.18	8.18	7.22	19.48
l_b,int, Bicycle LOS Score for Intersection	2.846	3.053	2.139	1.617
Bicycle LOS	C	C	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Latrobe Rd/Suncast Ln

Control Type:	Signalized	Delay (sec / veh):	28.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.930

Intersection Setup

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Approach	Northbound			Southbound		Eastbound	
Lane Configuration							
Turning Movement	U-turn	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			No		Yes	

Volumes

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Base Volume Input [veh/h]	1	155	1839	1449	463	193	104
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	4	-78	0	0	-1
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	139	0	31
Total Hourly Volume [veh/h]	1	155	1843	1371	324	193	72
Peak Hour Factor	1.0000	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	45	530	394	93	55	21
Total Analysis Volume [veh/h]	1	178	2118	1576	372	222	83
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permissive	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	5	2	6	0	3	0
Auxiliary Signal Groups							
Maximum Green [s]	0	12	40	40	0	20	0
Amber [s]	0.0	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No	No		No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	46	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-
Minimum Green [s]	0	5	5	5	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall		No	No	No		No	
Maximum Recall		No	No	No		No	
Pedestrian Recall		No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	L	R
C, Cycle Length [s]	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	9	53	40	40	12	12
g / C, Green / Cycle	0.12	0.71	0.53	0.53	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.10	0.59	0.52	0.56	0.12	0.05
s, saturation flow rate [veh/h]	1781	3560	1870	1752	1781	1589
c, Capacity [veh/h]	221	2528	996	933	279	249
d1, Uniform Delay [s]	32.02	7.79	17.11	17.54	30.50	28.17
k, delay calibration	0.08	0.16	0.42	0.46	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.99	1.15	21.39	40.42	5.13	0.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.84	0.98	1.04	0.80	0.33
d, Delay for Lane Group [s/veh]	37.01	8.94	38.50	57.96	35.63	28.95
Lane Group LOS	D	A	D	F	D	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.36	8.60	19.78	24.10	4.12	1.34
50th-Percentile Queue Length [ft/ln]	84.07	215.08	494.43	602.41	103.05	33.50
95th-Percentile Queue Length [veh/ln]	6.05	13.41	27.07	33.25	7.42	2.41
95th-Percentile Queue Length [ft/ln]	151.32	335.33	676.77	831.29	185.50	60.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.01	37.01	8.94	45.93	57.96	35.63	28.95
Movement LOS	D	D	A	D	E	D	C
d_A, Approach Delay [s/veh]	11.13			48.23		33.81	
Approach LOS	B			D		C	
d_I, Intersection Delay [s/veh]	28.53						
Intersection LOS	C						
Intersection V/C	0.930						

Emissions

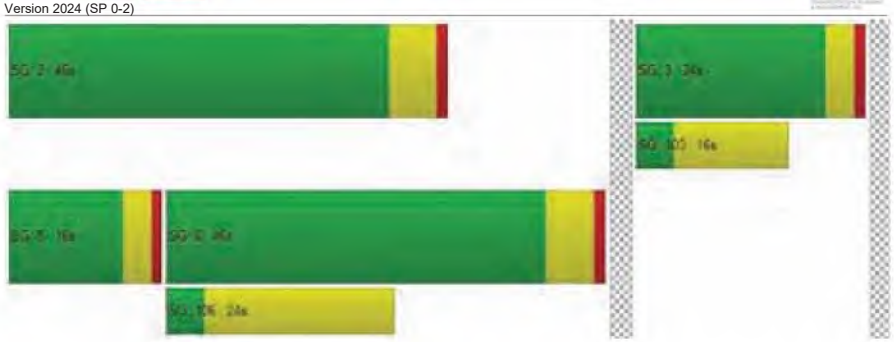
Vehicle Miles Traveled [mph]	124.50	1473.18	344.28	344.28	74.90	28.00
Stops [stops/h]	161.58	826.74	950.29	1157.81	198.07	64.38
Fuel consumption [US gal/h]	7.37	69.07	27.05	32.06	5.79	2.00
CO [g/h]	514.90	4827.77	1891.04	2240.82	404.54	139.62
NOx [g/h]	100.18	939.31	367.93	435.98	78.71	27.16
VOC [g/h]	119.33	1118.88	438.27	519.33	93.76	32.36

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0		0.0		8.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	29.89		0.00		29.89	
I_p,int, Pedestrian LOS Score for Intersectio	3.071		0.000		2.311	
Crosswalk LOS	C		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	1068		1068		534	
d_b, Bicycle Delay [s]	8.14		8.14		20.13	
I_b,int, Bicycle LOS Score for Intersection	3.454		3.281		1.560	
Bicycle LOS	C		C		A	

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	143.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.207

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	60	778	21	276	401	877	613	90	86	136	351	604
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	2	0	0	-32	-47	3	0	-10	-6	-8	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	6	0	0	249	0	0	23	0	0	181
Total Hourly Volume [veh/h]	61	780	15	276	369	581	616	90	53	130	343	423
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	219	4	78	104	163	173	25	15	37	96	119
Total Analysis Volume [veh/h]	69	876	17	310	415	653	692	101	60	146	385	475
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Cycle Length [s]	89	89	89	89	89	89	89	89	89	89
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	4	23	23	12	30	30	15	15	20	20
g / C, Green / Cycle	0.05	0.26	0.26	0.14	0.34	0.34	0.17	0.17	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.04	0.24	0.24	0.17	0.22	0.41	0.24	0.24	0.29	0.30
s, saturation flow rate [veh/h]	1781	1870	1857	1781	1870	1589	1781	1771	1845	1589
c, Capacity [veh/h]	91	483	480	241	640	544	301	299	416	358
d1, Uniform Delay [s]	41.56	32.09	32.09	38.35	24.64	29.16	36.85	36.85	34.35	34.35
k, delay calibration	0.04	0.27	0.27	0.50	0.22	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.80	17.02	17.10	156.65	2.24	106.50	206.58	208.57	142.06	164.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.93	0.93	1.29	0.65	1.20	1.42	1.42	1.28	1.33
d, Delay for Lane Group [s/veh]	46.36	49.11	49.20	195.01	26.89	135.66	243.43	245.43	176.41	199.01
Lane Group LOS	D	D	D	F	C	F	F	F	F	F
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.59	11.35	11.29	15.30	6.89	26.18	23.65	23.69	25.11	23.88
50th-Percentile Queue Length [ft/ln]	39.83	283.79	282.18	382.46	172.19	654.48	591.36	592.16	627.70	597.11
95th-Percentile Queue Length [veh/ln]	2.87	16.88	16.80	24.04	11.19	38.66	36.67	36.75	37.74	36.62
95th-Percentile Queue Length [ft/ln]	71.70	421.93	419.92	601.11	279.80	966.44	916.70	918.67	943.42	915.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.36	49.15	49.20	195.01	26.89	135.66	244.20	245.43	245.43	176.41	176.41	199.01
Movement LOS	D	D	D	F	C	F	F	F	F	F	F	F
d_A, Approach Delay [s/veh]	48.95			116.25			244.43			187.08		
Approach LOS	D			F			F			F		
d_I, Intersection Delay [s/veh]	143.84											
Intersection LOS	F											
Intersection V/C	1.207											

Emissions

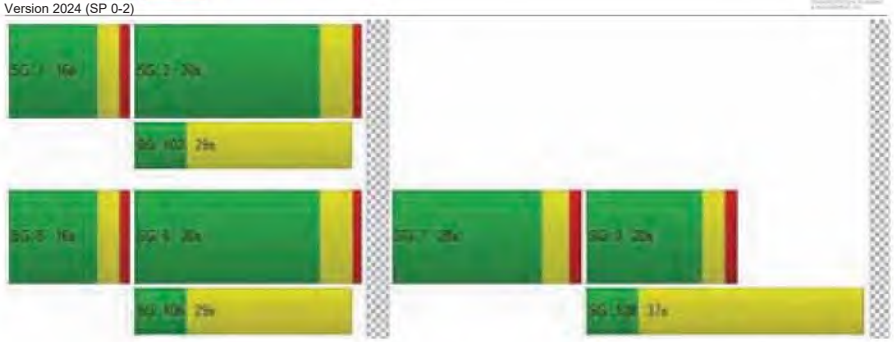
Vehicle Miles Traveled [mph]	39.85	258.73	257.00	215.62	288.65	454.19	32.13	32.04	58.73	52.53
Stops [stops/h]	64.68	460.78	458.15	620.97	279.58	1062.64	960.15	961.46	1019.15	969.49
Fuel consumption [US gal/h]	2.65	17.67	17.57	31.05	17.12	52.96	27.78	27.90	27.11	26.75
CO [g/h]	185.14	1235.39	1227.84	2170.20	1196.66	3701.66	1941.69	1950.31	1894.85	1869.98
NOx [g/h]	36.02	240.36	238.89	422.24	232.83	720.21	377.78	379.46	368.67	363.83
VOC [g/h]	42.91	286.31	284.56	502.96	277.34	857.89	450.01	452.00	439.15	433.39

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.03	0.00	34.03	34.03
I_p,int, Pedestrian LOS Score for Intersectio	2.621	0.000	2.697	2.723
Crosswalk LOS	B	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	557	557	350	451
d_b, Bicycle Delay [s]	23.08	23.08	30.20	26.60
I_b,int, Bicycle LOS Score for Intersection	2.358	2.902	3.005	3.518
Bicycle LOS	B	C	C	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	12.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.783

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	122	582	265	358	277	109
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-7	0	0	-48	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	93	0	33
Total Hourly Volume [veh/h]	115	582	265	217	280	76
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	162	74	60	78	21
Total Analysis Volume [veh/h]	128	647	294	241	311	84
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	12	40	40	0	20	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	46	46	0	24	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	36	36	36	36	36	36
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	4	17	10	10	9	9
g / C, Green / Cycle	0.10	0.48	0.27	0.27	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.07	0.35	0.16	0.15	0.17	0.05
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1589
c, Capacity [veh/h]	182	898	500	425	430	384
d1, Uniform Delay [s]	15.62	7.42	11.46	11.38	12.53	10.92
k, delay calibration	0.04	0.15	0.15	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.87	1.57	1.57	1.70	2.32	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.72	0.59	0.57	0.72	0.22
d, Delay for Lane Group [s/veh]	17.50	8.99	13.03	13.08	14.85	11.20
Lane Group LOS	B	A	B	B	B	B
Critical Lane Group	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.77	1.53	1.36	1.13	2.03	0.44
50th-Percentile Queue Length [ft/ln]	19.29	38.19	33.97	28.23	50.86	11.10
95th-Percentile Queue Length [veh/ln]	1.39	2.75	2.45	2.03	3.66	0.80
95th-Percentile Queue Length [ft/ln]	34.72	68.75	61.15	50.81	91.55	19.98

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	17.50	8.99	13.03	13.08	14.85	11.20
Movement LOS	B	A	B	B	B	B
d_A, Approach Delay [s/veh]	10.40		13.05		14.07	
Approach LOS	B		B		B	
d_I, Intersection Delay [s/veh]	12.08					
Intersection LOS	B					
Intersection V/C	0.783					

Emissions

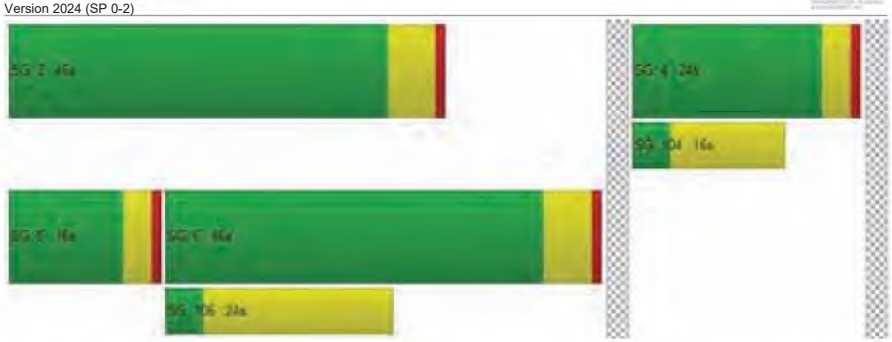
Vehicle Miles Traveled [mph]	15.79	79.83	169.79	139.18	73.04	19.73
Stops [stops/h]	77.62	153.69	136.71	113.59	204.68	44.66
Fuel consumption [US gal/h]	2.43	6.71	9.00	7.41	5.08	1.25
CO [g/h]	169.57	468.96	629.02	517.77	354.93	87.41
NOx [g/h]	32.99	91.24	122.38	100.74	69.06	17.01
VOC [g/h]	39.30	108.69	145.78	120.00	82.26	20.26

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	10.79	0.00	10.79
I_p,int, Pedestrian LOS Score for Intersectio	2.600	0.000	2.229
Crosswalk LOS	B	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	2236	2236	1118
d_b, Bicycle Delay [s]	0.25	0.25	3.48
I_b,int, Bicycle LOS Score for Intersection	2.838	2.596	1.560
Bicycle LOS	C	B	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	14.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.090

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	658	0	14	360	0	0	0	0	0	0	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-7	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	651	0	14	360	0	0	0	0	0	0	39
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	177	0	4	98	0	0	0	0	0	0	10
Total Analysis Volume [veh/h]	0	708	0	14	391	0	0	0	0	0	0	39
Pedestrian Volume [ped/h]		0			0			0			0	

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			Yes	Yes
Storage Area [veh]	0	0	1	1
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
d_M, Delay for Movement [s/veh]	8.08	0.00	0.00	9.06	0.00	0.00	27.90	22.96	10.47	26.03	23.78	14.10
Movement LOS	A	A	A	A	A	A	D	C	B	D	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.02	0.02	0.02	0.00	0.00	0.00	0.29	0.29	0.29
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.59	0.59	0.59	0.00	0.00	0.00	7.35	7.35	7.35
d_A, Approach Delay [s/veh]	0.00			0.31			20.45			14.10		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	0.59											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Two-way stop	Delay (sec / veh):	27.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.058

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	422	48	74	286	0	0	0	0	12	0	250
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-7	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	415	48	74	286	0	0	0	0	12	0	250
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	112	13	20	77	0	0	0	0	3	0	67
Total Analysis Volume [veh/h]	0	446	52	80	308	0	0	0	0	13	0	269
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.45
d_M, Delay for Movement [s/veh]	7.87	0.00	0.00	8.65	0.00	0.00	41.14	20.29	9.92	27.63	26.42	17.74
Movement LOS	A	A	A	A	A	A	E	C	A	D	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00	2.90	2.90	2.90
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	6.07	0.00	0.00	0.00	0.00	0.00	72.46	72.46	72.46
d_A, Approach Delay [s/veh]	0.00			1.78			23.78			18.20		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	4.99											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.800

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	13	560	229	53	0	1106	182
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	3	-10	-17	0	-55	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	15	563	219	36	0	1051	183
Peak Hour Factor	1.0000	0.9060	0.9060	0.9060	0.9060	1.0000	0.9060	0.9060
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	155	60	10	0	290	50
Total Analysis Volume [veh/h]	0	17	621	242	40	0	1160	202
Pedestrian Volume [ped/h]	0			0		0		

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.80	0.00	0.00	0.00	0.91	0.00
d_M, Delay for Movement [s/veh]	10000.00	10000.00	10000.00	0.00	0.00	36.54	15.61	0.00
Movement LOS	F	F	F	A	A	E	C	A
95th-Percentile Queue Length [veh/ln]	82.64	82.64	82.64	0.00	0.00	8.66	8.66	8.66
95th-Percentile Queue Length [ft/ln]	2066.12	2066.12	2066.12	0.00	0.00	216.40	216.40	216.40
d_A, Approach Delay [s/veh]	10000.00			0.00		13.30		
Approach LOS	F			A		B		
d_I, Intersection Delay [s/veh]	2803.73							
Intersection LOS	F							

Intersection Level Of Service Report
Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Control Type:	All-way stop	Delay (sec / veh):	372.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.305

Intersection Setup

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Base Volume Input [veh/h]	16	229	88	2	30	1009	55	19	21	0	258	55	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	-75	6	3	0	0	-55	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	229	88	2	30	1009	0	25	24	0	258	0	70
Peak Hour Factor	0.8300	0.8300	0.8300	1.000	0.830	0.830	0.830	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	69	27	1	9	304	0	8	7	0	78	0	21
Total Analysis Volume [veh/h]	19	276	106	2	36	1216	0	30	29	0	311	0	84
Pedestrian Volume [ped/h]	0			0				0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	538	1254	422	512
Degree of Utilization, x	0.75	2.31	0.14	0.77

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	6.41	93.77	0.48	6.90
95th-Percentile Queue Length [ft]	160.28	2344.34	12.05	172.50
Approach Delay [s/veh]	26.83	608.53	12.90	30.00
Approach LOS	D	F	B	D
Intersection Delay [s/veh]	372.91			
Intersection LOS	F			

Intersection Level Of Service Report
Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	17.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.389

Intersection Setup

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00			30.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	No		No			No		

Volumes

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Base Volume Input [veh/h]	175	151	1	131	225	0	67	128
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-25	0	-2	0	0	2	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	175	126	1	129	225	0	69	129
Peak Hour Factor	0.9500	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	33	0	34	59	0	18	34
Total Analysis Volume [veh/h]	184	133	1	136	237	0	73	136
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Priority Scheme	Stop		Free			Free		
Flared Lane								
Storage Area [veh]	0		0			0		
Two-Stage Gap Acceptance	No							
Number of Storage Spaces in Median	0		0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.39	0.17	0.00	0.00	0.00	0.00	0.06	0.00
d_M, Delay for Movement [s/veh]	17.36	10.53	8.82	0.00	0.00	11.77	8.24	0.00
Movement LOS	C	B	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	1.82	0.61	0.00	0.00	0.00	0.20	0.20	0.00
95th-Percentile Queue Length [ft/ln]	45.41	15.21	0.05	0.05	0.05	4.91	4.91	0.00
d_A, Approach Delay [s/veh]	14.49		0.02			2.88		
Approach LOS	B		A			A		
d_I, Intersection Delay [s/veh]	5.78							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 16: Carson Crossing Rd/Calypso Cir.

Control Type:	Two-way stop	Delay (sec / veh):	33.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.508

Intersection Setup

Name			Carson Crossing Rd		Carson Crossing Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	190.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			Carson Crossing Rd		Carson Crossing Rd	
Base Volume Input [veh/h]	134	128	233	92	194	152
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-25	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	134	128	208	92	194	154
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	35	57	25	53	42
Total Analysis Volume [veh/h]	146	139	226	100	211	167
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.51	0.17	0.00	0.00	0.17	0.00
d_M, Delay for Movement [s/veh]	33.77	25.68	0.00	0.00	8.52	0.00
Movement LOS	D	D	A	A	A	A
95th-Percentile Queue Length [veh/ln]	4.91	4.91	0.00	0.00	0.62	0.00
95th-Percentile Queue Length [ft/ln]	122.63	122.63	0.00	0.00	15.40	0.00
d_A, Approach Delay [s/veh]	29.83		0.00		4.76	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	10.41					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 17: Carson Crossing Rd/Four Seasons Dr

Control Type:	All-way stop	Delay (sec / veh):	8.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.126

Intersection Setup

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	500.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	500.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Base Volume Input [veh/h]	67	10	12	202	20	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	0	-25	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	69	10	12	177	20	18
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	3	3	48	5	5
Total Analysis Volume [veh/h]	75	11	13	192	22	20
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	715	741	690	763	763	724
Degree of Utilization, x	0.06	0.06	0.02	0.13	0.13	0.06

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.19	0.18	0.06	0.43	0.43	0.18
95th-Percentile Queue Length [ft]	4.79	4.61	1.44	10.73	10.73	4.61
Approach Delay [s/veh]	7.96		8.09			8.28
Approach LOS	A		A			A
Intersection Delay [s/veh]	8.08					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Signalized	Delay (sec / veh):	16.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.443

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	200.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	65	0	18	66	1	8	4	343	152	60	603	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	0	0	0	0	0	0	-25	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	67	0	18	66	1	8	4	343	127	60	603	15
Peak Hour Factor	0.9700	1.0000	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	0	5	17	0	2	1	88	33	15	155	4
Total Analysis Volume [veh/h]	69	0	19	68	1	8	4	354	131	62	622	15
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	25	0	0	25	0	15	45	0	15	45	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	21	0	0	11	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	30	0	0	30	0	20	40	0	20	40	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	9	0	0	9	0	9	9	0	9	9	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	C	L	C	R	L	C	R
C, Cycle Length [s]	46	46	46	46	46	46	46	46	46	46
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	6	6	6	6	0	9	9	5	14	14
g / C, Green / Cycle	0.13	0.13	0.13	0.12	0.01	0.20	0.20	0.11	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.04	0.00	0.01	0.05	0.00	0.11	0.09	0.04	0.19	0.01
s, saturation flow rate [veh/h]	1603	1683	1431	1584	1603	3204	1431	1603	3204	1431
c, Capacity [veh/h]	216	227	193	198	17	629	281	175	947	423
d1, Uniform Delay [s]	18.01	0.00	17.47	18.52	22.60	16.71	16.37	18.99	14.18	11.55
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.84	0.00	0.22	1.24	7.24	0.79	1.20	1.21	0.78	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.00	0.10	0.39	0.24	0.56	0.47	0.35	0.66	0.04
d, Delay for Lane Group [s/veh]	18.86	0.00	17.69	19.76	29.84	17.50	17.57	20.20	14.96	11.58
Lane Group LOS	B	A	B	B	C	B	B	C	B	B
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.64	0.00	0.17	0.74	0.07	1.53	1.15	0.60	2.45	0.10
50th-Percentile Queue Length [ft/ln]	15.94	0.00	4.21	18.43	1.81	38.26	28.82	15.11	61.31	2.41
95th-Percentile Queue Length [veh/ln]	1.15	0.00	0.30	1.33	0.13	2.75	2.08	1.09	4.41	0.17
95th-Percentile Queue Length [ft/ln]	28.70	0.00	7.59	33.17	3.26	68.87	51.88	27.21	110.36	4.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.86	0.00	17.69	19.76	19.76	19.76	29.84	17.50	17.57	20.20	14.96	11.58
Movement LOS	B	A	B	B	B	B	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	18.61			19.76			17.62			15.35		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	16.64											
Intersection LOS	B											
Intersection V/C	0.443											

Emissions

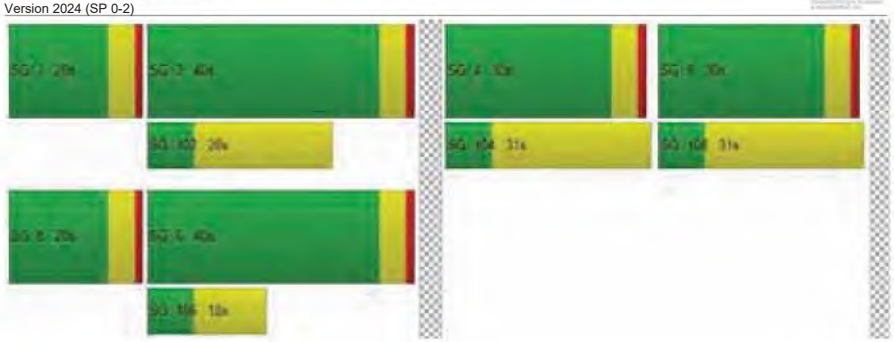
Vehicle Miles Traveled [mph]	20.48	0.00	5.64	1.72	0.57	50.69	18.76	52.17	523.43	12.62
Stops [stops/h]	50.09	0.00	13.24	57.90	5.69	240.43	90.56	47.49	385.28	7.56
Fuel consumption [US gal/h]	1.38	0.00	0.37	0.70	0.08	4.68	1.74	2.67	25.57	0.60
CO [g/h]	96.80	0.00	26.13	48.94	5.54	326.86	121.69	186.29	1787.38	41.71
NOx [g/h]	18.83	0.00	5.08	9.52	1.08	63.60	23.68	36.24	347.76	8.12
VOC [g/h]	22.43	0.00	6.05	11.34	1.28	75.75	28.20	43.17	414.24	9.67

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	13.24	13.24	13.24	13.24
l_p,int, Pedestrian LOS Score for Intersectio	2.316	1.723	2.607	2.599
Crosswalk LOS	B	A	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1091	1091	1527	1527
d_b, Bicycle Delay [s]	4.73	4.73	1.28	1.28
l_b,int, Bicycle LOS Score for Intersection	1.705	1.687	1.963	2.136
Bicycle LOS	A	A	A	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 19: White Rock Rd/Windfield Way

Control Type:	Signalized	Delay (sec / veh):	35.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.656

Intersection Setup

Name	Windfield Way						White Rock Rd			White Rock Rd			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00			
Grade [%]	0.00			0.00			0.00			0.00			
Curb Present	No			No			No			No			
Crosswalk	Yes			Yes			Yes			No			

Volumes

Name	Windfield Way						White Rock Rd			White Rock Rd			
Base Volume Input [veh/h]	72	5	243	5	5	0	5	644	184	0	499	505	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	73	0	0	0	0	0	55	0	0	0	2
Total Hourly Volume [veh/h]	72	5	170	5	5	0	5	644	129	0	499	505	3
Peak Hour Factor	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000	1.0000	0.9700	0.9700	1.000	0.970	0.970	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	19	1	44	1	1	0	1	166	33	0	129	130	1
Total Analysis Volume [veh/h]	74	5	175	5	5	0	5	664	133	0	514	521	3
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	31.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi
Signal Group	3	8	0	7	4	0	5	2	0	0	1	6	0
Auxiliary Signal Groups													
Maximum Green [s]	25	25	0	10	10	0	9	19	0	0	44	54	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	2.0	1.0	0.0	0.0	2.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	26	0	0	13	0	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	245.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	15	15	0	15	25	0	0	50	60	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	3	3	0	5	3	0	5	7	0	0	3	7	0
Vehicle Extension [s]	1.0	1.0	0.0	3.0	1.0	0.0	3.0	3.6	0.0	0.0	1.0	3.6	0.0
Minimum Recall	No	No		No	No		No	Yes			No	Yes	
Maximum Recall	No	No		No	No		No	No			No	No	
Pedestrian Recall	No	No		No	No		No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	6	15	1	10	1	46	46	36	81	81
g / C, Green / Cycle	0.05	0.13	0.01	0.08	0.01	0.38	0.38	0.30	0.68	0.68
(v / s)_i Volume / Saturation Flow Rate	0.04	0.11	0.00	0.00	0.00	0.19	0.08	0.29	0.14	0.14
s, saturation flow rate [veh/h]	1781	1596	1781	1870	1781	3560	1589	1781	1870	1866
c, Capacity [veh/h]	96	204	12	152	12	1354	604	537	1262	1259
d1, Uniform Delay [s]	56.04	51.41	59.33	50.78	59.34	28.34	25.16	41.16	7.39	7.39
k, delay calibration	0.04	0.04	0.11	0.04	0.11	0.50	0.50	0.24	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.85	4.76	19.50	0.03	19.95	1.27	0.84	18.67	0.37	0.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.88	0.40	0.03	0.40	0.49	0.22	0.96	0.21	0.21
d, Delay for Lane Group [s/veh]	60.89	56.16	78.83	50.81	79.29	29.61	26.00	59.83	7.76	7.76
Lane Group LOS	E	E	E	D	E	C	C	E	A	A
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.34	5.58	0.22	0.14	0.22	7.49	2.72	17.53	2.55	2.55
50th-Percentile Queue Length [ft/ln]	58.57	139.55	5.48	3.51	5.50	187.21	67.97	438.14	63.82	63.70
95th-Percentile Queue Length [veh/ln]	4.22	9.46	0.39	0.25	0.40	11.98	4.89	24.39	4.59	4.59
95th-Percentile Queue Length [ft/ln]	105.43	236.42	9.86	6.32	9.90	299.40	122.35	609.78	114.87	114.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	60.89	56.16	56.16	78.83	50.81	0.00	79.29	29.61	26.00	59.83	59.83	7.76	7.76
Movement LOS	E	E	E	E	D		E	C	C	E	E	A	A
d_A, Approach Delay [s/veh]	57.54			64.82			29.32			33.55			
Approach LOS	E			E			C			C			
d_I, Intersection Delay [s/veh]	34.98												
Intersection LOS	C												
Intersection V/C	0.656												

Emissions

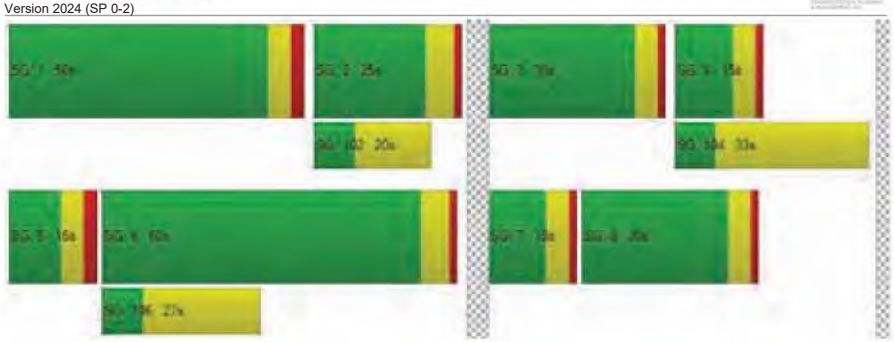
Vehicle Miles Traveled [mph]	28.51	69.36	0.17	0.17	4.21	558.77	111.92	128.09	65.36	65.23
Stops [stops/h]	70.28	167.46	6.57	4.21	6.60	449.30	81.57	525.77	76.58	76.43
Fuel consumption [US gal/h]	2.48	5.84	0.12	0.08	0.29	29.49	5.76	14.44	3.53	3.52
CO [g/h]	173.28	408.03	8.65	5.74	20.30	2061.06	402.74	1009.07	246.61	246.12
NOx [g/h]	33.71	79.39	1.68	1.12	3.95	401.01	78.36	196.33	47.98	47.89
VOC [g/h]	40.16	94.57	2.00	1.33	4.70	477.67	93.34	233.86	57.15	57.04

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.394	1.962	2.781	0.000
Crosswalk LOS	B	A	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	417	167	317	900
d_b, Bicycle Delay [s]	37.60	50.42	42.50	18.15
I_b,int, Bicycle LOS Score for Intersection	2.099	1.576	2.267	1.994
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 20: White Rock Rd/Post St

Control Type:	Signalized	Delay (sec / veh):	44.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.629

Intersection Setup

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Approach	Northbound			Southbound			Eastbound				Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	300.0	100.0	100.0	100.0	200.00	100.00	400.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00				30.00		
Grade [%]	0.00			0.00			0.00				0.00		
Curb Present	No			No			No				No		
Crosswalk	Yes			Yes			No				No		

Volumes

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	60	7	28	115	11	210	0	243	666	62	56	885	214
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	-4	0	0	2	0	0	-12	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	62	0	0	0	19	0	0	64
Total Hourly Volume [veh/h]	60	7	20	115	11	144	0	243	668	43	56	873	150
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	1.000	0.910	0.910	0.910	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	2	5	32	3	40	0	67	184	12	15	240	41
Total Analysis Volume [veh/h]	66	8	22	126	12	158	0	267	734	47	62	959	165
Presence of On-Street Parking	No		No	No		No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0				0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0				0		
v_co, Outbound Pedestrian Volume crossing	0			0			0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0				0		
Bicycle Volume [bicycles/h]	0			0			0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	160
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	71.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups													
Maximum Green [s]	7	23	0	7	25	0	0	14	31	0	15	34	0
Amber [s]	3.5	5.0	0.0	3.5	5.0	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.7	1.0	0.0	1.0	1.0	0.0	0.0	2.0	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	24	0	0	0	21	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.2	4.0	0.0	2.5	4.0	0.0	0.0	3.5	2.5	0.0	3.0	2.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	100.0	0.0	100.0	100.0	0.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	29	0	13	31	0	0	28	80	0	20	72	0
Lead / Lag	Lead	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	3	9	0	3	9	0	0	9	9	0	9	9	0
Vehicle Extension [s]	1.0	1.5	0.0	1.0	1.5	0.0	0.0	1.0	1.5	0.0	1.0	1.5	0.0
Minimum Recall		No			No			No	Yes		No	No	
Maximum Recall		No			No			No	No		No	No	
Pedestrian Recall		No			No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	160	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	6.00	6.00	6.00	6.00	5.50	4.50	4.50	5.00	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	4.00	4.00	4.00	4.00	3.50	2.50	2.50	3.00	2.50	2.50
g_i, Effective Green Time [s]	9	9	19	19	65	102	102	8	45	45
g / C, Green / Cycle	0.06	0.06	0.12	0.12	0.41	0.64	0.64	0.05	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.04	0.01	0.07	0.11	0.15	0.21	0.03	0.03	0.27	0.10
s, saturation flow rate [veh/h]	1790	1589	1781	1606	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	101	89	211	190	723	2272	1014	94	1005	449
d1, Uniform Delay [s]	74.34	72.27	66.91	69.53	33.23	13.20	10.80	74.33	56.42	46.00
k, delay calibration	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.87	0.53	1.01	5.68	1.45	0.38	0.09	2.87	2.66	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.25	0.60	0.89	0.37	0.32	0.05	0.66	0.95	0.37
d, Delay for Lane Group [s/veh]	78.21	72.80	67.91	75.21	34.69	13.58	10.89	77.20	59.08	46.18
Lane Group LOS	E	E	E	E	C	B	B	E	E	D
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.12	0.88	4.98	7.20	7.68	6.21	0.66	2.59	19.42	5.37
50th-Percentile Queue Length [ft/ln]	78.12	22.12	124.52	180.03	191.88	155.28	16.56	64.85	485.42	134.16
95th-Percentile Queue Length [veh/ln]	5.62	1.59	8.64	11.60	12.22	10.30	1.19	4.67	26.64	9.17
95th-Percentile Queue Length [ft/ln]	140.61	39.82	216.03	290.05	305.46	257.46	29.81	116.73	666.08	229.13

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	78.21	78.21	72.80	67.91	75.21	75.21	34.69	34.69	13.58	10.89	77.20	59.08	46.18
Movement LOS	E	E	E	E	E	E	C	C	B	B	E	E	D
d_A, Approach Delay [s/veh]	76.97			72.10			18.84				58.23		
Approach LOS	E			E			B				E		
d_I, Intersection Delay [s/veh]	44.76												
Intersection LOS	D												
Intersection V/C	0.629												

Emissions

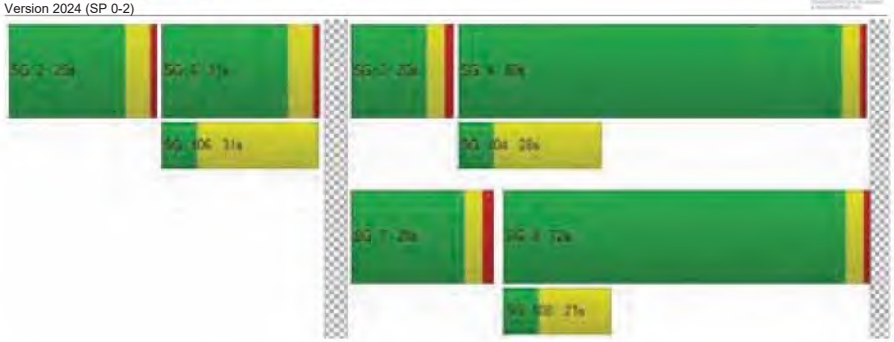
Vehicle Miles Traveled [mph]	3.70	1.10	5.86	7.90	27.99	76.95	4.93	21.71	335.80	57.78
Stops [stops/h]	70.31	19.91	112.07	162.03	172.69	279.50	14.91	58.37	873.75	120.74
Fuel consumption [US gal/h]	1.72	0.48	2.60	3.82	3.99	6.74	0.39	2.19	30.18	4.60
CO [g/h]	120.12	33.63	181.84	267.15	278.97	471.17	27.21	153.09	2109.56	321.26
NOx [g/h]	23.37	6.54	35.38	51.98	54.28	91.67	5.29	29.78	410.44	62.51
VOC [g/h]	27.84	7.80	42.14	61.91	64.65	109.20	6.31	35.48	488.91	74.46

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	69.38	69.38	69.38	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.058	2.336	2.883	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	288	313	944	844
d_b, Bicycle Delay [s]	58.65	56.95	22.31	26.74
l_b,int, Bicycle LOS Score for Intersection	1.731	2.150	2.220	2.591
Bicycle LOS	A	B	B	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	26.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.770

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	2	2	0	1	2	0	1	2	0	1
Entry Pocket Length [ft]	300.00	100.00	300.00	200.00	100.00	200.00	300.00	100.00	200.00	500.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	300.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	129	55	474	219	51	48	223	336	271	414	989	335
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	1	0	-2	0	0	2	0	-5	-12	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	143	0	0	14	0	0	81	0	0	101
Total Hourly Volume [veh/h]	129	55	332	219	49	34	223	338	190	409	977	234
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	16	95	63	14	10	64	97	55	118	281	67
Total Analysis Volume [veh/h]	148	63	382	252	56	39	256	389	218	470	1123	269
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	153
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	1	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups			1,4									
Maximum Green [s]	0	35	25	0	40	0	25	45	0	25	44	0
Amber [s]	0.0	3.2	3.0	0.0	3.2	0.0	3.0	5.0	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.5	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	28	0	0	24	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.2	1.5	0.0	2.2	0.0	1.5	4.0	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	150.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	29	0	45	0	29	50	0	29	50	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	5	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	2.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No	No		No		No	No		No	No	
Maximum Recall		No	No		No		No	No		No	No	
Pedestrian Recall		No	No		No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	87	87	87	87	87	87	87	87	87	87	87	87
L, Total Lost Time per Cycle [s]	4.20	4.20	3.50	4.20	4.20	4.20	3.50	6.00	6.00	3.50	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	0.00	2.20	2.20	2.20	1.50	4.00	4.00	1.50	4.00	4.00
g_i, Effective Green Time [s]	10	10	50	16	16	16	9	28	28	15	34	34
g / C, Green / Cycle	0.12	0.12	0.57	0.18	0.18	0.18	0.10	0.32	0.32	0.17	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.08	0.03	0.14	0.13	0.03	0.02	0.07	0.11	0.14	0.14	0.32	0.17
s, saturation flow rate [veh/h]	1781	1870	2813	1944	1870	1589	3459	3560	1589	3459	3560	1589
c, Capacity [veh/h]	211	221	1594	393	342	291	345	1156	516	585	1404	627
d1, Uniform Delay [s]	37.08	35.19	9.51	35.49	30.10	29.93	38.29	22.39	23.11	34.95	23.45	19.32
k, delay calibration	0.13	0.13	0.04	0.13	0.13	0.13	0.04	0.11	0.11	0.04	0.14	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.22	0.87	0.03	2.18	0.28	0.26	1.19	0.17	0.55	1.00	1.41	0.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.28	0.24	0.64	0.16	0.13	0.74	0.34	0.42	0.80	0.80	0.43
d, Delay for Lane Group [s/veh]	42.30	36.06	9.54	37.68	30.37	30.19	39.49	22.56	23.66	35.95	24.86	19.92
Lane Group LOS	D	D	A	D	C	C	D	C	C	D	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.30	1.26	1.69	2.65	1.00	0.70	2.68	2.98	3.49	4.79	9.98	3.94
50th-Percentile Queue Length [ft/ln]	82.40	31.53	42.34	66.32	25.10	17.45	67.02	74.46	87.33	119.63	249.47	98.39
95th-Percentile Queue Length [veh/ln]	5.93	2.27	3.05	4.78	1.81	1.26	4.83	5.36	6.29	8.37	15.16	7.08
95th-Percentile Queue Length [ft/ln]	148.31	56.76	76.22	119.38	45.18	31.41	120.64	134.02	157.20	209.32	378.98	177.10

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.30	36.06	9.54	37.68	30.37	30.19	39.49	22.56	23.66	35.95	24.86	19.92
Movement LOS	D	D	A	D	C	C	D	C	C	D	C	B
d_A, Approach Delay [s/veh]	20.53			35.66			27.86			26.94		
Approach LOS	C			D			C			C		
d_I, Intersection Delay [s/veh]	26.95											
Intersection LOS	C											
Intersection V/C	0.770											

Emissions

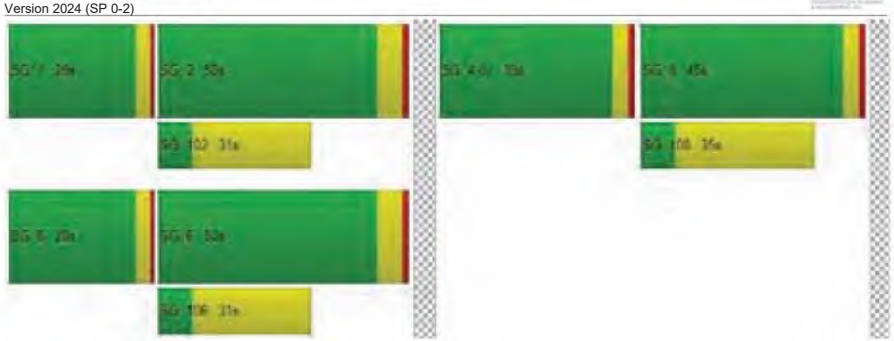
Vehicle Miles Traveled [mph]	253.80	108.03	655.07	51.09	11.35	7.91	89.64	136.21	76.33	212.08	506.72	121.38
Stops [stops/h]	135.75	51.95	139.52	218.54	41.35	28.75	220.84	245.34	143.88	394.18	822.01	162.10
Fuel consumption [US gal/h]	12.47	5.20	28.48	5.24	1.04	0.72	6.97	8.75	4.99	14.35	31.08	6.98
CO [g/h]	871.77	363.25	1990.68	366.46	72.83	50.60	487.01	611.53	348.60	1002.81	2172.65	488.11
NOx [g/h]	169.62	70.67	387.31	71.30	14.17	9.84	94.76	118.98	67.82	195.11	422.72	94.97
VOC [g/h]	202.04	84.19	461.36	84.93	16.88	11.73	112.87	141.73	80.79	232.41	503.53	113.13

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			0.0		
M_corner, Corner Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	33.39			33.39			33.39			0.00		
l_p,int, Pedestrian LOS Score for Intersectio	2.908			2.641			3.023			0.000		
Crosswalk LOS	C			B			C			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	796			934			1007			1007		
d_b, Bicycle Delay [s]	15.83			12.42			10.78			10.78		
l_b,int, Bicycle LOS Score for Intersection	2.774			2.155			2.338			3.179		
Bicycle LOS	C			B			B			C		

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 22: White Rock Rd/Clarksville Crossing

Control Type:	Signalized	Delay (sec / veh):	43.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.948

Intersection Setup

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	180.00	460.00	100.00	100.00	290.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	0	0	5	4	0	354	3	1026	0	4	1384	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	2	0	0	-17	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	5	4	0	354	3	1028	0	4	1367	31
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	2	1	0	113	1	329	0	1	438	10
Total Analysis Volume [veh/h]	0	0	6	5	0	454	4	1318	0	5	1753	40
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	20	0	0	20	0	20	50	0	20	50	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	5.0	0.0	4.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	5.0	0.0	3.0	5.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	R
C, Cycle Length [s]	93	93	93	93	93	93	93	93	93	93
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	7.00	7.00	5.00	7.00	7.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	5.00	5.00	3.00	5.00	5.00
g_i, Effective Green Time [s]	1	1	20	20	1	49	49	1	49	49
g / C, Green / Cycle	0.01	0.01	0.22	0.22	0.01	0.53	0.53	0.01	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.00	0.29	0.00	0.35	0.35	0.00	0.49	0.03
s, saturation flow rate [veh/h]	1870	1589	1781	1589	1781	1870	1870	1781	3560	1589
c, Capacity [veh/h]	16	14	384	343	11	993	993	13	1894	846
d1, Uniform Delay [s]	0.00	45.72	28.58	36.34	45.88	15.75	15.75	45.79	19.99	10.41
k, delay calibration	0.11	0.11	0.11	0.50	0.11	0.18	0.18	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	20.35	0.01	164.65	18.97	1.29	1.29	16.88	2.38	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.44	0.01	1.32	0.36	0.66	0.66	0.38	0.93	0.05
d, Delay for Lane Group [s/veh]	0.00	66.07	28.59	200.99	64.84	17.04	17.04	62.67	22.37	10.43
Lane Group LOS	A	E	C	F	E	B	B	E	C	B
Critical Lane Group	No	Yes	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.00	0.21	0.09	23.24	0.15	9.69	9.69	0.18	16.41	0.38
50th-Percentile Queue Length [ft/ln]	0.00	5.34	2.20	580.91	3.72	242.25	242.25	4.39	410.19	9.51
95th-Percentile Queue Length [veh/ln]	0.00	0.38	0.16	35.66	0.27	14.79	14.79	0.32	23.05	0.68
95th-Percentile Queue Length [ft/ln]	0.00	9.62	3.96	891.38	6.70	369.87	369.87	7.90	576.27	17.12

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	66.07	28.59	28.59	200.99	64.84	17.04	17.04	62.67	22.37	10.43
Movement LOS	A	A	E	C	C	F	E	B	B	E	C	B
d_A, Approach Delay [s/veh]	66.07			199.11			17.19			22.22		
Approach LOS	E			F			B			C		
d_I, Intersection Delay [s/veh]	43.08											
Intersection LOS	D											
Intersection V/C	0.948											

Emissions

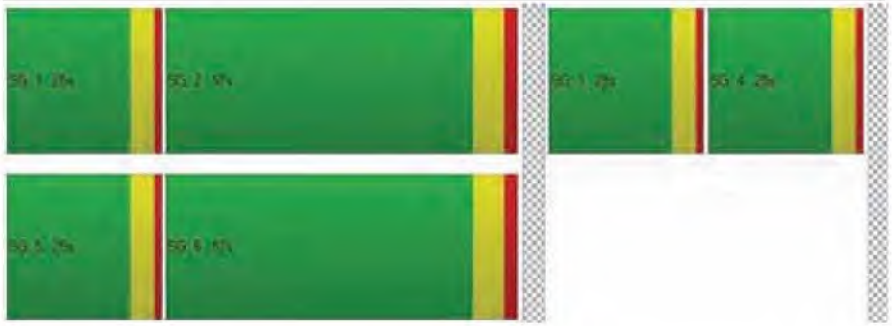
Vehicle Miles Traveled [mph]	0.00	0.30	2.37	215.36	1.80	297.36	297.36	0.87	305.80	6.98
Stops [stops/h]	0.00	8.32	3.42	904.02	5.79	376.99	376.99	6.83	1276.69	14.80
Fuel consumption [US gal/h]	0.00	0.14	0.15	32.43	0.16	16.61	16.61	0.14	27.62	0.45
CO [g/h]	0.00	9.71	10.18	2266.58	11.12	1161.03	1161.03	9.60	1930.81	31.73
NOx [g/h]	0.00	1.89	1.98	440.99	2.16	225.89	225.89	1.87	375.67	6.17
VOC [g/h]	0.00	2.25	2.36	525.30	2.58	269.08	269.08	2.23	447.48	7.35

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	432	432	1081	1081
d_b, Bicycle Delay [s]	28.43	28.43	9.78	9.78
l_b,int, Bicycle LOS Score for Intersection	1.570	2.317	2.650	3.043
Bicycle LOS	A	B	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 23: White Rock Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	11.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.575

Intersection Setup

Name	White Rock Rd			White Rock Rd			US 50 EB					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			No		

Volumes

Name	White Rock Rd			White Rock Rd			US 50 EB					
Base Volume Input [veh/h]	0	425	610	0	1303	320	243	0	116	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	1	-1	0	-17	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	12	0	0	0
Total Hourly Volume [veh/h]	3	426	609	0	1286	320	243	0	104	0	0	0
Peak Hour Factor	0.8300	0.8300	1.0000	1.0000	0.8300	0.8300	0.8300	1.0000	0.8300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	128	152	0	387	96	73	0	31	0	0	0
Total Analysis Volume [veh/h]	4	513	609	0	1549	386	293	0	125	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	4	0	0	0	0	0
Auxiliary Signal Groups												
Maximum Green [s]	0	62	0	0	62	0	45	0	0	0	0	0
Amber [s]	0.0	5.0	0.0	0.0	5.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	5.0	0.0	0.0	5.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	20.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	0.0	245.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	69	0	0	69	0	51	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	9	0	0	9	0	8	0	0	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	1.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		Yes			Yes		No					
Maximum Recall		No			No		No					
Pedestrian Recall		No			No		No					

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	R	
C, Cycle Length [s]	120	120	120	120	120	120	120	
L, Total Lost Time per Cycle [s]	7.00	7.00	7.00	7.00	6.00	6.00	6.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	5.00	5.00	5.00	5.00	4.00	4.00	4.00	
g_i, Effective Green Time [s]	95	95	95	95	12	12	12	
g / C, Green / Cycle	0.79	0.79	0.79	0.79	0.10	0.10	0.10	
(v / s)_i Volume / Saturation Flow Rate	0.14	0.38	0.44	0.24	0.08	0.08	0.08	
s, saturation flow rate [veh/h]	3560	1589	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	2808	1254	2808	1254	183	183	164	
d1, Uniform Delay [s]	3.13	4.34	4.74	3.54	52.62	52.62	52.41	
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.14	1.35	0.79	0.64	3.04	3.04	2.79	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.18	0.49	0.55	0.31	0.80	0.80	0.76	
d, Delay for Lane Group [s/veh]	3.27	5.69	5.52	4.17	55.66	55.66	55.20	
Lane Group LOS	A	A	A	A	E	E	E	
Critical Lane Group	No	No	Yes	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	1.30	4.55	5.98	2.33	4.47	4.47	3.80	
50th-Percentile Queue Length [ft/ln]	32.39	113.83	149.43	58.27	111.78	111.78	94.88	
95th-Percentile Queue Length [veh/ln]	2.33	8.05	9.99	4.20	7.94	7.94	6.83	
95th-Percentile Queue Length [ft/ln]	58.29	201.32	249.66	104.88	198.47	198.47	170.79	

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	3.27	5.69	0.00	5.52	4.17	55.66	0.00	55.20	0.00	0.00	0.00
Movement LOS		A	A		A	A	E		E			
d_A, Approach Delay [s/veh]		4.58			5.25			55.52			0.00	
Approach LOS		A			A			E			A	
d_I, Intersection Delay [s/veh]	11.08											
Intersection LOS	B											
Intersection V/C	0.575											

Emissions

Vehicle Miles Traveled [mph]	89.49	106.24	274.50	68.40	8.87	8.87	7.57	
Stops [stops/h]	77.73	136.60	358.62	69.92	134.13	134.13	113.86	
Fuel consumption [US gal/h]	4.45	5.83	15.02	3.53	2.77	2.77	2.34	
CO [g/h]	311.40	407.73	1050.09	246.75	193.30	193.30	163.89	
NOx [g/h]	60.59	79.33	204.31	48.01	37.61	37.61	31.89	
VOC [g/h]	72.17	94.49	243.37	57.19	44.80	44.80	37.98	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1033	1033	750	0
d_b, Bicycle Delay [s]	14.02	14.02	23.44	60.00
I_b,int, Bicycle LOS Score for Intersection	2.485	3.156	2.269	4.132
Bicycle LOS	B	C	B	D

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 24: Silva Valley Pkwy/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	52.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.026

Intersection Setup

Name	White Rock Rd			Silva Valley Pkwy			US 50 WB			US 50 WB		
Approach	Northbound			Southbound			Westbound			Northeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			No		

Volumes

Name	White Rock Rd			Silva Valley Pkwy			US 50 WB			US 50 WB		
Base Volume Input [veh/h]	0	590	78	0	518	719	1105	0	398	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	0	0	-3	0	-14	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	47	0	0	30	0	0	0
Total Hourly Volume [veh/h]	0	591	78	0	515	672	1091	0	368	0	0	0
Peak Hour Factor	0.7900	0.7900	1.0000	1.0000	0.7900	0.7900	0.7900	0.7900	0.7900	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	187	20	0	163	213	345	0	116	0	0	0
Total Analysis Volume [veh/h]	0	748	78	0	652	851	1381	0	466	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Maximum Green [s]	20	54	0	0	26	0	0	23	0	0	0	0
Amber [s]	3.7	4.8	0.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0
All red [s]	0.5	2.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
l2, Clearance Lost Time [s]	2.2	4.8	0.0	0.0	4.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	125	70	0	0	70	0	0	50	0	0	0	0
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	8	8	0	0	8	0	0	8	0	0	0	0
Vehicle Extension [s]	2.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		Yes			Yes			No				
Maximum Recall		No			No			No				
Pedestrian Recall		No			No			No				

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	R	
C, Cycle Length [s]	120	120	120	120	120	120	120	
L, Total Lost Time per Cycle [s]	6.80	6.80	6.80	6.80	5.80	5.80	5.80	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	4.80	4.80	4.80	4.80	3.80	3.80	3.80	
g_i, Effective Green Time [s]	63	63	63	63	44	44	44	
g / C, Green / Cycle	0.53	0.53	0.53	0.53	0.37	0.37	0.37	
(v / s)_i Volume / Saturation Flow Rate	0.21	0.05	0.18	0.54	0.39	0.39	0.29	
s, saturation flow rate [veh/h]	3560	1589	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	1875	837	1875	837	656	656	585	
d1, Uniform Delay [s]	17.02	14.14	16.46	28.40	37.90	37.90	33.87	
k, delay calibration	0.50	0.50	0.50	0.50	0.47	0.47	0.25	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.64	0.22	0.51	35.31	48.81	48.81	5.74	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.40	0.09	0.35	1.02	1.05	1.05	0.80	
d, Delay for Lane Group [s/veh]	17.65	14.36	16.97	63.71	86.71	86.71	39.61	
Lane Group LOS	B	B	B	F	F	F	D	
Critical Lane Group	No	No	No	Yes	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	6.27	1.11	5.28	31.01	27.76	27.76	12.91	
50th-Percentile Queue Length [ft/ln]	156.76	27.72	131.97	775.37	694.11	694.11	322.85	
95th-Percentile Queue Length [veh/ln]	10.38	2.00	9.05	40.70	37.75	37.75	18.81	
95th-Percentile Queue Length [ft/ln]	259.42	49.90	226.16	1017.52	943.84	943.84	470.18	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	17.65	14.36	0.00	16.97	63.71	86.71	86.71	39.61	0.00	0.00	0.00
Movement LOS		B	B		B	F	F	F	D			
d_A, Approach Delay [s/veh]		17.34			43.43			74.83			0.00	
Approach LOS		B			D			E			A	
d_I, Intersection Delay [s/veh]	52.16											
Intersection LOS	D											
Intersection V/C	1.026											

Emissions

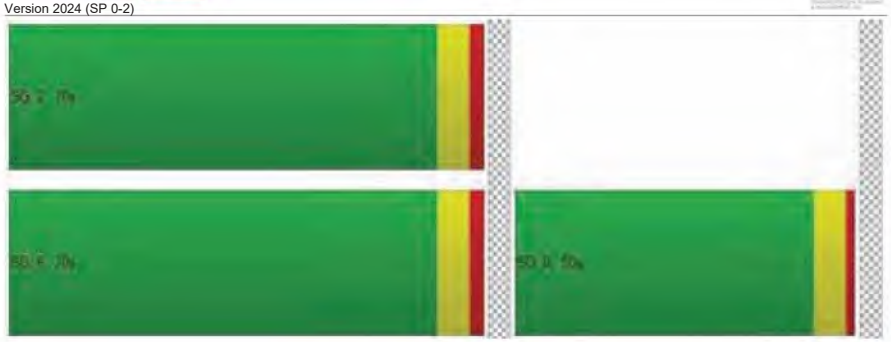
Vehicle Miles Traveled [mph]	132.55	13.82	89.15	116.36	45.34	45.34	30.60
Stops [stops/h]	376.21	33.27	316.72	930.44	832.93	832.93	387.41
Fuel consumption [US gal/h]	10.22	0.98	7.67	20.96	18.65	18.65	7.16
CO [g/h]	714.55	68.55	536.22	1465.33	1303.69	1303.69	500.22
NOx [g/h]	139.02	13.34	104.33	285.10	253.65	253.65	97.33
VOC [g/h]	165.60	15.89	124.27	339.61	302.14	302.14	115.93

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1053	1053	737	0
d_b, Bicycle Delay [s]	13.44	13.44	23.94	60.00
I_b,int, Bicycle LOS Score for Intersection	2.241	2.838	4.657	4.132
Bicycle LOS	B	C	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 25: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Base Volume Input [veh/h]	0	658	360	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-7	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	651	360	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	163	90	0	0	0
Total Analysis Volume [veh/h]	0	651	360	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	10.26
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.26	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 26: Latrobe/Wetsl-Oviatt

Control Type:	Two-way stop	Delay (sec / veh):	14.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Base Volume Input [veh/h]	0	466	260	38	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-7	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	459	260	38	4	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	115	65	10	1	0
Total Analysis Volume [veh/h]	0	459	260	38	4	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.85	0.00	0.00	0.00	14.44	9.84
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.79	0.79
d_A, Approach Delay [s/veh]	0.00		0.00		14.44	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.08					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 27: Latrobe/S. Shingle

Control Type:	Two-way stop	Delay (sec / veh):	20.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.146

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Base Volume Input [veh/h]	6	241	41	52	127	9	48	87	0	37	75	47
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-7	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	234	41	52	127	9	48	87	0	37	75	47
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	59	10	13	32	2	12	22	0	9	19	12
Total Analysis Volume [veh/h]	6	234	41	52	127	9	48	87	0	37	75	47
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free			Free			Stop			Stop		
Flared Lane							No			No		
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance							No			No		
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.00	0.00	0.15	0.20	0.00	0.11	0.17	0.06
d_M, Delay for Movement [s/veh]	7.49	0.00	0.00	7.86	0.00	0.00	20.77	18.03	13.71	19.20	16.85	13.37
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.09	0.09	0.09	1.51	1.51	1.51	1.46	1.46	1.46
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.26	2.26	2.26	2.26	37.82	37.82	37.82	36.47	36.47	36.47
d_A, Approach Delay [s/veh]	0.16			2.17			19.01			16.37		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	7.37											
Intersection LOS	C											

Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	651	374	39	0
2	631	363	38	0
3	618	355	37	0
4	579	333	35	0
5	514	295	31	0
6	508	292	30	0
7	501	288	30	0
8	456	262	27	0
9	449	258	27	0
10	443	254	27	0
11	384	221	23	0
12	358	206	21	0
13	352	202	21	0
14	260	150	16	0
15	260	150	16	0
16	182	105	11	0
17	104	60	6	0
18	104	60	6	0
19	59	34	4	0
20	33	19	2	0
21	20	11	1	0
22	7	4	0	0
23	7	4	0	0
24	7	4	0	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1025	1	39	No	No	No	No	No	No	No	No	No	No
2	1	994	1	38	No	No	No	No	No	No	No	No	No	No
3	1	973	1	37	No	No	No	No	No	No	No	No	No	No
4	1	912	1	35	No	No	No	No	No	No	No	No	No	No
5	1	809	1	31	No	No	No	No	No	No	No	No	No	No
6	1	800	1	30	No	No	No	No	No	No	No	No	No	No
7	1	789	1	30	No	No	No	No	No	No	No	No	No	No
8	1	718	1	27	No	No	No	No	No	No	No	No	No	No
9	1	707	1	27	No	No	No	No	No	No	No	No	No	No
10	1	697	1	27	No	No	No	No	No	No	No	No	No	No
11	1	605	1	23	No	No	No	No	No	No	No	No	No	No
12	1	564	1	21	No	No	No	No	No	No	No	No	No	No
13	1	554	1	21	No	No	No	No	No	No	No	No	No	No
14	1	410	1	16	No	No	No	No	No	No	No	No	No	No
15	1	410	1	16	No	No	No	No	No	No	No	No	No	No
16	1	287	1	11	No	No	No	No	No	No	No	No	No	No
17	1	164	1	6	No	No	No	No	No	No	No	No	No	No
18	1	164	1	6	No	No	No	No	No	No	No	No	No	No
19	1	93	1	4	No	No	No	No	No	No	No	No	No	No
20	1	52	1	2	No	No	No	No	No	No	No	No	No	No
21	1	31	1	1	No	No	No	No	No	No	No	No	No	No
22	1	11	1	0	No	No	No	No	No	No	No	No	No	No
23	1	11	1	0	No	No	No	No	No	No	No	No	No	No
24	1	11	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.1	20.4
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:09	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	39	0
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1064	1064
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 12: Latrobe Rd/Royal Oaks Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	463	360	262	0
2	449	349	254	0
3	440	342	249	0
4	412	320	233	0
5	366	284	207	0
6	361	281	204	0
7	357	277	202	0
8	324	252	183	0
9	319	248	181	0
10	315	245	178	0
11	273	212	155	0
12	255	198	144	0
13	250	194	141	0
14	185	144	105	0
15	185	144	105	0
16	130	101	73	0
17	74	58	42	0
18	74	58	42	0
19	42	32	24	0
20	23	18	13	0
21	14	11	8	0
22	5	4	3	0
23	5	4	3	0
24	5	4	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	823	1	262	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
2	2	798	1	254	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
3	2	782	1	249	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
4	2	732	1	233	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
5	2	650	1	207	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
6	2	642	1	204	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
7	2	634	1	202	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
8	2	576	1	183	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
9	2	567	1	181	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
10	2	560	1	178	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
11	2	485	1	155	No	Yes	Yes	Yes	No	No	No	No	No	No
12	2	453	1	144	No	No	Yes	Yes	No	No	No	No	No	No
13	2	444	1	141	No	No	Yes	Yes	No	No	No	No	No	No
14	2	329	1	105	No	No	No	No	No	No	No	No	No	No
15	2	329	1	105	No	No	No	No	No	No	No	No	No	No
16	2	231	1	73	No	No	No	No	No	No	No	No	No	No
17	2	132	1	42	No	No	No	No	No	No	No	No	No	No
18	2	132	1	42	No	No	No	No	No	No	No	No	No	No
19	2	74	1	24	No	No	No	No	No	No	No	No	No	No
20	2	41	1	13	No	No	No	No	No	No	No	No	No	No
21	2	25	1	8	No	No	No	No	No	No	No	No	No	No
22	2	9	1	3	No	No	No	No	No	No	No	No	No	No
23	2	9	1	3	No	No	No	No	No	No	No	No	No	No
24	2	9	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					7	11	13	13	0	4	7	10	10	4

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	18.2	23.8
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:19	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	262	0
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1085	1085
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 13: Golden Foothill/Robert J Mathews

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	1234	255	578
2	1197	247	561
3	1172	242	549
4	1098	227	514
5	975	201	457
6	963	199	451
7	950	196	445
8	864	179	405
9	851	176	399
10	839	173	393
11	728	150	341
12	679	140	318
13	666	138	312
14	494	102	231
15	494	102	231
16	346	71	162
17	197	41	92
18	197	41	92
19	111	23	52
20	62	13	29
21	37	8	17
22	12	3	6
23	12	3	6
24	12	3	6

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1489	1	578	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1444	1	561	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1414	1	549	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1325	1	514	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	1176	1	457	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	1162	1	451	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1	1146	1	445	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	1	1043	1	405	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	1	1027	1	399	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	1	1012	1	393	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	1	878	1	341	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	1	819	1	318	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
13	1	804	1	312	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
14	1	596	1	231	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
15	1	596	1	231	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
16	1	417	1	162	No	Yes	Yes	Yes	No	No	No	No	No	No
17	1	238	1	92	No	No	No	No	No	No	No	No	No	No
18	1	238	1	92	No	No	No	No	No	No	No	No	No	No
19	1	134	1	52	No	No	No	No	No	No	No	No	No	No
20	1	75	1	29	No	No	No	No	No	No	No	No	No	No
21	1	45	1	17	No	No	No	No	No	No	No	No	No	No
22	1	15	1	6	No	No	No	No	No	No	No	No	No	No
23	1	15	1	6	No	No	No	No	No	No	No	No	No	No
24	1	15	1	6	No	No	No	No	No	No	No	No	No	No
Hours Met					15	16	16	16	13	13	15	15	15	11

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	10000
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1605:33
Delay Condition Met	Yes
Volume on Minor Street Approach During Same Hour	578
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	2067
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	Yes
Warrant Met for Intersection	**Yes**

Signal Warrants Report For Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	333	1041	328	49
2	323	1010	318	48
3	316	989	312	47
4	296	926	292	44
5	263	822	259	39
6	260	812	256	38
7	256	802	253	38
8	233	729	230	34
9	230	718	226	34
10	226	708	223	33
11	196	614	194	29
12	183	573	180	27
13	180	562	177	26
14	133	416	131	20
15	133	416	131	20
16	93	291	92	14
17	53	167	52	8
18	53	167	52	8
19	30	94	30	4
20	17	52	16	2
21	10	31	10	1
22	3	10	3	0
23	3	10	3	0
24	3	10	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1374	1	328	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1333	1	318	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1305	1	312	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1222	1	292	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	1085	1	259	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	1072	1	256	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
7	1	1058	1	253	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
8	1	962	1	230	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
9	1	948	1	226	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
10	1	934	1	223	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
11	1	810	1	194	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
12	1	756	1	180	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
13	1	742	1	177	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
14	1	549	1	131	No	Yes	Yes	Yes	No	No	Yes	Yes	No	No
15	1	549	1	131	No	Yes	Yes	Yes	No	No	Yes	Yes	No	No
16	1	384	1	92	No	No	No	Yes	No	No	No	No	No	No
17	1	220	1	52	No	No	No	No	No	No	No	No	No	No
18	1	220	1	52	No	No	No	No	No	No	No	No	No	No
19	1	124	1	30	No	No	No	No	No	No	No	No	No	No
20	1	69	1	16	No	No	No	No	No	No	No	No	No	No
21	1	41	1	10	No	No	No	No	No	No	No	No	No	No
22	1	13	1	3	No	No	No	No	No	No	No	No	No	No
23	1	13	1	3	No	No	No	No	No	No	No	No	No	No
24	1	13	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					13	15	15	16	12	13	15	15	13	5

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	30	12.9
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2:44	0:10
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	328	49
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1751	1751
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	198	355	301
2	192	344	292
3	188	337	286
4	176	316	268
5	156	280	238
6	154	277	235
7	152	273	232
8	139	248	211
9	137	245	208
10	135	241	205
11	117	209	178
12	109	195	166
13	107	192	163
14	79	142	120
15	79	142	120
16	55	99	84
17	32	57	48
18	32	57	48
19	18	32	27
20	10	18	15
21	6	11	9
22	2	4	3
23	2	4	3
24	2	4	3

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	553	2	301	No	Yes	Yes	Yes	No	No	No	Yes	No	No
2	2	536	2	292	No	Yes	Yes	Yes	No	No	No	Yes	No	No
3	2	525	2	286	No	Yes	Yes	Yes	No	No	No	Yes	No	No
4	2	492	2	268	No	Yes	Yes	Yes	No	No	No	No	No	No
5	2	436	2	238	No	No	Yes	Yes	No	No	No	No	No	No
6	2	431	2	235	No	No	Yes	Yes	No	No	No	No	No	No
7	2	425	2	232	No	No	Yes	Yes	No	No	No	No	No	No
8	2	387	2	211	No	No	No	Yes	No	No	No	No	No	No
9	2	382	2	208	No	No	No	Yes	No	No	No	No	No	No
10	2	376	2	205	No	No	No	Yes	No	No	No	No	No	No
11	2	326	2	178	No	No	No	No	No	No	No	No	No	No
12	2	304	2	166	No	No	No	No	No	No	No	No	No	No
13	2	299	2	163	No	No	No	No	No	No	No	No	No	No
14	2	221	2	120	No	No	No	No	No	No	No	No	No	No
15	2	221	2	120	No	No	No	No	No	No	No	No	No	No
16	2	154	2	84	No	No	No	No	No	No	No	No	No	No
17	2	89	2	48	No	No	No	No	No	No	No	No	No	No
18	2	89	2	48	No	No	No	No	No	No	No	No	No	No
19	2	50	2	27	No	No	No	No	No	No	No	No	No	No
20	2	28	2	15	No	No	No	No	No	No	No	No	No	No
21	2	17	2	9	No	No	No	No	No	No	No	No	No	No
22	2	6	2	3	No	No	No	No	No	No	No	No	No	No
23	2	6	2	3	No	No	No	No	No	No	No	No	No	No
24	2	6	2	3	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	10	0	0	0	3	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.5
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:12
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	301
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	854
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 16: Carson Crossing Rd/Calypso Cir.

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	348	300	262
2	338	291	254
3	331	285	249
4	310	267	233
5	275	237	207
6	271	234	204
7	268	231	202
8	244	210	183
9	240	207	181
10	237	204	178
11	205	177	155
12	191	165	144
13	188	162	141
14	139	120	105
15	139	120	105
16	97	84	73
17	56	48	42
18	56	48	42
19	31	27	24
20	17	15	13
21	10	9	8
22	3	3	3
23	3	3	3
24	3	3	3

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	648	1	262	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
2	2	629	1	254	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
3	2	616	1	249	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
4	2	577	1	233	No	Yes	Yes	Yes	No	No	No	Yes	No	No
5	2	512	1	207	No	Yes	Yes	Yes	No	No	No	Yes	No	No
6	2	505	1	204	No	Yes	Yes	Yes	No	No	No	Yes	No	No
7	2	499	1	202	No	Yes	Yes	Yes	No	No	No	No	No	No
8	2	454	1	183	No	No	Yes	Yes	No	No	No	No	No	No
9	2	447	1	181	No	No	Yes	Yes	No	No	No	No	No	No
10	2	441	1	178	No	No	Yes	Yes	No	No	No	No	No	No
11	2	382	1	155	No	No	No	Yes	No	No	No	No	No	No
12	2	356	1	144	No	No	No	Yes	No	No	No	No	No	No
13	2	350	1	141	No	No	No	Yes	No	No	No	No	No	No
14	2	259	1	105	No	No	No	No	No	No	No	No	No	No
15	2	259	1	105	No	No	No	No	No	No	No	No	No	No
16	2	181	1	73	No	No	No	No	No	No	No	No	No	No
17	2	104	1	42	No	No	No	No	No	No	No	No	No	No
18	2	104	1	42	No	No	No	No	No	No	No	No	No	No
19	2	58	1	24	No	No	No	No	No	No	No	No	No	No
20	2	32	1	13	No	No	No	No	No	No	No	No	No	No
21	2	19	1	8	No	No	No	No	No	No	No	No	No	No
22	2	6	1	3	No	No	No	No	No	No	No	No	No	No
23	2	6	1	3	No	No	No	No	No	No	No	No	No	No
24	2	6	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					3	7	10	13	0	0	1	6	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	29.8
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2:10
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	262
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	910
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 17: Carson Crossing Rd/Four Seasons Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	79	189	38
2	77	183	37
3	75	180	36
4	70	168	34
5	62	149	30
6	62	147	30
7	61	146	29
8	55	132	27
9	55	130	26
10	54	129	26
11	47	112	22
12	43	104	21
13	43	102	21
14	32	76	15
15	32	76	15
16	22	53	11
17	13	30	6
18	13	30	6
19	7	17	3
20	4	9	2
21	2	6	1
22	1	2	0
23	1	2	0
24	1	2	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	268	1	38	No	No	No	No	No	No	No	No	No	No
2	3	260	1	37	No	No	No	No	No	No	No	No	No	No
3	3	255	1	36	No	No	No	No	No	No	No	No	No	No
4	3	238	1	34	No	No	No	No	No	No	No	No	No	No
5	3	211	1	30	No	No	No	No	No	No	No	No	No	No
6	3	209	1	30	No	No	No	No	No	No	No	No	No	No
7	3	207	1	29	No	No	No	No	No	No	No	No	No	No
8	3	187	1	27	No	No	No	No	No	No	No	No	No	No
9	3	185	1	26	No	No	No	No	No	No	No	No	No	No
10	3	183	1	26	No	No	No	No	No	No	No	No	No	No
11	3	159	1	22	No	No	No	No	No	No	No	No	No	No
12	3	147	1	21	No	No	No	No	No	No	No	No	No	No
13	3	145	1	21	No	No	No	No	No	No	No	No	No	No
14	3	108	1	15	No	No	No	No	No	No	No	No	No	No
15	3	108	1	15	No	No	No	No	No	No	No	No	No	No
16	3	75	1	11	No	No	No	No	No	No	No	No	No	No
17	3	43	1	6	No	No	No	No	No	No	No	No	No	No
18	3	43	1	6	No	No	No	No	No	No	No	No	No	No
19	3	24	1	3	No	No	No	No	No	No	No	No	No	No
20	3	13	1	2	No	No	No	No	No	No	No	No	No	No
21	3	8	1	1	No	No	No	No	No	No	No	No	No	No
22	3	3	1	0	No	No	No	No	No	No	No	No	No	No
23	3	3	1	0	No	No	No	No	No	No	No	No	No	No
24	3	3	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	8.3
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:05
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	38
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	306
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

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Signal Warrants Report For Intersection 25: New Intersection

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	651	360	0
2	631	349	0
3	618	342	0
4	579	320	0
5	514	284	0
6	508	281	0
7	501	277	0
8	456	252	0
9	449	248	0
10	443	245	0
11	384	212	0
12	358	198	0
13	352	194	0
14	260	144	0
15	260	144	0
16	182	101	0
17	104	58	0
18	104	58	0
19	59	32	0
20	33	18	0
21	20	11	0
22	7	4	0
23	7	4	0
24	7	4	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1011	1	0	No	No	No	No	No	No	No	No	No	No
2	1	980	1	0	No	No	No	No	No	No	No	No	No	No
3	1	960	1	0	No	No	No	No	No	No	No	No	No	No
4	1	899	1	0	No	No	No	No	No	No	No	No	No	No
5	1	798	1	0	No	No	No	No	No	No	No	No	No	No
6	1	789	1	0	No	No	No	No	No	No	No	No	No	No
7	1	778	1	0	No	No	No	No	No	No	No	No	No	No
8	1	708	1	0	No	No	No	No	No	No	No	No	No	No
9	1	697	1	0	No	No	No	No	No	No	No	No	No	No
10	1	688	1	0	No	No	No	No	No	No	No	No	No	No
11	1	596	1	0	No	No	No	No	No	No	No	No	No	No
12	1	556	1	0	No	No	No	No	No	No	No	No	No	No
13	1	546	1	0	No	No	No	No	No	No	No	No	No	No
14	1	404	1	0	No	No	No	No	No	No	No	No	No	No
15	1	404	1	0	No	No	No	No	No	No	No	No	No	No
16	1	283	1	0	No	No	No	No	No	No	No	No	No	No
17	1	162	1	0	No	No	No	No	No	No	No	No	No	No
18	1	162	1	0	No	No	No	No	No	No	No	No	No	No
19	1	91	1	0	No	No	No	No	No	No	No	No	No	No
20	1	51	1	0	No	No	No	No	No	No	No	No	No	No
21	1	31	1	0	No	No	No	No	No	No	No	No	No	No
22	1	11	1	0	No	No	No	No	No	No	No	No	No	No
23	1	11	1	0	No	No	No	No	No	No	No	No	No	No
24	1	11	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	10.3
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1011
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

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Signal Warrants Report For Intersection 26: Latrobe/Wetsl-Oviatt

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	459	298	4
2	445	289	4
3	436	283	4
4	409	265	4
5	363	235	3
6	358	232	3
7	353	229	3
8	321	209	3
9	317	206	3
10	312	203	3
11	271	176	2
12	252	164	2
13	248	161	2
14	184	119	2
15	184	119	2
16	129	83	1
17	73	48	1
18	73	48	1
19	41	27	0
20	23	15	0
21	14	9	0
22	5	3	0
23	5	3	0
24	5	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	757	1	4	No	No	No	No	No	No	No	No	No	No
2	1	734	1	4	No	No	No	No	No	No	No	No	No	No
3	1	719	1	4	No	No	No	No	No	No	No	No	No	No
4	1	674	1	4	No	No	No	No	No	No	No	No	No	No
5	1	598	1	3	No	No	No	No	No	No	No	No	No	No
6	1	590	1	3	No	No	No	No	No	No	No	No	No	No
7	1	582	1	3	No	No	No	No	No	No	No	No	No	No
8	1	530	1	3	No	No	No	No	No	No	No	No	No	No
9	1	523	1	3	No	No	No	No	No	No	No	No	No	No
10	1	515	1	3	No	No	No	No	No	No	No	No	No	No
11	1	447	1	2	No	No	No	No	No	No	No	No	No	No
12	1	416	1	2	No	No	No	No	No	No	No	No	No	No
13	1	409	1	2	No	No	No	No	No	No	No	No	No	No
14	1	303	1	2	No	No	No	No	No	No	No	No	No	No
15	1	303	1	2	No	No	No	No	No	No	No	No	No	No
16	1	212	1	1	No	No	No	No	No	No	No	No	No	No
17	1	121	1	1	No	No	No	No	No	No	No	No	No	No
18	1	121	1	1	No	No	No	No	No	No	No	No	No	No
19	1	68	1	0	No	No	No	No	No	No	No	No	No	No
20	1	38	1	0	No	No	No	No	No	No	No	No	No	No
21	1	23	1	0	No	No	No	No	No	No	No	No	No	No
22	1	8	1	0	No	No	No	No	No	No	No	No	No	No
23	1	8	1	0	No	No	No	No	No	No	No	No	No	No
24	1	8	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.4
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	4
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	761
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 27: Latrobe/S. Shingle

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

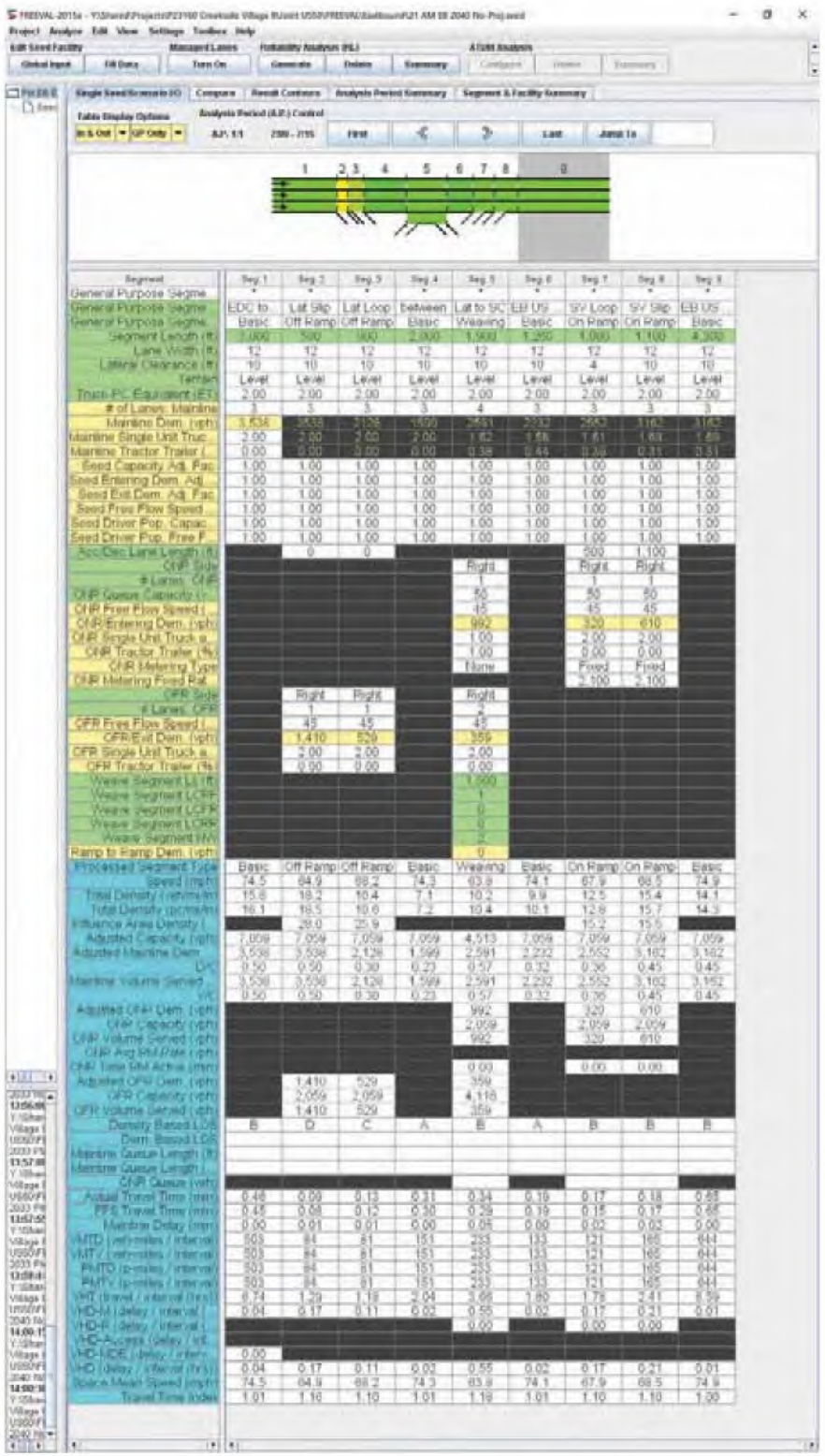
Hour	Major Streets		Minor Streets	
	S	N	E	W
1	281	188	159	135
2	273	182	154	131
3	267	179	151	128
4	250	167	142	120
5	222	149	126	107
6	219	147	124	105
7	216	145	122	104
8	197	132	111	95
9	194	130	110	93
10	191	128	108	92
11	166	111	94	80
12	155	103	87	74
13	152	102	86	73
14	112	75	64	54
15	112	75	64	54
16	79	53	45	38
17	45	30	25	22
18	45	30	25	22
19	25	17	14	12
20	14	9	8	7
21	8	6	5	4
22	3	2	2	1
23	3	2	2	1
24	3	2	2	1

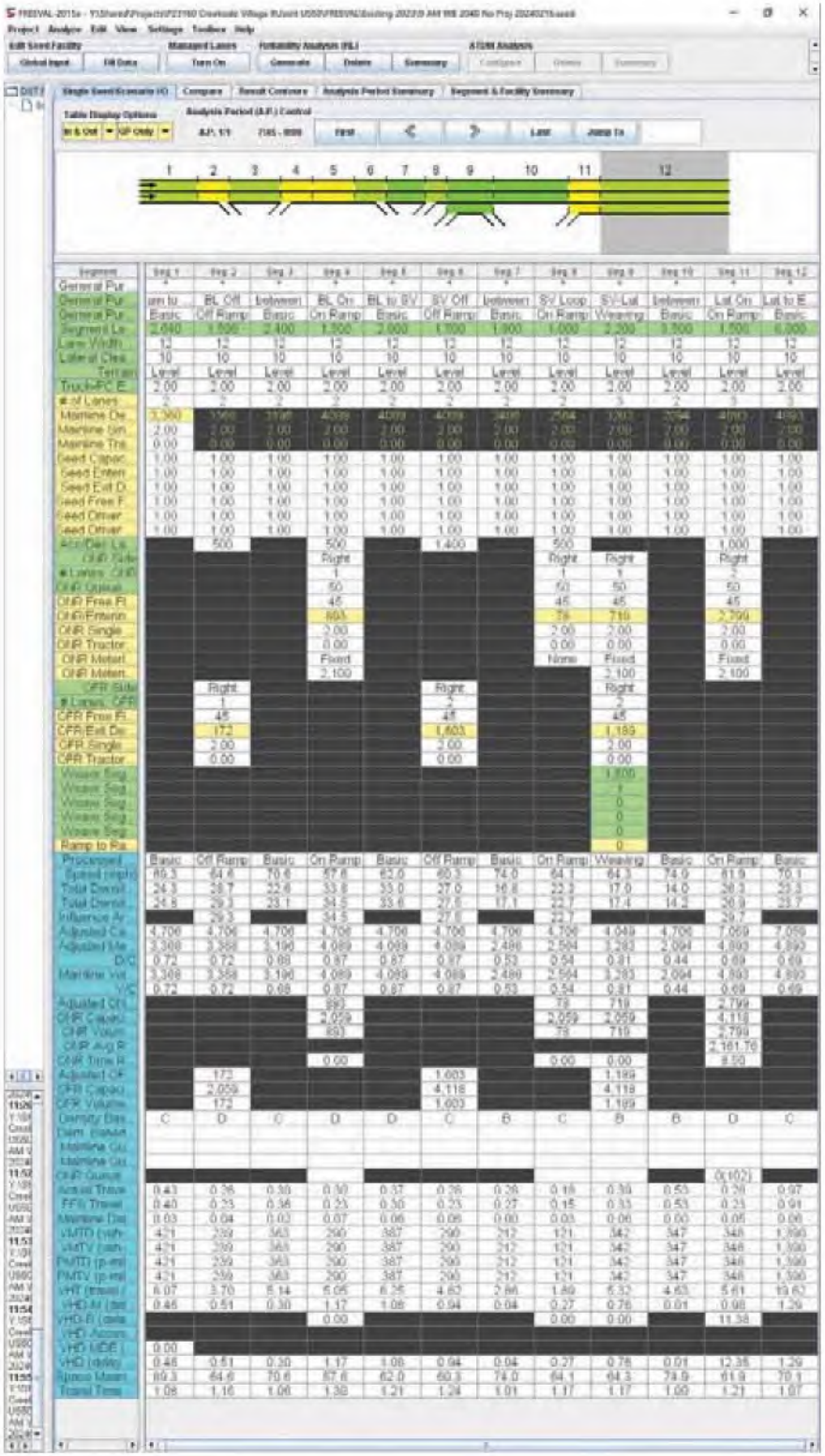
Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	469	1	159	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
2	1	455	1	154	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
3	1	446	1	151	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
4	1	417	1	142	No	Yes	Yes	Yes	No	No	No	No	No	No
5	1	371	1	126	No	No	Yes	Yes	No	No	No	No	No	No
6	1	366	1	124	No	No	Yes	Yes	No	No	No	No	No	No
7	1	361	1	122	No	No	Yes	Yes	No	No	No	No	No	No
8	1	329	1	111	No	No	No	Yes	No	No	No	No	No	No
9	1	324	1	110	No	No	No	Yes	No	No	No	No	No	No
10	1	319	1	108	No	No	No	Yes	No	No	No	No	No	No
11	1	277	1	94	No	No	No	No	No	No	No	No	No	No
12	1	258	1	87	No	No	No	No	No	No	No	No	No	No
13	1	254	1	86	No	No	No	No	No	No	No	No	No	No
14	1	187	1	64	No	No	No	No	No	No	No	No	No	No
15	1	187	1	64	No	No	No	No	No	No	No	No	No	No
16	1	132	1	45	No	No	No	No	No	No	No	No	No	No
17	1	75	1	25	No	No	No	No	No	No	No	No	No	No
18	1	75	1	25	No	No	No	No	No	No	No	No	No	No
19	1	42	1	14	No	No	No	No	No	No	No	No	No	No
20	1	23	1	8	No	No	No	No	No	No	No	No	No	No
21	1	14	1	5	No	No	No	No	No	No	No	No	No	No
22	1	5	1	2	No	No	No	No	No	No	No	No	No	No
23	1	5	1	2	No	No	No	No	No	No	No	No	No	No
24	1	5	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	10	0	0	0	3	3	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.4	19
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:43	0:42
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	159	135
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	763	763
Number of Approaches on Intersection	4	4
Total Volume Condition Met	No	No
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	





Cumulative PM no Project

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Scenario 5 2040 PM with CCSP, No Project
2/14/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	El Dorado Hills Blvd/Serrano Pkwy	Signalized	HCM 7th Edition	NB Thru	0.989	63.1	E
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	NB Left	0.978	69.6	E
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	NB Left	1.074	71.5	E
4	Latrobe Rd/US 50 EB	Signalized	HCM 7th Edition	EB Right	0.962	61.7	E
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	SB Left	1.068	70.5	E
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	NB Left	0.798	48.9	D
7	Latrobe Rd/Golden Foothill Pkwy N	Signalized	HCM 7th Edition	SB Left	0.813	23.9	C
8	Latrobe Rd/Suncast Ln	Signalized	HCM 7th Edition	SB Right	0.999	45.6	D
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	EB Left	1.244	217.0	F
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	NB Left	0.789	19.6	B
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	WB Left	0.012	27.2	D
12	Latrobe Rd/Royal Oaks Dr	Two-way stop	HCM 7th Edition	WB Left	0.416	44.1	E
13	Golden Foothill/Robert J Mathews	Two-way stop	HCM 7th Edition	NB Left	229.236	10,000.0	F
14	Investment Blvd/Robert J Mathews Pkwy	All-way stop	HCM 7th Edition	NB Thru	1.845	273.2	F
15	Golden Foothill Pkwy/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.630	35.4	E
16	Carson Crossing Rd/Calypso Cir.	Two-way stop	HCM 7th Edition	NB Left	0.971	152.3	F
17	Carson Crossing Rd/Four Seasons Dr	All-way stop	HCM 7th Edition	NB Thru	0.222	8.7	A
	White Rock Rd/Carson		HCM 7th				

18	White Rock Rd/Carson Crossing Rd	Signalized	HCM 7th Edition	EB Left	0.574	17.4	B
19	White Rock Rd/Windfield Way	Signalized	HCM 7th Edition	SB Thru	0.640	34.8	C
20	White Rock Rd/Post St	Signalized	HCM 7th Edition	NB Left	0.668	44.9	D
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 7th Edition	EB Left	0.893	33.5	C
22	White Rock Rd/Clarksville Crossing	Signalized	HCM 7th Edition	SB Right	1.007	57.5	E
23	White Rock Rd/US 50 EB	Signalized	HCM 7th Edition	NB Right	1.068	38.0	D
24	Silva Valley Pkwy/US 50 WB	Signalized	HCM 7th Edition	WB Right	0.753	27.5	C
25	New Intersection	Two-way stop	HCM 7th Edition	SB Thru	0.006	0.0	A
26	Latrobe/Wetsl-Oviatt	Two-way stop	HCM 7th Edition	EB Left	0.078	16.3	C
27	Latrobe/S. Shingle	Two-way stop	HCM 7th Edition	WB Left	0.159	20.0	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: El Dorado Hills Blvd/Serrano Pkwy

Control Type:	Signalized	Delay (sec / veh):	63.1
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.989

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	260.0	100.0	100.0	100.0	110.00	100.00	100.00	100.00	100.00	100.00	430.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No			No		
Crosswalk	No				Yes			Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Base Volume Input [veh/h]	3	131	1772	406	35	1147	74	62	29	110	339	66	22
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-14	0	0	-4	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	22	0	0	33	0	0	7
Total Hourly Volume [veh/h]	3	131	1758	406	35	1143	52	62	29	77	339	66	15
Peak Hour Factor	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	38	505	117	10	328	15	18	8	22	97	19	4
Total Analysis Volume [veh/h]	3	151	2021	467	40	1314	60	71	33	89	390	76	17
Presence of On-Street Parking	No			No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	1	6	0	7	7	0	0	8	0
Auxiliary Signal Groups													
Maximum Green [s]	0	25	40	0	25	40	0	35	35	0	0	35	0
Amber [s]	0.0	3.0	4.7	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	12	0	0	12	0	0	0	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	100.0	245.0	0.0	100.0	100.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	29	46	0	29	46	0	39	39	0	0	39	0
Lead / Lag	-	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	3	6	0	3	3	0	3	3	0	0	3	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	4.0	0.0
Minimum Recall		No	No		No	No			No			No	
Maximum Recall		No	No		No	No			No			No	
Pedestrian Recall		No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C
C, Cycle Length [s]	83	83	83	83	83	83	83	83	83	83
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	40	40	2	33	33	8	8	15	15
g / C, Green / Cycle	0.11	0.48	0.48	0.03	0.40	0.40	0.10	0.10	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.09	0.57	0.29	0.02	0.37	0.37	0.04	0.07	0.14	0.14
s, saturation flow rate [veh/h]	1781	3560	1589	1781	1870	1841	1781	1657	1781	1793
c, Capacity [veh/h]	193	1711	764	51	750	739	175	163	321	324
d1, Uniform Delay [s]	36.37	21.70	15.96	40.32	23.77	23.82	35.36	36.65	32.44	32.44
k, delay calibration	0.04	0.08	0.10	0.04	0.23	0.23	0.04	0.04	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.90	82.54	0.72	9.47	10.10	10.58	0.56	2.57	4.92	4.89
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	1.18	0.61	0.79	0.92	0.92	0.41	0.75	0.75	0.75
d, Delay for Lane Group [s/veh]	39.27	104.24	16.67	49.80	33.88	34.40	35.92	39.23	37.36	37.33
Lane Group LOS	D	F	B	D	C	C	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.04	33.54	5.74	0.91	13.39	13.34	1.36	2.49	4.92	4.95
50th-Percentile Queue Length [ft/ln]	75.90	838.61	143.56	22.71	334.75	333.46	33.95	62.16	123.00	123.73
95th-Percentile Queue Length [veh/ln]	5.47	48.45	9.67	1.64	19.39	19.33	2.44	4.48	8.56	8.60
95th-Percentile Queue Length [ft/ln]	136.63	1211.25	241.81	40.88	484.78	483.20	61.11	111.89	213.94	214.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.27	39.27	104.2	16.67	49.80	34.12	34.40	35.92	39.23	39.23	37.35	37.33	37.33
Movement LOS	D	D	F	B	D	C	C	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	84.97				34.58			38.01			37.35		
Approach LOS	F				C			D			D		
d_I, Intersection Delay [s/veh]	63.14												
Intersection LOS	E												
Intersection V/C	0.989												

Emissions

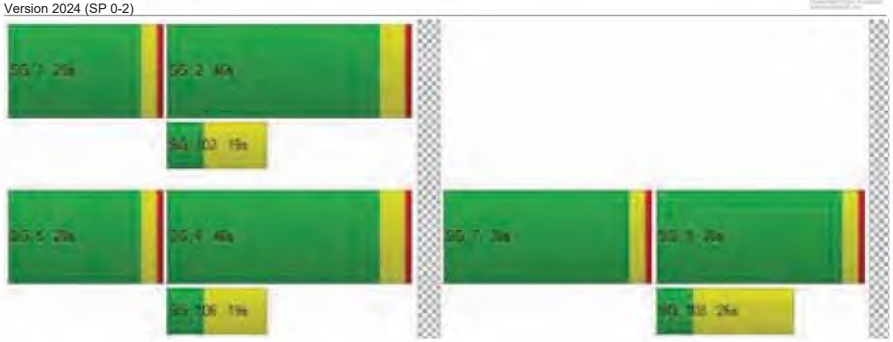
Vehicle Miles Traveled [mph]	36.78	482.68	111.53	5.88	101.62	100.39	3.03	5.21	12.60	12.68
Stops [stops/h]	131.14	2897.82	248.03	39.24	578.36	576.13	58.65	107.39	212.51	213.78
Fuel consumption [US gal/h]	4.12	95.44	8.49	1.09	15.44	15.38	0.97	1.78	3.52	3.54
CO [g/h]	288.12	6671.30	593.56	76.53	1079.22	1075.30	67.66	124.54	246.24	247.69
NOx [g/h]	56.06	1297.99	115.49	14.89	209.98	209.21	13.16	24.23	47.91	48.19
VOC [g/h]	66.78	1546.14	137.56	17.74	250.12	249.21	15.68	28.86	57.07	57.41

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	31.40	31.40	31.40
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.366	2.157	2.280
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	967	967	840	840
d_b, Bicycle Delay [s]	11.12	11.12	14.02	14.02
l_b,int, Bicycle LOS Score for Intersection	3.737	2.744	1.933	2.368
Bicycle LOS	D	B	A	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	69.6
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.978

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	500.0	100.0	100.0	100.0	500.0	100.0	100.0	300.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	5	445	1623	173	4	218	1176	198	390	53	619	69	107	295
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-6	-14	0	0	0	-4	0	0	0	-1	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	52	0	0	0	59	0	0	185	0	0	89
Total Hourly Volume [veh/h]	5	439	1609	121	4	218	1172	139	390	53	433	69	107	206
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	118	433	33	1	59	315	37	105	14	116	19	29	55
Total Analysis Volume [veh/h]	5	472	1730	130	4	234	1260	149	419	57	466	74	115	222
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Overlap	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	5	3	8	0
Auxiliary Signal Groups											5,7			
Maximum Green [s]	0	20	50	0	0	20	50	0	20	20	20	0	20	0
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	14	0	0	0	24	0	0	0	0	0	31	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	2.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	0	24	56	0	24	24	24	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	4	0	5	0
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No	No		No	
Maximum Recall		No	No			No	No			No	No		No	
Pedestrian Recall		No	No			No	No			No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Cycle Length [s]	122	122	122	122	122	122	122	122	122	122	122
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	20	48	48	18	46	46	18	18	66	20	20
g / C, Green / Cycle	0.16	0.39	0.39	0.15	0.37	0.37	0.15	0.15	0.55	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.27	0.35	0.35	0.13	0.25	0.09	0.13	0.13	0.17	0.08	0.20
s, saturation flow rate [veh/h]	1799	3560	1804	1781	5094	1589	1781	1801	2813	927	1675
c, Capacity [veh/h]	325	1390	704	265	1910	596	270	273	1534	196	275
d1, Uniform Delay [s]	53.59	34.60	34.84	50.97	31.63	26.27	50.63	50.55	15.10	48.12	50.95
k, delay calibration	0.26	0.13	0.35	0.26	0.13	0.13	0.26	0.25	0.04	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	219.51	2.47	12.14	21.34	0.47	0.26	18.98	17.50	0.04	0.45	129.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.47	0.88	0.90	0.90	0.66	0.25	0.88	0.87	0.30	0.38	1.23
d, Delay for Lane Group [s/veh]	273.09	37.07	46.97	72.31	32.10	26.53	69.61	68.05	15.14	48.57	180.57
Lane Group LOS	F	D	D	E	C	C	E	E	B	D	F
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	14.81	16.49	18.92	8.50	9.90	2.93	8.51	8.41	3.50	2.11	18.24
50th-Percentile Queue Length [ft/ln]	370.36	412.22	473.10	212.57	247.46	73.37	212.75	210.34	87.38	52.77	456.10
95th-Percentile Queue Length [veh/ln]	24.48	23.15	26.06	13.28	15.06	5.28	13.29	13.17	6.29	3.80	27.72
95th-Percentile Queue Length [ft/ln]	612.05	578.70	651.46	332.12	376.45	132.07	332.35	329.27	157.29	94.98	692.98

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	273.0	273.0	39.94	46.97	72.31	72.31	32.10	26.53	68.93	68.05	15.14	48.57	180.57	180.57
Movement LOS	F	F	D	D	E	E	C	C	E	E	B	D	F	F
d_A, Approach Delay [s/veh]	87.92				37.41				42.27			156.80		
Approach LOS	F				D				D			F		
d_I, Intersection Delay [s/veh]	69.58													
Intersection LOS	E													
Intersection V/C	0.978													

Emissions

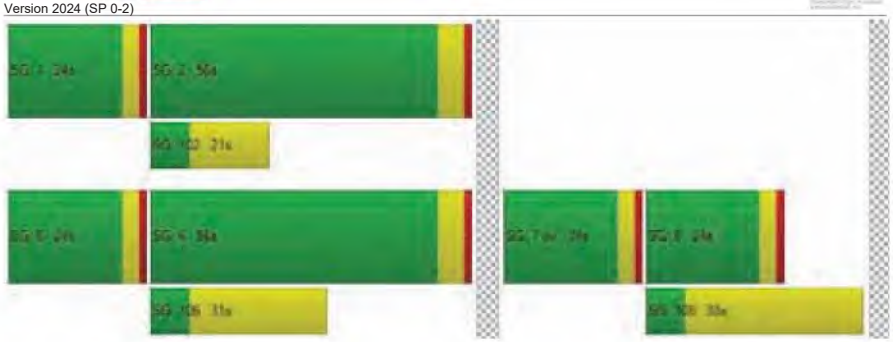
Vehicle Miles Traveled [mph]	89.77	231.31	118.73	56.84	300.93	35.59	14.83	14.85	29.06	3.61	16.43
Stops [stops/h]	875.89	974.87	559.43	251.36	877.84	86.76	251.57	248.73	206.65	62.40	539.32
Fuel consumption [US gal/h]	40.47	29.32	17.06	8.58	29.46	3.10	5.37	5.28	3.77	1.22	16.04
CO [g/h]	2828.91	2049.60	1192.21	599.41	2059.32	216.90	375.28	369.32	263.79	85.60	1121.00
NOx [g/h]	550.40	398.78	231.96	116.62	400.67	42.20	73.02	71.86	51.32	16.65	218.11
VOC [g/h]	655.63	475.01	276.31	138.92	477.27	50.27	86.97	85.59	61.13	19.84	259.80

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	50.39	50.39	50.39
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.585	3.721	2.398
Crosswalk LOS	F	D	D	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	826	826	328	328
d_b, Bicycle Delay [s]	20.98	20.98	42.53	42.53
l_b,int, Bicycle LOS Score for Intersection	2.871	2.369	3.419	2.385
Bicycle LOS	C	B	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	71.5
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.074

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1441	1689	425	0	37	1298	534	306	130	409	257	92	251
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-27	-20	-4	0	0	-5	0	0	0	-2	-1	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	126	0	0	0	160	0	0	122	0	0	75
Total Hourly Volume [veh/h]	1	1414	1669	295	0	37	1293	374	306	130	285	256	92	176
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	354	417	74	0	9	323	94	77	33	71	64	23	44
Total Analysis Volume [veh/h]	1	1414	1669	295	0	37	1293	374	306	130	285	256	92	176
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	136
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	45	62	0	0	14	29	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	50	68	0	0	19	35	28	0	28	0	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	45	74	74	6	34	59	19	19	17	17	17
g / C, Green / Cycle	0.33	0.54	0.54	0.04	0.25	0.43	0.14	0.14	0.13	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.41	0.36	0.39	0.02	0.26	0.24	0.12	0.12	0.10	0.10	0.11
s, saturation flow rate [veh/h]	3459	3532	1722	1781	5053	1589	1781	1832	1781	1826	1589
c, Capacity [veh/h]	1155	1913	933	81	1278	684	250	257	223	228	199
d1, Uniform Delay [s]	45.28	22.48	23.52	63.30	50.81	28.83	57.16	57.15	57.64	57.60	58.54
k, delay calibration	0.11	0.50	0.50	0.04	0.50	0.50	0.16	0.16	0.16	0.15	0.24
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	103.02	1.91	4.89	1.51	28.19	3.12	12.10	11.78	7.97	7.49	23.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.22	0.67	0.72	0.46	1.01	0.55	0.86	0.86	0.77	0.77	0.89
d, Delay for Lane Group [s/veh]	148.31	24.40	28.41	64.81	78.99	31.95	69.25	68.93	65.60	65.09	81.66
Lane Group LOS	F	C	C	E	F	C	E	E	E	E	F
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	35.86	15.11	17.31	1.26	17.39	9.37	8.07	8.28	6.25	6.34	7.25
50th-Percentile Queue Length [ft/ln]	896.41	377.68	432.78	31.57	434.63	234.18	201.87	207.05	156.16	158.54	181.18
95th-Percentile Queue Length [veh/ln]	51.78	21.48	24.13	2.27	24.40	14.39	12.73	13.00	10.35	10.47	11.66
95th-Percentile Queue Length [ft/ln]	1294.60	537.04	603.37	56.82	610.02	359.66	318.37	325.04	258.63	261.79	291.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	148.3	148.3	25.31	28.41	64.81	64.81	78.99	31.95	69.16	68.93	0.00	65.44	65.09	81.66
Movement LOS	F	F	C	C	E	E	F	C	E	E		E	E	F
d_A, Approach Delay [s/veh]	77.09				68.36				41.78			70.82		
Approach LOS	E				E				D			E		
d_I, Intersection Delay [s/veh]	71.54													
Intersection LOS	E													
Intersection V/C	1.074													

Emissions

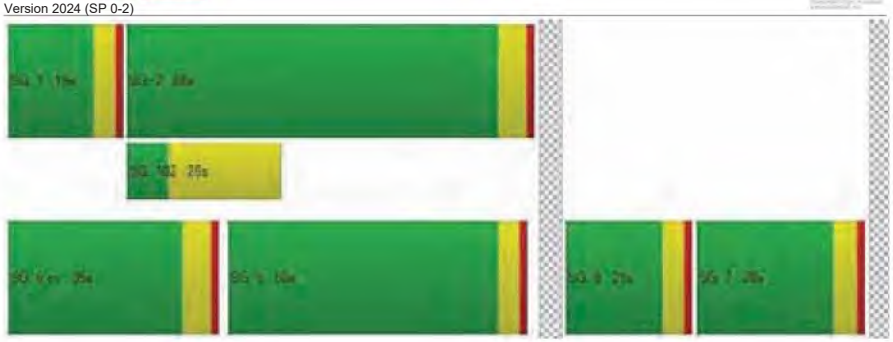
Vehicle Miles Traveled [mph]	242.35	220.54	115.83	6.96	243.34	70.39	9.94	10.23	5.48	5.59	5.60
Stops [stops/h]	1898.29	799.79	458.24	33.42	1380.58	247.95	213.74	219.23	165.35	167.87	191.84
Fuel consumption [US gal/h]	63.16	19.89	11.21	1.14	46.29	7.93	4.62	4.73	3.44	3.48	4.21
CO [g/h]	4414.97	1390.33	783.61	79.84	3235.58	554.08	322.86	330.82	240.33	243.60	294.59
NOx [g/h]	858.99	270.51	152.46	15.53	629.53	107.80	62.82	64.36	46.76	47.40	57.32
VOC [g/h]	1023.21	322.22	181.61	18.50	749.88	128.41	74.83	76.67	55.70	56.46	68.28

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	57.44
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.547
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	915	429	337	241
d_b, Bicycle Delay [s]	20.02	41.93	47.03	52.59
l_b,int, Bicycle LOS Score for Intersection	3.487	2.564	2.279	2.054
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Latrobe Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	61.7
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.962

Intersection Setup

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	2	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	300.00	570.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No			No		
Crosswalk	No			No				No			Yes		

Volumes

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Base Volume Input [veh/h]	0	2691	613	1	388	1576	0	0	0	1667	0	0	864
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-51	-10	0	0	-8	0	0	0	-6	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	181	0	0	0	0	0	0	498	0	0	259
Total Hourly Volume [veh/h]	0	2640	422	1	388	1568	0	0	0	1163	0	0	605
Peak Hour Factor	1.0000	0.9500	0.8400	1.000	0.840	0.950	1.000	1.0000	1.0000	0.8400	1.0000	1.0000	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	695	126	0	115	413	0	0	0	346	0	0	180
Total Analysis Volume [veh/h]	0	2779	502	1	462	1651	0	0	0	1385	0	0	720
Presence of On-Street Parking	No		No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0				0			0	
v_co, Outbound Pedestrian Volume crossing		0			0				0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0	
Bicycle Volume [bicycles/h]		0			0				0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	26.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	30	0	0	26	34	0	0	0	22	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No				No			
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	4.2	0.0	0.0	2.6	4.2	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	2.5	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Minimum Recall		Yes			No	Yes				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	R	
C, Cycle Length [s]	68	68	68	68	68	
L, Total Lost Time per Cycle [s]	6.20	6.20	4.60	6.20	4.60	
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	4.20	4.20	2.60	4.20	2.60	
g_i, Effective Green Time [s]	38	38	20	35	22	
g / C, Green / Cycle	0.55	0.55	0.29	0.51	0.33	
(v / s)_i Volume / Saturation Flow Rate	0.41	0.32	0.26	0.24	0.49	
s, saturation flow rate [veh/h]	6792	1589	1781	6792	2813	
c, Capacity [veh/h]	3745	876	516	3476	927	
d1, Uniform Delay [s]	11.58	10.00	23.17	10.71	22.80	
k, delay calibration	0.50	0.50	0.17	0.50	0.20	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.37	2.72	8.80	0.47	224.78	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.74	0.57	0.90	0.48	1.49	
d, Delay for Lane Group [s/veh]	12.95	12.72	31.97	11.18	247.58	
Lane Group LOS	B	B	C	B	F	
Critical Lane Group	No	No	No	Yes	Yes	
50th-Percentile Queue Length [veh/ln]	6.11	4.25	7.43	3.20	35.69	
50th-Percentile Queue Length [ft/ln]	152.75	106.29	185.84	79.94	892.32	
95th-Percentile Queue Length [veh/ln]	10.16	7.63	11.90	5.76	55.99	
95th-Percentile Queue Length [ft/ln]	254.09	190.83	297.62	143.90	1399.72	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	12.95	12.72	31.97	31.97	11.18	0.00	0.00	0.00	247.58	0.00	0.00	0.00
Movement LOS		B	B	C	C	B				F			
d_A, Approach Delay [s/veh]		12.91			15.73				247.58			0.00	
Approach LOS		B			B				F			A	
d_I, Intersection Delay [s/veh]	61.73												
Intersection LOS	E												
Intersection V/C	0.962												

Emissions

Vehicle Miles Traveled [mph]	402.11	72.64	79.30	282.77	99.11	
Stops [stops/h]	1293.87	225.09	393.53	677.17	3779.23	
Fuel consumption [US gal/h]	37.19	6.59	10.62	21.87	94.73	
CO [g/h]	2599.90	460.49	742.59	1528.52	6621.47	
NOx [g/h]	505.85	89.59	144.48	297.39	1288.30	
VOC [g/h]	602.55	106.72	172.10	354.25	1534.59	

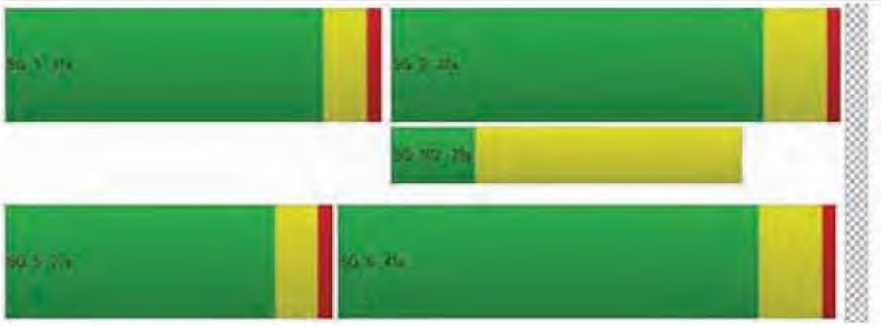
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	23.89
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.258
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	906	1024	659	0
d_b, Bicycle Delay [s]	10.18	8.10	15.29	34.00
l_b,int, Bicycle LOS Score for Intersection	2.988	2.241	1.560	1.560
Bicycle LOS	C	B	A	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	70.5
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.068

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	24	2098	245	3	606	2038	596	508	40	83	1	94	6	695
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-1	-61	-4	0	0	-14	0	0	0	0	0	-1	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	72	0	0	0	179	0	0	25	0	0	0	209
Total Hourly Volume [veh/h]	1	23	2037	169	3	606	2024	417	508	40	58	1	93	6	486
Peak Hour Factor	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.9600	0.9600	0.9600	0.960	0.960	0.960	0.960
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	6	530	44	1	158	527	109	132	10	15	0	24	2	127
Total Analysis Volume [veh/h]	1	24	2122	176	3	631	2108	434	529	42	60	1	97	6	506
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	138
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	0	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	40	0	0	12	65	0	15	20	0	0	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	0.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.0	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	0.0	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	46	0	0	16	71	0	19	24	0	0	19	19	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	0	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	Yes			No	Yes			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	2	49	49	12	58	58	19	19	19	15	15	15
g / C, Green / Cycle	0.02	0.44	0.44	0.11	0.53	0.53	0.17	0.17	0.17	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.01	0.42	0.11	0.18	0.41	0.27	0.15	0.02	0.04	0.06	0.16	0.16
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	1870	1589	1781	1595	1589
c, Capacity [veh/h]	69	2241	699	375	2692	840	593	321	273	241	216	215
d1, Uniform Delay [s]	53.55	29.75	19.52	49.33	20.98	16.92	44.83	38.85	39.47	43.75	47.83	47.83
k, delay calibration	0.04	0.04	0.04	0.27	0.04	0.04	0.08	0.08	0.08	0.08	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.21	1.10	0.07	316.95	0.19	0.18	3.72	0.14	0.30	0.81	120.55	120.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.95	0.25	1.69	0.78	0.52	0.89	0.13	0.22	0.41	1.19	1.19
d, Delay for Lane Group [s/veh]	54.75	30.86	19.59	366.28	21.18	17.10	48.55	38.98	39.76	44.57	168.38	168.56
Lane Group LOS	D	C	B	F	C	B	D	D	D	D	F	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.35	17.59	2.85	21.66	13.94	6.96	7.35	0.98	1.43	2.51	13.15	13.12
50th-Percentile Queue Length [ft/ln]	8.85	439.71	71.18	541.45	348.48	174.02	183.71	24.52	35.72	62.66	328.84	327.96
95th-Percentile Queue Length [veh/ln]	0.64	24.47	5.13	34.56	20.06	11.29	11.79	1.77	2.57	4.51	20.53	20.48
95th-Percentile Queue Length [ft/ln]	15.93	611.66	128.13	863.90	501.55	282.20	294.85	44.14	64.29	112.80	513.24	512.11

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.75	54.75	30.86	19.59	366.2	366.2	21.18	17.10	48.55	38.98	39.76	44.57	44.57	168.3	168.4
Movement LOS	D	D	C	B	F	F	C	B	D	D	D	D	D	F	F
d_A, Approach Delay [s/veh]	30.26				89.51				47.08			148.56			
Approach LOS	C				F				D			F			
d_I, Intersection Delay [s/veh]	70.46														
Intersection LOS	E														
Intersection V/C	1.068														

Emissions

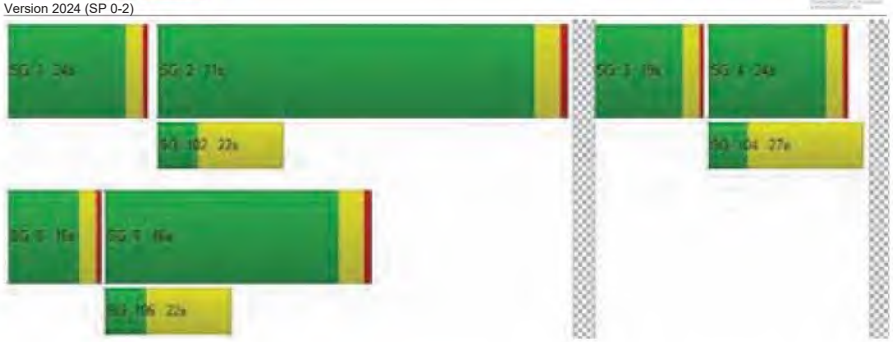
Vehicle Miles Traveled [mph]	5.58	473.71	39.29	91.74	305.02	62.80	67.47	5.36	7.65	34.39	90.00	89.70
Stops [stops/h]	23.07	1719.08	92.77	1411.23	1362.39	226.78	478.81	31.96	46.55	81.66	428.54	427.39
Fuel consumption [US gal/h]	0.64	42.32	2.83	58.82	29.17	5.35	10.65	0.73	1.06	2.76	14.86	14.82
CO [g/h]	44.44	2958.34	197.93	4111.51	2038.88	373.88	744.38	51.05	73.93	192.63	1038.52	1035.85
NOx [g/h]	8.65	575.59	38.51	799.95	396.69	72.74	144.83	9.93	14.38	37.48	202.06	201.54
VOC [g/h]	10.30	685.62	45.87	952.88	472.53	86.65	172.52	11.83	17.13	44.64	240.69	240.07

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.80	0.00	44.80	44.80
l_p,int, Pedestrian LOS Score for Intersectio	3.469	0.000	2.709	2.946
Crosswalk LOS	C	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	733	1186	371	281
d_b, Bicycle Delay [s]	22.17	9.16	36.65	40.84
l_b,int, Bicycle LOS Score for Intersection	2.876	3.058	2.101	2.751
Bicycle LOS	C	C	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	48.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.798

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	2	0	0	1	2	0	0	1	1	0	2
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	400.0	100.0	100.0	400.0	360.0	100.0	100.0	300.0	400.00	100.00	300.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	6	155	1777	629	2	259	1490	465	2	395	566	152	600	264	194
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-66	-16	0	0	-15	0	0	0	0	0	-4	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	184	0	0	0	140	0	0	0	46	0	0	58
Total Hourly Volume [veh/h]	6	155	1711	429	2	259	1475	325	2	395	566	106	596	264	136
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	42	460	115	1	70	397	87	1	106	152	28	160	71	37
Total Analysis Volume [veh/h]	6	167	1840	461	2	278	1586	349	2	425	609	114	641	284	146
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	160
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Overl	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	3	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups				2,3											
Maximum Green [s]	0	20	50	36	0	20	50	0	0	21	15	0	36	25	0
Amber [s]	0.0	4.0	4.7	4.5	0.0	4.0	4.7	0.0	0.0	4.5	4.7	0.0	4.5	4.7	0.0
All red [s]	0.0	1.0	1.0	1.5	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	5	0	0	0	5	0	0	0	4	0	0	5	0
Pedestrian Clearance [s]	0	0	28	0	0	0	24	0	0	0	31	0	0	31	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	3.7	4.0	0.0	3.0	3.7	0.0	0.0	4.0	3.7	0.0	4.0	3.7	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	58	42	0	25	58	0	0	27	35	0	42	50	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	9	9	9	0	9	9	0	0	9	9	0	9	9	0
Vehicle Extension [s]	0.0	1.5	3.0	1.5	0.0	1.5	3.0	0.0	0.0	1.5	2.0	0.0	1.5	2.0	0.0
Minimum Recall		No	No	No		No	No			No	No		No	No	
Maximum Recall		No	No	No		No	No			No	No		No	No	
Pedestrian Recall		No	No	No		No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	160	160	160	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	5.00	5.70	6.00	5.00	5.70	5.70	6.00	5.70	5.70	6.00	5.70	5.70
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.70	0.00	3.00	3.70	3.70	4.00	3.70	3.70	4.00	3.70	3.70
g_i, Effective Green Time [s]	10	54	99	15	59	59	22	29	29	39	47	47
g / C, Green / Cycle	0.06	0.34	0.62	0.09	0.37	0.37	0.14	0.18	0.18	0.24	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.05	0.27	0.29	0.08	0.31	0.22	0.12	0.17	0.07	0.19	0.08	0.09
s, saturation flow rate [veh/h]	3459	6792	1589	3459	5094	1589	3459	3560	1589	3459	3560	1589
c, Capacity [veh/h]	218	2310	986	323	1888	589	468	647	289	847	1036	463
d1, Uniform Delay [s]	73.94	47.79	16.23	71.54	46.03	40.61	68.23	64.63	57.71	36.97	25.02	25.27
k, delay calibration	0.04	0.11	0.31	0.04	0.11	0.13	0.04	0.04	0.04	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.49	0.65	1.00	2.76	1.07	1.18	2.96	3.20	0.33	6.27	0.65	1.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.80	0.47	0.87	0.84	0.59	0.91	0.94	0.39	0.76	0.27	0.32
d, Delay for Lane Group [s/veh]	76.44	48.44	17.22	74.30	47.09	41.80	71.19	67.83	58.04	43.24	25.67	27.05
Lane Group LOS	E	D	B	E	D	D	E	E	E	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.61	16.78	9.35	5.72	18.91	11.10	8.85	12.59	4.14	9.36	2.61	2.84
50th-Percentile Queue Length [ft/ln]	90.14	419.52	233.75	142.98	472.75	277.51	221.25	314.70	103.46	234.11	65.28	70.91
95th-Percentile Queue Length [veh/ln]	6.49	23.50	14.36	9.64	26.04	16.56	13.73	18.41	7.45	14.38	4.70	5.11
95th-Percentile Queue Length [ft/ln]	162.25	587.47	359.12	241.03	651.04	414.11	343.23	460.16	186.23	359.58	117.50	127.64

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	76.44	76.44	48.44	17.22	74.30	74.30	47.09	41.80	71.19	71.19	67.83	58.04	43.24	25.67	27.05
Movement LOS	E	E	D	B	E	E	D	D	E	E	E	E	D	C	C
d_A, Approach Delay [s/veh]	44.58				49.70				68.11				36.37		
Approach LOS	D				D				E				D		
d_I, Intersection Delay [s/veh]	48.86														
Intersection LOS	D														
Intersection V/C	0.798														

Emissions

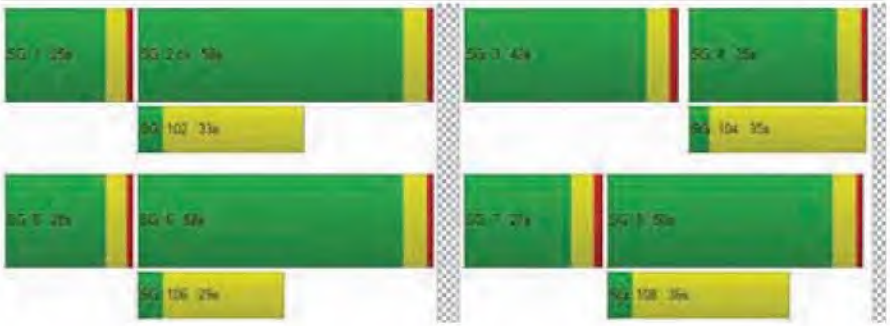
Vehicle Miles Traveled [mph]	68.89	732.65	183.56	62.51	354.05	77.91	106.57	151.99	28.45	67.22	29.78	15.31
Stops [stops/h]	162.25	1510.26	210.38	257.36	1276.43	249.76	398.26	566.46	93.11	421.40	117.50	63.82
Fuel consumption [US gal/h]	6.42	56.64	10.33	9.58	43.20	8.74	12.77	17.79	3.03	10.74	3.36	1.79
CO [g/h]	448.95	3959.23	722.40	669.32	3019.98	611.21	892.80	1243.60	211.93	750.39	234.79	124.88
NOx [g/h]	87.35	770.32	140.55	130.23	587.58	118.92	173.71	241.96	41.23	146.00	45.68	24.30
VOC [g/h]	104.05	917.59	167.42	155.12	699.91	141.65	206.91	288.22	49.12	173.91	54.41	28.94

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	72.20	71.25	71.25	71.25
l_p,int, Pedestrian LOS Score for Intersectio	3.749	3.899	2.985	3.075
Crosswalk LOS	D	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	654	654	366	554
d_b, Bicycle Delay [s]	36.25	36.25	53.38	41.83
l_b,int, Bicycle LOS Score for Intersection	2.654	2.702	2.196	2.491
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	23.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.813

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0	0	1	1	0	1	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	300.0	200.0	100.0	100.0	100.0	320.00	100.00	320.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	18	1787	36	0	34	1740	490	751	10	41	2	8	19
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-82	0	0	0	-19	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	11	0	0	0	147	0	0	12	0	0	6
Total Hourly Volume [veh/h]	1	18	1705	25	0	34	1721	343	751	10	29	2	8	13
Peak Hour Factor	1.000	0.890	0.890	0.870	1.000	0.870	0.890	0.890	0.8900	0.8700	0.8900	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	5	479	7	0	10	483	96	211	3	8	1	2	4
Total Analysis Volume [veh/h]	1	20	1916	29	0	39	1934	385	844	11	33	2	9	15
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	16	34	0	0	15	34	0	0	36	0	0	16	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	11	0	0	0	18	0	0	24	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	245.0	0.0	0.0	0.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	20	40	0	0	20	40	0	0	40	0	0	20	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	C
C, Cycle Length [s]	78	78	78	78	78	78	78	78	78	78
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	34	34	2	34	34	22	22	22	2
g / C, Green / Cycle	0.02	0.43	0.43	0.03	0.43	0.43	0.28	0.28	0.28	0.03
(v / s)_i Volume / Saturation Flow Rate	0.01	0.36	0.36	0.02	0.38	0.24	0.24	0.24	0.02	0.02
s, saturation flow rate [veh/h]	1781	3560	1856	1781	5094	1589	1781	1783	1589	1691
c, Capacity [veh/h]	42	1529	797	49	2206	688	508	509	453	47
d1, Uniform Delay [s]	37.77	19.90	19.91	37.86	20.29	16.61	26.32	26.32	20.43	37.58
k, delay calibration	0.04	0.15	0.32	0.04	0.15	0.15	0.11	0.11	0.11	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.30	1.81	6.80	10.15	1.73	1.02	3.85	3.83	0.07	3.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.84	0.84	0.79	0.88	0.56	0.84	0.84	0.07	0.55
d, Delay for Lane Group [s/veh]	41.07	21.70	26.71	48.01	22.02	17.62	30.17	30.14	20.50	41.24
Lane Group LOS	D	C	C	D	C	B	C	C	C	D
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.43	9.86	11.40	0.82	8.96	4.40	7.66	7.66	0.43	0.53
50th-Percentile Queue Length [ft/ln]	10.71	246.49	284.95	20.52	224.10	110.10	191.51	191.48	10.87	13.24
95th-Percentile Queue Length [veh/ln]	0.77	15.01	16.93	1.48	13.87	7.85	12.20	12.20	0.78	0.95
95th-Percentile Queue Length [ft/ln]	19.28	375.23	423.37	36.94	346.86	196.14	304.99	304.94	19.57	23.84

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.07	41.07	23.37	26.71	48.01	48.01	22.02	17.62	30.16	30.14	20.50	41.24	41.24	41.24
Movement LOS	D	D	C	C	D	D	C	B	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	23.61				21.73				29.80			41.24		
Approach LOS	C				C				C			D		
d_I, Intersection Delay [s/veh]	23.90													
Intersection LOS	C													
Intersection V/C	0.813													

Emissions

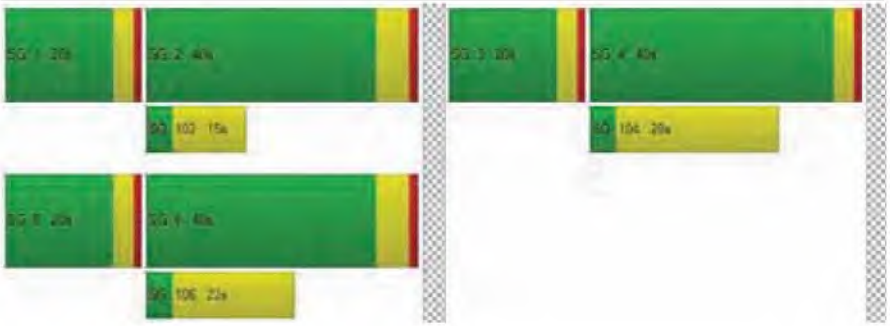
Vehicle Miles Traveled [mph]	7.43	452.19	235.90	15.53	770.08	153.30	102.97	103.01	7.95	0.49
Stops [stops/h]	19.72	907.55	524.56	37.78	1237.67	202.68	352.56	352.49	20.02	24.38
Fuel consumption [US gal/h]	0.59	29.27	16.23	1.60	57.41	10.27	8.81	8.81	0.58	0.37
CO [g/h]	41.26	2046.30	1134.75	112.00	4013.27	718.12	615.89	615.88	40.23	26.09
NOx [g/h]	8.03	398.14	220.78	21.79	780.84	139.72	119.83	119.83	7.83	5.08
VOC [g/h]	9.56	474.25	262.99	25.96	930.12	166.43	142.74	142.74	9.32	6.05

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.52	0.00	31.52	31.52
l_p,int, Pedestrian LOS Score for Intersectio	3.157	0.000	2.500	1.779
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	869	869	920	409
d_b, Bicycle Delay [s]	12.50	12.50	11.40	24.75
l_b,int, Bicycle LOS Score for Intersection	2.646	2.916	3.045	1.612
Bicycle LOS	B	C	C	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Latrobe Rd/Suncast Ln

Control Type:	Signalized	Delay (sec / veh):	45.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.999

Intersection Setup

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Approach	Northbound			Southbound		Eastbound	
Lane Configuration							
Turning Movement	U-turn	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			No		Yes	

Volumes

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Base Volume Input [veh/h]	0	131	1454	1541	243	388	219
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-1	-82	-19	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	73	0	66
Total Hourly Volume [veh/h]	0	130	1372	1522	170	388	153
Peak Hour Factor	1.0000	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	37	385	428	48	109	43
Total Analysis Volume [veh/h]	0	146	1542	1710	191	436	172
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permissive	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	5	2	6	0	3	0
Auxiliary Signal Groups							
Maximum Green [s]	0	12	40	40	0	20	0
Amber [s]	0.0	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No	No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	46	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-
Minimum Green [s]	0	5	5	5	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall		No	No	No		No	
Maximum Recall		No	No	No		No	
Pedestrian Recall		No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	L	R
C, Cycle Length [s]	82	82	82	82	82	82
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	8	52	40	40	20	20
g / C, Green / Cycle	0.10	0.64	0.49	0.49	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.08	0.43	0.51	0.53	0.24	0.11
s, saturation flow rate [veh/h]	1781	3560	1870	1806	1781	1589
c, Capacity [veh/h]	182	2264	908	877	432	386
d1, Uniform Delay [s]	36.19	9.63	21.21	21.21	31.21	26.50
k, delay calibration	0.04	0.15	0.47	0.49	0.44	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.13	0.52	42.03	55.64	42.59	0.81
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.68	1.05	1.08	1.01	0.45
d, Delay for Lane Group [s/veh]	39.31	10.15	63.24	76.85	73.80	27.31
Lane Group LOS	D	B	F	F	F	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.97	7.57	26.27	28.69	13.36	2.87
50th-Percentile Queue Length [ft/ln]	74.21	189.37	656.84	717.18	333.92	71.82
95th-Percentile Queue Length [veh/ln]	5.34	12.09	35.94	39.84	19.45	5.17
95th-Percentile Queue Length [ft/ln]	133.57	302.21	898.54	996.08	486.23	129.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.31	39.31	10.15	69.29	76.85	73.80	27.31
Movement LOS	D	D	B	E	E	F	C
d_A, Approach Delay [s/veh]	12.67			70.05		60.65	
Approach LOS	B			E		E	
d_I, Intersection Delay [s/veh]	45.61						
Intersection LOS	D						
Intersection V/C	0.999						

Emissions

Vehicle Miles Traveled [mph]	101.55	1072.54	336.26	336.26	147.11	58.04
Stops [stops/h]	129.71	661.98	1148.09	1253.56	583.65	125.53
Fuel consumption [US gal/h]	6.07	51.00	32.42	35.63	15.83	4.04
CO [g/h]	423.95	3564.63	2265.98	2490.66	1106.38	282.30
NOx [g/h]	82.49	693.55	440.88	484.59	215.26	54.92
VOC [g/h]	98.25	826.14	525.16	577.23	256.41	65.43

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	33.58	0.00	33.58
l_p,int, Pedestrian LOS Score for Intersectio	3.007	0.000	2.385
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	971	971	486
d_b, Bicycle Delay [s]	10.90	10.90	23.62
l_b,int, Bicycle LOS Score for Intersection	2.952	3.188	1.560
Bicycle LOS	C	C	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	217.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.244

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	114	590	31	419	446	895	817	306	63	76	201	178
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-11	-34	-5	0	-8	-12	-49	-8	-2	-1	-2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	265	0	0	18	0	0	53
Total Hourly Volume [veh/h]	103	556	18	419	438	618	768	298	43	75	199	125
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	153	5	115	120	170	211	82	12	21	55	34
Total Analysis Volume [veh/h]	113	611	20	460	481	679	844	327	47	82	219	137
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	7	20	20	12	25	25	15	15	15	15
g / C, Green / Cycle	0.08	0.24	0.24	0.15	0.31	0.31	0.19	0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.06	0.17	0.17	0.26	0.26	0.43	0.34	0.34	0.16	0.09
s, saturation flow rate [veh/h]	1781	1870	1849	1781	1870	1589	1781	1810	1845	1589
c, Capacity [veh/h]	146	456	451	266	581	494	332	338	345	297
d1, Uniform Delay [s]	36.19	27.71	27.71	34.22	25.72	27.72	32.72	32.72	31.77	29.09
k, delay calibration	0.04	0.04	0.04	0.50	0.25	0.50	0.50	0.50	0.10	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.27	0.72	0.73	344.42	6.90	180.95	386.73	373.33	6.72	0.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.70	0.70	1.73	0.83	1.37	1.83	1.80	0.87	0.46
d, Delay for Lane Group [s/veh]	39.46	28.43	28.44	378.64	32.62	208.67	419.45	406.05	38.48	29.51
Lane Group LOS	D	C	C	F	C	F	F	F	D	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.26	5.43	5.38	30.09	8.45	32.96	41.90	41.34	6.13	2.32
50th-Percentile Queue Length [ft/ln]	56.41	135.87	134.49	752.16	211.32	823.88	1047.56	1033.47	153.32	58.06
95th-Percentile Queue Length [veh/ln]	4.06	9.26	9.18	47.42	13.22	50.36	65.72	64.72	10.19	4.18
95th-Percentile Queue Length [ft/ln]	101.53	231.46	229.59	1185.60	330.52	1258.90	1643.06	1618.09	254.86	104.50

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.46	28.44	28.44	378.64	32.62	208.67	415.72	406.05	406.05	38.48	38.48	29.51
Movement LOS	D	C	C	F	C	F	F	F	F	D	D	C
d_A, Approach Delay [s/veh]	30.11			204.66			412.75			35.67		
Approach LOS	C			F			F			D		
d_I, Intersection Delay [s/veh]	216.99											
Intersection LOS	F											
Intersection V/C	1.244											

Emissions

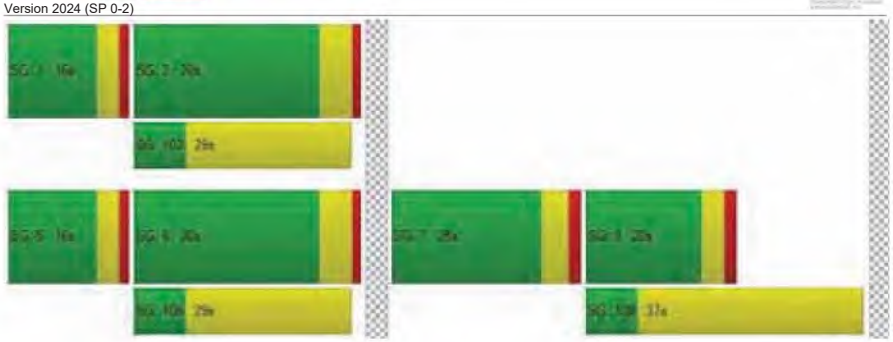
Vehicle Miles Traveled [mph]	65.26	183.17	181.25	319.95	334.56	472.28	45.81	45.81	33.29	15.15
Stops [stops/h]	101.18	243.73	241.25	1349.24	379.07	1477.90	1879.13	1853.86	275.03	104.14
Fuel consumption [US gal/h]	4.15	10.72	10.61	71.20	21.43	72.08	64.24	62.44	5.25	2.02
CO [g/h]	290.28	749.47	741.68	4977.01	1497.62	5038.24	4490.36	4364.55	366.77	141.32
NOx [g/h]	56.48	145.82	144.30	968.35	291.38	980.26	873.66	849.18	71.36	27.50
VOC [g/h]	67.28	173.70	171.89	1153.47	347.09	1167.66	1040.68	1011.53	85.00	32.75

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.89	0.00	29.89	29.89
l_p,int, Pedestrian LOS Score for Intersectio	2.574	0.000	2.776	2.434
Crosswalk LOS	B	F	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	615	615	386	498
d_b, Bicycle Delay [s]	19.24	19.24	26.13	22.63
l_b,int, Bicycle LOS Score for Intersection	2.180	3.115	3.599	2.370
Bicycle LOS	B	C	D	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	19.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.789

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	171	325	456	129	410	157
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-1	0	0	-12	-50	-6
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	35	0	45
Total Hourly Volume [veh/h]	170	325	456	82	360	106
Peak Hour Factor	0.9000	0.9000	0.9000	0.7900	0.7900	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	90	127	26	114	29
Total Analysis Volume [veh/h]	189	361	507	104	456	118
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	164
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	50	50	50	0	50	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	54	56	56	0	54	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	61	61	61	61	61	61
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	8	32	20	20	18	18
g / C, Green / Cycle	0.13	0.53	0.33	0.33	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.11	0.19	0.27	0.07	0.26	0.07
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1589
c, Capacity [veh/h]	239	996	623	529	541	482
d1, Uniform Delay [s]	25.60	8.26	18.64	14.54	19.91	16.00
k, delay calibration	0.04	0.15	0.15	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.22	0.32	3.74	0.26	3.69	0.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.36	0.81	0.20	0.84	0.24
d, Delay for Lane Group [s/veh]	27.82	8.58	22.38	14.79	23.60	16.26
Lane Group LOS	C	A	C	B	C	B
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.40	1.83	5.70	0.85	6.01	1.17
50th-Percentile Queue Length [ft/ln]	59.88	45.67	142.56	21.16	150.29	29.25
95th-Percentile Queue Length [veh/ln]	4.31	3.29	9.62	1.52	10.03	2.11
95th-Percentile Queue Length [ft/ln]	107.78	82.21	240.47	38.09	250.82	52.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.82	8.58	22.38	14.79	23.60	16.26
Movement LOS	C	A	C	B	C	B
d_A, Approach Delay [s/veh]	15.19		21.09		22.09	
Approach LOS	B		C		C	
d_I, Intersection Delay [s/veh]	19.55					
Intersection LOS	B					
Intersection V/C	0.789					

Emissions

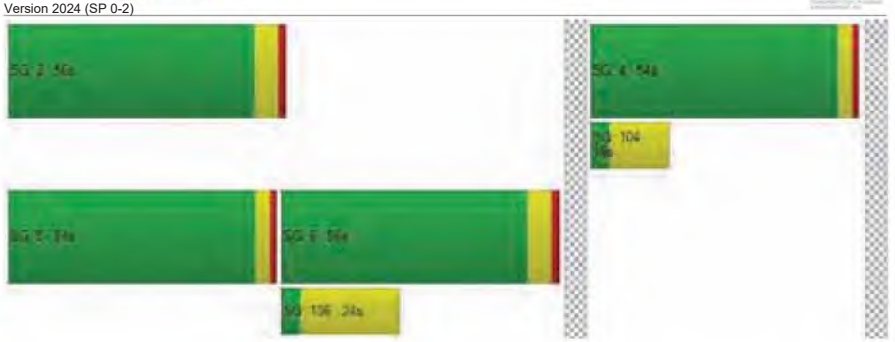
Vehicle Miles Traveled [mph]	23.32	44.54	292.80	60.06	107.10	27.71
Stops [stops/h]	141.56	107.98	337.03	50.03	355.30	69.14
Fuel consumption [US gal/h]	4.48	4.13	18.36	3.25	8.56	1.91
CO [g/h]	313.12	288.39	1283.63	227.29	598.49	133.75
NOx [g/h]	60.92	56.11	249.75	44.22	116.44	26.02
VOC [g/h]	72.57	66.84	297.49	52.68	138.70	31.00

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.98	0.00	22.98
l_p,int, Pedestrian LOS Score for Intersectio	2.650	0.000	2.295
Crosswalk LOS	B	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1642	1642	1642
d_b, Bicycle Delay [s]	0.98	0.98	0.98
l_b,int, Bicycle LOS Score for Intersection	2.467	2.626	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	27.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	438	0	25	588	0	0	0	0	2	0	58
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-1	0	0	-6	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	437	0	25	582	0	0	0	0	2	0	58
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	119	0	6	158	0	0	0	0	1	0	15
Total Analysis Volume [veh/h]	0	475	0	25	633	0	0	0	0	2	0	58
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			Yes	Yes
Storage Area [veh]	0	0	1	1
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.10
d_M, Delay for Movement [s/veh]	8.79	0.00	0.00	8.34	0.00	0.00	30.04	24.04	12.50	27.22	24.69	11.76
Movement LOS	A	A	A	A	A	A	D	C	B	D	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.04	0.04	0.04	0.00	0.00	0.00	0.33	0.33	0.33
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	1.06	1.06	1.06	0.00	0.00	0.00	8.21	8.21	8.21
d_A, Approach Delay [s/veh]	0.00			0.32			22.20			12.27		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	0.79											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Two-way stop	Delay (sec / veh):	44.1
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.416

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	334	21	144	446	0	0	0	0	59	0	104
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-1	0	0	-6	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	333	21	144	440	0	0	0	0	59	0	104
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	90	6	39	118	0	0	0	0	16	0	28
Total Analysis Volume [veh/h]	0	358	23	155	473	0	0	0	0	63	0	112
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.42	0.00	0.17
d_M, Delay for Movement [s/veh]	8.31	0.00	0.00	8.52	0.00	0.00	36.10	26.32	11.09	44.10	41.34	25.67
Movement LOS	A	A	A	A	A	A	E	D	B	E	E	D
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.45	0.00	0.00	0.00	0.00	0.00	3.42	3.42	3.42
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	11.33	0.00	0.00	0.00	0.00	0.00	85.54	85.54	85.54
d_A, Approach Delay [s/veh]	0.00			2.10			24.51			32.31		
Approach LOS	A			A			C			D		
d_I, Intersection Delay [s/veh]	5.89											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	229.236

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	127	1017	168	55	1	1019	190
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-18	-58	-2	-4	0	-13	-11
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	109	959	166	51	1	1006	179
Peak Hour Factor	1.0000	0.8800	0.8800	0.8800	0.8800	1.0000	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	31	272	47	14	0	286	51
Total Analysis Volume [veh/h]	0	124	1090	189	58	1	1143	203
Pedestrian Volume [ped/h]	0			0		0		

Intersection Settings

Priority Scheme	Stop		Free		Free		
Flared Lane	No						
Storage Area [veh]	0		0		0		
Two-Stage Gap Acceptance	No						
Number of Storage Spaces in Median	0		0		0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	229.24	1.33	0.00	0.00	0.00	0.87	0.00
d_M, Delay for Movement [s/veh]	10000.00	10000.00	10000.00	0.00	0.00	10000.00	18.89	0.00
Movement LOS	F	F	F	A	A	F	C	A
95th-Percentile Queue Length [veh/ln]	154.05	154.05	154.05	0.00	0.00	10.74	10.74	10.74
95th-Percentile Queue Length [ft/ln]	3851.18	3851.18	3851.18	0.00	0.00	268.41	268.41	268.41
d_A, Approach Delay [s/veh]	10000.00			0.00		23.45		
Approach LOS	F			A		C		
d_I, Intersection Delay [s/veh]	4334.61							
Intersection LOS	F							

Intersection Level Of Service Report
Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Control Type:	All-way stop	Delay (sec / veh):	273.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.845

Intersection Setup

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Base Volume Input [veh/h]	60	657	105	0	40	585	40	56	49	40	225	17	79
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	-18	-79	-56	0	0	-13	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	657	105	0	40	585	22	0	0	40	225	4	79
Peak Hour Factor	0.8300	0.8300	0.8300	1.000	0.790	0.830	0.830	0.8300	0.8300	0.8300	0.8300	0.8300	0.7900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	198	32	0	13	176	7	0	0	12	68	1	25
Total Analysis Volume [veh/h]	72	792	127	0	51	705	27	0	0	48	271	5	100
Pedestrian Volume [ped/h]	0			0				0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	991	783	430	494
Degree of Utilization, x	1.84	1.47	0.11	0.76

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	62.66	38.84	0.37	6.61
95th-Percentile Queue Length [ft]	1566.60	970.96	9.37	165.27
Approach Delay [s/veh]	404.06	240.47	12.44	29.97
Approach LOS	F	F	B	D
Intersection Delay [s/veh]	273.24			
Intersection LOS	F			

Intersection Level Of Service Report
Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	35.4
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.630

Intersection Setup

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00			30.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	No		No			No		

Volumes

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Base Volume Input [veh/h]	159	80	0	143	294	2	132	196
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-6	0	-1	0	0	-27	-2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	159	74	0	142	294	2	105	194
Peak Hour Factor	0.8400	0.8400	1.0000	0.8400	0.8400	1.0000	0.8400	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	22	0	42	88	1	31	58
Total Analysis Volume [veh/h]	189	88	0	169	350	2	125	231
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Priority Scheme	Stop		Free			Free		
Flared Lane								
Storage Area [veh]	0		0			0		
Two-Stage Gap Acceptance	No							
Number of Storage Spaces in Median	0		0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.63	0.13	0.00	0.00	0.00	0.00	0.12	0.00
d_M, Delay for Movement [s/veh]	35.37	10.89	9.41	0.00	0.00	13.29	8.93	0.00
Movement LOS	E	B	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	3.97	0.43	0.00	0.00	0.00	0.42	0.42	0.00
95th-Percentile Queue Length [ft/ln]	99.21	10.75	0.00	0.00	0.00	10.55	10.55	0.00
d_A, Approach Delay [s/veh]	27.59		0.00			3.19		
Approach LOS	D		A			A		
d_I, Intersection Delay [s/veh]	7.61							
Intersection LOS	E							

Intersection Level Of Service Report
Intersection 16: Carson Crossing Rd/Calypso Cir.

Control Type:	Two-way stop	Delay (sec / veh):	152.3
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.971

Intersection Setup

Name			Carson Crossing Rd		Carson Crossing Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	190.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			Carson Crossing Rd		Carson Crossing Rd	
Base Volume Input [veh/h]	205	208	87	201	294	187
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-6	0	0	-27
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	205	208	81	201	294	160
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	57	22	55	80	43
Total Analysis Volume [veh/h]	223	226	88	218	320	174
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.97	0.23	0.00	0.00	0.26	0.00
d_M, Delay for Movement [s/veh]	152.30	140.33	0.00	0.00	8.85	0.00
Movement LOS	F	F	A	A	A	A
95th-Percentile Queue Length [veh/ln]	18.58	18.58	0.00	0.00	1.02	0.00
95th-Percentile Queue Length [ft/ln]	464.46	464.46	0.00	0.00	25.45	0.00
d_A, Approach Delay [s/veh]	146.27		0.00		5.73	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	54.85					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 17: Carson Crossing Rd/Four Seasons Dr

Control Type:	All-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.222

Intersection Setup

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	500.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	500.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Base Volume Input [veh/h]	310	12	28	203	0	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-27	0	0	-6	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	283	12	28	197	0	3
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	3	8	54	0	1
Total Analysis Volume [veh/h]	308	13	30	214	0	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	723	730	680	751	751	706
Degree of Utilization, x	0.22	0.22	0.04	0.14	0.14	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.85	0.83	0.14	0.50	0.50	0.01
95th-Percentile Queue Length [ft]	21.16	20.86	3.46	12.39	12.39	0.32
Approach Delay [s/veh]	9.05		8.28			8.13
Approach LOS	A		A			A
Intersection Delay [s/veh]	8.72					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Signalized	Delay (sec / veh):	17.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.574

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	200.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	253	10	50	7	1	21	5	697	138	90	634	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-27	0	0	0	0	0	0	0	-6	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	15	0	0	6	0	0	40	0	0	3
Total Hourly Volume [veh/h]	226	10	35	7	1	15	5	697	92	90	634	8
Peak Hour Factor	0.9700	1.0000	0.9300	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9300	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	58	3	9	2	0	4	1	180	24	24	163	2
Total Analysis Volume [veh/h]	233	10	38	7	1	15	5	719	95	97	654	8
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	25	0	0	25	0	15	35	0	15	35	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	21	0	0	11	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	30	0	0	30	0	20	40	0	20	40	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	9	0	0	9	0	9	9	0	9	9	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	C	L	C	R	L	C	R
C, Cycle Length [s]	53	53	53	53	53	53	53	53	53	53
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	9	9	9	3	1	14	14	7	21	21
g / C, Green / Cycle	0.17	0.17	0.17	0.05	0.01	0.27	0.27	0.13	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.13	0.01	0.02	0.01	0.00	0.20	0.06	0.05	0.18	0.01
s, saturation flow rate [veh/h]	1781	1870	1589	1654	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	309	325	276	82	22	966	431	231	1384	618
d1, Uniform Delay [s]	20.89	18.25	18.60	24.36	26.01	17.69	15.02	21.30	12.17	9.99
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.72	0.04	0.22	1.86	5.23	1.16	0.25	1.22	0.25	0.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.03	0.14	0.28	0.23	0.74	0.22	0.42	0.47	0.01
d, Delay for Lane Group [s/veh]	24.61	18.29	18.82	26.22	31.24	18.85	15.27	22.51	12.42	9.99
Lane Group LOS	C	B	B	C	C	B	B	C	B	A
Critical Lane Group	Yes	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.81	0.10	0.38	0.30	0.09	3.70	0.82	1.10	2.50	0.05
50th-Percentile Queue Length [ft/ln]	70.28	2.42	9.48	7.54	2.25	92.38	20.61	27.44	62.57	1.27
95th-Percentile Queue Length [veh/ln]	5.06	0.17	0.68	0.54	0.16	6.65	1.48	1.98	4.51	0.09
95th-Percentile Queue Length [ft/ln]	126.51	4.36	17.06	13.57	4.06	166.28	37.10	49.39	112.63	2.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	24.61	18.29	18.82	26.22	26.22	26.22	31.24	18.85	15.27	22.51	12.42	9.99
Movement LOS	C	B	B	C	C	C	C	B	B	C	B	A
d_A, Approach Delay [s/veh]	23.60			26.22			18.51			13.69		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	17.42											
Intersection LOS	B											
Intersection V/C	0.574											

Emissions

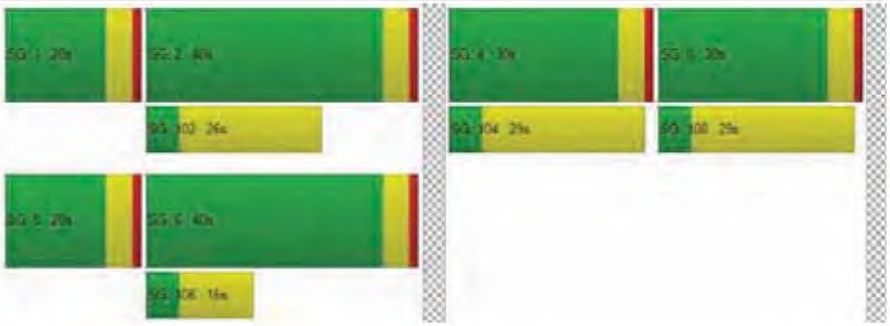
Vehicle Miles Traveled [mph]	69.17	2.97	11.28	0.51	0.72	102.95	13.60	81.63	550.36	6.73
Stops [stops/h]	190.84	6.58	25.73	20.47	6.12	501.67	55.96	74.50	339.81	3.44
Fuel consumption [US gal/h]	5.07	0.20	0.75	0.26	0.10	9.77	1.16	4.22	26.19	0.31
CO [g/h]	354.30	13.68	52.57	17.96	6.65	682.82	81.39	294.72	1830.49	21.84
NOx [g/h]	68.93	2.66	10.23	3.49	1.29	132.85	15.84	57.34	356.15	4.25
VOC [g/h]	82.11	3.17	12.18	4.16	1.54	158.25	18.86	68.30	424.23	5.06

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	18.28	18.28	18.28	18.28
l_p,int, Pedestrian LOS Score for Intersectio	2.398	1.724	2.771	2.681
Crosswalk LOS	B	A	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	943	943	1320	1320
d_b, Bicycle Delay [s]	7.41	7.41	3.07	3.07
l_b,int, Bicycle LOS Score for Intersection	2.048	1.607	2.268	2.188
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 19: White Rock Rd/Windfield Way

Control Type:	Signalized	Delay (sec / veh):	34.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.640

Intersection Setup

Name	Windfield Way						White Rock Rd			White Rock Rd			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00			
Grade [%]	0.00			0.00			0.00			0.00			
Curb Present	No			No			No			No			
Crosswalk	Yes			Yes			Yes			No			

Volumes

Name	Windfield Way						White Rock Rd			White Rock Rd			
Base Volume Input [veh/h]	305	5	361	5	5	5	5	754	92	14	260	607	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	108	0	0	0	0	0	28	0	0	0	0
Total Hourly Volume [veh/h]	305	5	253	5	5	5	5	754	64	14	260	607	5
Peak Hour Factor	0.9400	1.0000	0.9400	1.0000	1.0000	1.0000	1.0000	0.9400	0.9400	1.000	0.940	0.940	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	81	1	67	1	1	1	1	201	17	4	69	161	1
Total Analysis Volume [veh/h]	324	5	269	5	5	5	5	802	68	14	277	646	5
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0		
v_co, Outbound Pedestrian Volume crossing		0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0		
Bicycle Volume [bicycles/h]		0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	73.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi
Signal Group	3	8	0	7	4	0	5	2	0	0	1	6	0
Auxiliary Signal Groups													
Maximum Green [s]	25	25	0	10	10	0	9	19	0	0	44	54	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	2.0	1.0	0.0	0.0	2.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	26	0	0	13	0	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	245.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	15	15	0	15	25	0	0	50	60	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	3	3	0	5	3	0	5	7	0	0	3	7	0
Vehicle Extension [s]	1.0	1.0	0.0	3.0	1.0	0.0	3.0	3.6	0.0	0.0	1.0	3.6	0.0
Minimum Recall	No	No		No	No		No	Yes			No	Yes	
Maximum Recall	No	No		No	No		No	No			No	No	
Pedestrian Recall	No	No		No	No		No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	23	24	1	1	1	52	52	21	73	73
g / C, Green / Cycle	0.20	0.20	0.01	0.01	0.01	0.44	0.44	0.18	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.18	0.17	0.00	0.01	0.00	0.23	0.04	0.16	0.17	0.17
s, saturation flow rate [veh/h]	1781	1594	1781	1718	1781	3560	1589	1781	1870	1865
c, Capacity [veh/h]	349	313	12	13	12	1548	691	318	1134	1131
d1, Uniform Delay [s]	47.44	46.78	59.33	59.43	59.34	24.73	20.02	48.42	11.26	11.26
k, delay calibration	0.30	0.09	0.11	0.04	0.11	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	23.29	6.61	19.50	27.26	19.95	1.24	0.28	4.44	0.64	0.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.93	0.88	0.40	0.76	0.40	0.52	0.10	0.92	0.29	0.29
d, Delay for Lane Group [s/veh]	70.72	53.39	78.83	86.69	79.29	25.97	20.30	52.87	11.90	11.91
Lane Group LOS	E	D	E	F	E	C	C	D	B	B
Critical Lane Group	Yes	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	11.73	8.48	0.22	0.40	0.22	8.52	1.19	8.92	4.24	4.23
50th-Percentile Queue Length [ft/ln]	293.26	212.08	5.48	10.09	5.50	212.88	29.66	222.95	105.90	105.63
95th-Percentile Queue Length [veh/ln]	17.35	13.26	0.39	0.73	0.40	13.30	2.14	13.82	7.61	7.60
95th-Percentile Queue Length [ft/ln]	433.68	331.49	9.86	18.17	9.90	332.52	53.40	345.39	190.28	189.90

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	70.72	53.39	53.39	78.83	86.69	86.69	79.29	25.97	20.30	52.87	52.87	11.90	11.91
Movement LOS	E	D	D	E	F	F	E	C	C	D	D	B	B
d_A, Approach Delay [s/veh]	62.78			84.07			25.84			24.56			
Approach LOS	E			F			C			C			
d_I, Intersection Delay [s/veh]	34.79												
Intersection LOS	C												
Intersection V/C	0.640												

Emissions

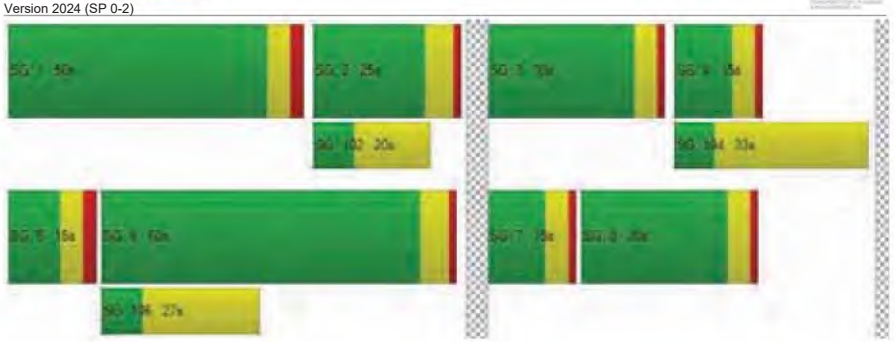
Vehicle Miles Traveled [mph]	124.84	105.58	0.23	0.46	4.21	674.90	57.22	72.63	81.35	81.13
Stops [stops/h]	351.91	254.49	6.57	12.11	6.60	510.92	35.60	267.54	127.08	126.75
Fuel consumption [US gal/h]	11.75	8.73	0.13	0.26	0.29	34.84	2.83	7.60	4.84	4.83
CO [g/h]	821.04	610.15	8.80	18.32	20.29	2435.66	198.05	531.12	338.35	337.45
NOx [g/h]	159.75	118.71	1.71	3.56	3.95	473.89	38.53	103.34	65.83	65.65
VOC [g/h]	190.29	141.41	2.04	4.25	4.70	564.49	45.90	123.09	78.41	78.21

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.460	1.964	2.812	0.000
Crosswalk LOS	B	A	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	417	167	317	900
d_b, Bicycle Delay [s]	37.60	50.42	42.50	18.15
l_b,int, Bicycle LOS Score for Intersection	2.725	1.584	2.305	2.108
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 20: White Rock Rd/Post St

Control Type:	Signalized	Delay (sec / veh):	44.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.668

Intersection Setup

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Approach	Northbound			Southbound			Eastbound				Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	300.0	100.0	100.0	100.0	200.00	100.00	400.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00				30.00		
Grade [%]	0.00			0.00			0.00				0.00		
Curb Present	No			No			No				No		
Crosswalk	Yes			Yes			No				No		

Volumes

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	71	16	42	191	15	246	3	227	1167	57	86	738	181
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	-1	0	-4	-12	0	0	-3	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	13	0	0	74	0	0	0	17	0	0	54
Total Hourly Volume [veh/h]	71	16	29	191	15	171	3	223	1155	40	86	735	127
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	1.000	0.910	0.860	0.910	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	4	8	52	4	47	1	61	336	11	24	202	35
Total Analysis Volume [veh/h]	78	18	32	210	16	188	3	245	1343	44	95	808	140
Presence of On-Street Parking	No		No	No		No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0				0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0				0		
v_co, Outbound Pedestrian Volume crossing	0			0			0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0				0		
Bicycle Volume [bicycles/h]	0			0			0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	160
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	55.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups													
Maximum Green [s]	21	24	0	8	26	0	0	23	31	0	15	34	0
Amber [s]	3.5	4.0	0.0	3.5	4.0	0.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.7	1.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	24	0	0	0	21	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.2	3.0	0.0	2.5	3.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	100.0	0.0	100.0	100.0	0.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	29	0	13	31	0	0	28	80	0	20	72	0
Lead / Lag	Lead	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	3	7	0	3	7	0	0	3	3	0	3	3	0
Vehicle Extension [s]	1.0	3.6	0.0	1.0	3.6	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall		No			No			No	No		No	No	
Maximum Recall		No			No			No	No		No	No	
Pedestrian Recall		No			No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	R
C, Cycle Length [s]	160	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	9	9	23	23	69	97	97	10	38	38
g / C, Green / Cycle	0.06	0.06	0.15	0.15	0.43	0.61	0.61	0.06	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.04	0.03	0.12	0.13	0.14	0.38	0.03	0.05	0.23	0.09
s, saturation flow rate [veh/h]	1781	1680	1781	1608	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	103	98	261	235	771	2158	963	115	847	378
d1, Uniform Delay [s]	74.22	73.15	66.09	66.77	29.91	19.94	12.77	73.95	60.12	50.96
k, delay calibration	0.13	0.13	0.13	0.13	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.87	5.10	7.14	11.29	1.10	1.36	0.09	5.55	3.09	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.51	0.81	0.87	0.32	0.62	0.05	0.83	0.95	0.37
d, Delay for Lane Group [s/veh]	87.09	78.25	73.23	78.05	31.01	21.31	12.86	79.50	63.20	51.19
Lane Group LOS	F	E	E	E	C	C	B	E	E	D
Critical Lane Group	Yes	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.55	2.15	8.86	8.93	6.66	16.16	0.69	4.06	16.56	4.78
50th-Percentile Queue Length [ft/ln]	88.76	53.69	221.57	223.20	166.62	404.11	17.13	101.51	414.02	119.55
95th-Percentile Queue Length [veh/ln]	6.39	3.87	13.75	13.83	10.90	22.76	1.23	7.31	23.23	8.37
95th-Percentile Queue Length [ft/ln]	159.76	96.64	343.63	345.71	272.47	568.95	30.83	182.72	580.86	209.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	87.09	78.25	78.25	73.23	78.05	78.05	31.01	31.01	21.31	12.86	79.50	63.20	51.19
Movement LOS	F	E	E	E	E	E	C	C	C	B	E	E	D
d_A, Approach Delay [s/veh]	83.64			75.61			22.55				63.08		
Approach LOS	F			E			C				E		
d_I, Intersection Delay [s/veh]	44.93												
Intersection LOS	D												
Intersection V/C	0.668												

Emissions

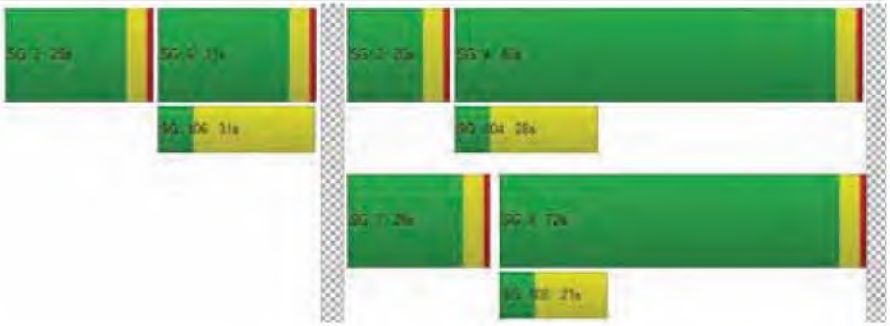
Vehicle Miles Traveled [mph]	3.90	2.50	9.76	9.48	26.01	140.84	4.61	33.23	282.60	48.97
Stops [stops/h]	79.88	48.32	199.41	200.88	149.96	727.39	15.42	91.36	745.23	107.59
Fuel consumption [US gal/h]	1.98	1.17	4.63	4.74	3.46	15.64	0.39	3.41	26.14	4.07
CO [g/h]	138.70	81.51	323.84	331.33	242.14	1093.23	27.28	238.30	1827.32	284.37
NOx [g/h]	26.99	15.86	63.01	64.46	47.11	212.70	5.31	46.36	355.53	55.33
VOC [g/h]	32.14	18.89	75.05	76.79	56.12	253.37	6.32	55.23	423.50	65.91

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	69.38	69.38	69.38	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.088	2.380	2.959	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	300	325	938	838
d_b, Bicycle Delay [s]	57.80	56.11	22.58	27.03
l_b,int, Bicycle LOS Score for Intersection	1.792	2.365	2.720	2.465
Bicycle LOS	A	B	B	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	33.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.893

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	2	2	0	1	2	0	1	2	0	1
Entry Pocket Length [ft]	300.00	100.00	300.00	200.00	100.00	100.00	300.00	100.00	200.00	500.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	100.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	117	83	587	373	142	63	67	1081	264	432	840	207
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-2	-6	0	0	0	0	-12	0	-1	-3	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	174	0	0	19	0	0	79	0	0	62
Total Hourly Volume [veh/h]	117	81	407	373	142	44	67	1069	185	431	837	145
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	21	105	96	37	11	17	276	48	111	216	37
Total Analysis Volume [veh/h]	121	84	420	385	146	45	69	1102	191	444	863	149
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	153
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	1	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups			1,4									
Maximum Green [s]	0	35	25	0	40	0	25	45	0	25	44	0
Amber [s]	0.0	3.2	3.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.5	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	28	0	0	24	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	1.5	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	150.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	29	0	45	0	29	50	0	29	50	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	5	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	2.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No	No		No		No	No		No	No	
Maximum Recall		No	No		No		No	No		No	No	
Pedestrian Recall		No	No		No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	113	113	113	113	113	113	113	113	113	113	113	113
L, Total Lost Time per Cycle [s]	4.20	4.20	3.50	4.20	4.20	4.20	3.50	5.30	5.30	3.50	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	0.00	2.20	2.20	2.20	1.50	3.30	3.30	1.50	4.00	4.00
g_i, Effective Green Time [s]	12	12	65	28	28	28	4	39	39	17	51	51
g / C, Green / Cycle	0.10	0.10	0.58	0.25	0.25	0.25	0.04	0.34	0.34	0.15	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.07	0.04	0.15	0.21	0.08	0.03	0.02	0.31	0.12	0.13	0.24	0.09
s, saturation flow rate [veh/h]	1781	1870	2813	1877	1870	1589	3459	3560	1589	3459	3560	1589
c, Capacity [veh/h]	185	194	1629	496	464	394	136	1222	546	528	1604	716
d1, Uniform Delay [s]	48.71	47.54	11.78	42.10	34.67	32.90	53.24	35.31	27.71	46.55	22.52	18.83
k, delay calibration	0.13	0.13	0.04	0.13	0.13	0.13	0.04	0.11	0.11	0.04	0.14	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.82	1.89	0.03	3.27	0.48	0.16	1.10	2.75	0.38	1.41	0.36	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.43	0.26	0.78	0.31	0.11	0.51	0.90	0.35	0.84	0.54	0.21
d, Delay for Lane Group [s/veh]	53.53	49.43	11.82	45.37	35.15	33.06	54.34	38.05	28.09	47.97	22.88	19.01
Lane Group LOS	D	D	B	D	D	C	D	D	C	D	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.52	2.32	2.56	5.37	3.34	0.98	0.98	14.60	3.90	6.14	8.26	2.40
50th-Percentile Queue Length [ft/ln]	88.07	58.02	63.90	134.29	83.51	24.40	24.50	365.08	97.60	153.45	206.38	59.91
95th-Percentile Queue Length [veh/ln]	6.34	4.18	4.60	9.17	6.01	1.76	1.76	20.87	7.03	10.20	12.97	4.31
95th-Percentile Queue Length [ft/ln]	158.52	104.44	115.02	229.32	150.32	43.93	44.10	521.75	175.68	255.03	324.18	107.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.53	49.43	11.82	45.37	35.15	33.06	54.34	38.05	28.09	47.97	22.88	19.01
Movement LOS	D	D	B	D	D	C	D	D	C	D	C	B
d_A, Approach Delay [s/veh]	24.95			41.82			37.48			30.14		
Approach LOS	C			D			D			C		
d_I, Intersection Delay [s/veh]	33.49											
Intersection LOS	C											
Intersection V/C	0.893											

Emissions

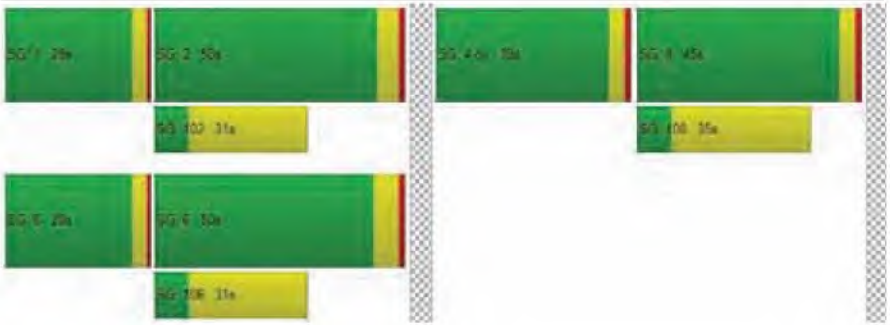
Vehicle Miles Traveled [mph]	206.98	143.69	718.44	78.05	29.60	9.12	24.13	385.43	66.80	200.34	389.41	67.23
Stops [stops/h]	112.31	73.99	162.98	342.52	106.50	31.12	62.49	931.15	124.47	391.38	526.38	76.40
Fuel consumption [US gal/h]	10.46	7.17	31.49	8.66	2.85	0.85	2.10	29.54	4.53	14.74	22.96	3.77
CO [g/h]	731.09	501.10	2200.87	605.33	199.30	59.43	146.90	2065.12	316.61	1030.55	1604.71	263.26
NOx [g/h]	142.24	97.49	428.21	117.78	38.78	11.56	28.58	401.80	61.60	200.51	312.22	51.22
VOC [g/h]	169.44	116.13	510.07	140.29	46.19	13.77	34.05	478.61	73.38	238.84	371.91	61.01

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	45.99	45.99	45.99	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.981	2.647	3.064	0.000
Crosswalk LOS	C	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	616	723	792	779
d_b, Bicycle Delay [s]	27.02	23.03	20.61	21.03
l_b,int, Bicycle LOS Score for Intersection	2.878	2.541	2.748	2.812
Bicycle LOS	C	B	B	C

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 22: White Rock Rd/Clarksville Crossing

Control Type:	Signalized	Delay (sec / veh):	57.5
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.007

Intersection Setup

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	180.00	460.00	100.00	100.00	290.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	0	0	2	80	0	334	8	2032	1	0	1145	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	-18	0	0	-5	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	2	80	0	334	8	2014	1	0	1140	2
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.9600	0.7800	0.7800	0.9600	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	26	0	107	3	524	0	0	297	1
Total Analysis Volume [veh/h]	0	0	3	103	0	428	10	2098	1	0	1188	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	20	0	0	20	0	20	50	0	20	50	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	5.0	0.0	4.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	5.0	0.0	3.0	5.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	R
C, Cycle Length [s]	93	93	93	93	93	93	93	93	93	93
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	7.00	7.00	5.00	7.00	7.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	5.00	5.00	3.00	5.00	5.00
g_i, Effective Green Time [s]	0	0	20	20	1	50	50	0	49	49
g / C, Green / Cycle	0.00	0.00	0.22	0.22	0.01	0.54	0.54	0.00	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.06	0.27	0.01	0.56	0.56	0.00	0.33	0.00
s, saturation flow rate [veh/h]	1870	1589	1781	1589	1781	1870	1870	1781	3560	1589
c, Capacity [veh/h]	11	9	384	343	25	1009	1009	3	1877	838
d1, Uniform Delay [s]	0.00	45.90	30.25	36.34	45.31	21.34	21.34	0.00	15.56	10.38
k, delay calibration	0.11	0.11	0.11	0.50	0.11	0.46	0.46	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	19.59	0.37	133.62	9.98	38.20	38.25	0.00	0.36	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.33	0.27	1.25	0.40	1.04	1.04	0.00	0.63	0.00
d, Delay for Lane Group [s/veh]	0.00	65.49	30.62	169.96	55.29	59.54	59.60	0.00	15.91	10.39
Lane Group LOS	A	E	C	F	E	F	F	A	B	B
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.00	0.12	1.93	20.28	0.30	30.26	30.27	0.00	8.34	0.03
50th-Percentile Queue Length [ft/ln]	0.00	2.95	48.17	506.99	7.39	756.52	756.82	0.00	208.39	0.70
95th-Percentile Queue Length [veh/ln]	0.00	0.21	3.47	30.90	0.53	40.58	40.60	0.00	13.07	0.05
95th-Percentile Queue Length [ft/ln]	0.00	5.30	86.70	772.40	13.29	1014.45	1014.93	0.00	326.77	1.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	65.49	30.62	30.62	169.96	55.29	59.57	59.60	0.00	15.91	10.39
Movement LOS	A	A	E	C	C	F	E	F	E	A	B	B
d_A, Approach Delay [s/veh]	65.49			142.93			59.55			15.90		
Approach LOS	E			F			E			B		
d_I, Intersection Delay [s/veh]	57.54											
Intersection LOS	E											
Intersection V/C	1.007											

Emissions

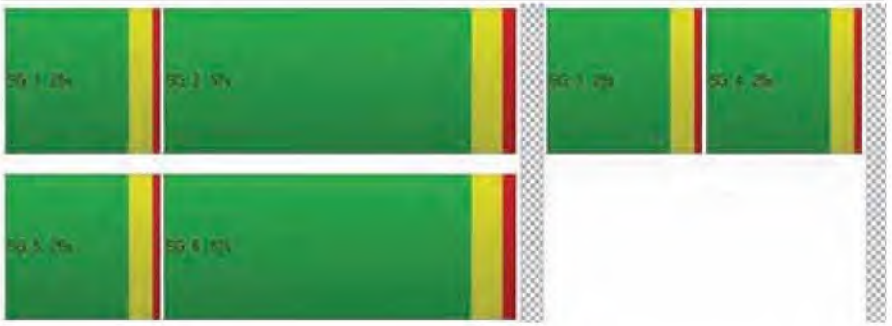
Vehicle Miles Traveled [mph]	0.00	0.15	48.86	203.03	4.51	473.56	473.56	0.00	207.25	0.52
Stops [stops/h]	0.00	4.59	74.96	789.00	11.49	1177.34	1177.80	0.00	648.62	1.10
Fuel consumption [US gal/h]	0.00	0.07	3.07	27.52	0.36	38.71	38.73	0.00	15.96	0.03
CO [g/h]	0.00	5.00	214.41	1923.50	25.29	2706.13	2707.19	0.00	1115.77	2.37
NOx [g/h]	0.00	0.97	41.72	374.24	4.92	526.51	526.72	0.00	217.09	0.46
VOC [g/h]	0.00	1.16	49.69	445.79	5.86	627.17	627.42	0.00	258.59	0.55

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	432	432	1081	1081
d_b, Bicycle Delay [s]	28.43	28.43	9.77	9.77
l_b,int, Bicycle LOS Score for Intersection	1.565	2.436	3.300	2.542
Bicycle LOS	A	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 23: White Rock Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	38.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.068

Intersection Setup

Name	White Rock Rd			White Rock Rd			US 50 EB					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			No		

Volumes

Name	White Rock Rd			White Rock Rd			US 50 EB					
Base Volume Input [veh/h]	0	855	1259	0	1056	301	512	0	91	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-9	-3	-6	0	-5	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	12	0	0	0
Total Hourly Volume [veh/h]	0	852	1253	0	1051	301	512	0	79	0	0	0
Peak Hour Factor	0.8300	0.9100	1.0000	1.0000	0.9100	0.8300	0.8300	1.0000	0.8300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	234	313	0	289	91	154	0	24	0	0	0
Total Analysis Volume [veh/h]	0	936	1253	0	1155	363	617	0	95	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	4	0	0	0	0	0
Auxiliary Signal Groups												
Maximum Green [s]	0	73	0	0	73	0	34	0	0	0	0	0
Amber [s]	0.0	5.0	0.0	0.0	5.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	5.0	0.0	0.0	5.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	0.0	245.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	80	0	0	80	0	40	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	9	0	0	9	0	8	0	0	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	1.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		Yes			Yes		No					
Maximum Recall		No			No		No					
Pedestrian Recall		No			No		No					

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	R	
C, Cycle Length [s]	120	120	120	120	120	120	120	
L, Total Lost Time per Cycle [s]	7.00	7.00	7.00	7.00	6.00	6.00	6.00	
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	5.00	5.00	5.00	5.00	4.00	4.00	4.00	
g_i, Effective Green Time [s]	84	84	84	84	23	23	23	
g / C, Green / Cycle	0.70	0.70	0.70	0.70	0.19	0.19	0.19	
(v / s)_i Volume / Saturation Flow Rate	0.26	0.79	0.32	0.23	0.17	0.17	0.06	
s, saturation flow rate [veh/h]	3560	1589	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	2485	1109	2485	1109	345	345	308	
d1, Uniform Delay [s]	7.43	18.13	8.11	7.10	47.16	47.16	41.47	
k, delay calibration	0.50	0.50	0.50	0.50	0.08	0.08	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.44	70.12	0.63	0.79	6.43	6.43	0.21	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.38	1.13	0.46	0.33	0.89	0.89	0.31	
d, Delay for Lane Group [s/veh]	7.87	88.25	8.74	7.89	53.60	53.60	41.68	
Lane Group LOS	A	F	A	A	D	D	D	
Critical Lane Group	No	Yes	No	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	4.70	47.92	6.35	3.62	9.57	9.57	2.44	
50th-Percentile Queue Length [ft/ln]	117.59	1198.12	158.66	90.40	239.36	239.36	61.08	
95th-Percentile Queue Length [veh/ln]	8.26	65.85	10.48	6.51	14.65	14.65	4.40	
95th-Percentile Queue Length [ft/ln]	206.51	1646.23	261.94	162.72	366.22	366.22	109.95	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	7.87	88.25	0.00	8.74	7.89	53.60	0.00	41.68	0.00	0.00	0.00
Movement LOS		A	F		A	A	D		D			
d_A, Approach Delay [s/veh]		53.88			8.53			52.01			0.00	
Approach LOS		D			A			D			A	
d_I, Intersection Delay [s/veh]						38.00						
Intersection LOS						D						
Intersection V/C						1.068						

Emissions

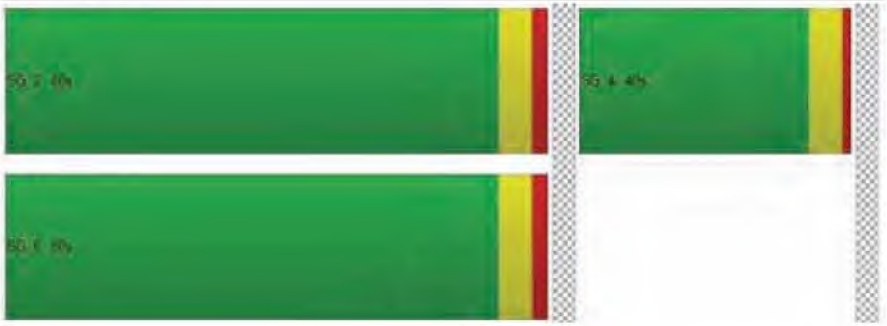
Vehicle Miles Traveled [mph]	163.28	218.59	204.68	64.33	18.68	18.68	5.75	
Stops [stops/h]	282.22	1437.75	380.77	108.48	287.23	287.23	73.30	
Fuel consumption [US gal/h]	9.78	39.44	12.58	3.83	5.72	5.72	1.45	
CO [g/h]	683.65	2756.99	879.58	267.73	399.85	399.85	101.18	
NOx [g/h]	133.01	536.41	171.13	52.09	77.80	77.80	19.69	
VOC [g/h]	158.44	638.96	203.85	62.05	92.67	92.67	23.45	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1217	1217	567	0
d_b, Bicycle Delay [s]	9.20	9.20	30.82	60.00
l_b,int, Bicycle LOS Score for Intersection	3.366	2.812	2.754	4.132
Bicycle LOS	C	C	C	D

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 24: Silva Valley Pkwy/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	27.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.753

Intersection Setup

Name	White Rock Rd			Silva Valley Pkwy			US 50 WB			US 50 WB		
Approach	Northbound			Southbound			Westbound			Northeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No			No				
Crosswalk		No			No			No			No	

Volumes

Name	White Rock Rd			Silva Valley Pkwy			US 50 WB			US 50 WB		
Base Volume Input [veh/h]	0	1215	152	0	686	254	671	1	310	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-3	0	0	-1	0	-4	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1212	152	0	685	254	667	1	310	0	0	0
Peak Hour Factor	0.7900	0.7900	1.0000	1.0000	0.7900	0.7900	0.7900	0.7900	0.7900	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	384	38	0	217	80	211	0	98	0	0	0
Total Analysis Volume [veh/h]	0	1534	152	0	867	322	844	1	392	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Maximum Green [s]	0	73	0	0	73	0	0	34	0	0	0	0
Amber [s]	0.0	4.8	0.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	4.8	0.0	0.0	4.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	80	0	0	80	0	0	40	0	0	0	0
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	8	0	0	8	0	0	8	0	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		Yes			Yes			No				
Maximum Recall		No			No			No				
Pedestrian Recall		No			No			No				

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	R	
C, Cycle Length [s]	120	120	120	120	120	120	120	
L, Total Lost Time per Cycle [s]	6.80	6.80	6.80	6.80	5.80	5.80	5.80	
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	4.80	4.80	4.80	4.80	3.80	3.80	3.80	
g_i, Effective Green Time [s]	76	76	76	76	31	31	31	
g / C, Green / Cycle	0.63	0.63	0.63	0.63	0.26	0.26	0.26	
(v / s)_i Volume / Saturation Flow Rate	0.43	0.10	0.24	0.20	0.24	0.24	0.25	
s, saturation flow rate [veh/h]	3560	1589	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	2253	1006	2253	1006	467	467	417	
d1, Uniform Delay [s]	14.22	8.95	10.70	10.15	42.81	42.81	43.35	
k, delay calibration	0.50	0.50	0.50	0.50	0.27	0.27	0.30	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.69	0.32	0.50	0.84	14.67	14.65	22.13	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.68	0.15	0.38	0.32	0.90	0.90	0.94	
d, Delay for Lane Group [s/veh]	15.90	9.27	11.20	10.99	57.48	57.46	65.48	
Lane Group LOS	B	A	B	B	E	E	E	
Critical Lane Group	Yes	No	No	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	13.11	1.66	5.51	4.00	13.94	13.94	13.87	
50th-Percentile Queue Length [ft/ln]	327.73	41.45	137.66	100.12	348.45	348.40	346.71	
95th-Percentile Queue Length [veh/ln]	19.05	2.98	9.35	7.21	20.06	20.06	19.98	
95th-Percentile Queue Length [ft/ln]	476.18	74.62	233.87	180.22	501.52	501.46	499.40	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	15.90	9.27	0.00	11.20	10.99	57.47	57.46	65.48	0.00	0.00	0.00
Movement LOS		B	A		B	B	E	E	E			
d_A, Approach Delay [s/veh]		15.31			11.14			60.01			0.00	
Approach LOS		B			B			E			A	
d_I, Intersection Delay [s/veh]	27.55											
Intersection LOS	C											
Intersection V/C	0.753											

Emissions

Vehicle Miles Traveled [mph]	271.84	26.94	118.55	44.03	14.64	14.64	13.58	
Stops [stops/h]	786.56	49.74	330.38	120.15	418.15	418.08	416.05	
Fuel consumption [US gal/h]	20.50	1.67	8.68	3.20	7.85	7.85	8.08	
CO [g/h]	1433.03	116.76	606.82	223.43	549.00	548.87	564.81	
NOx [g/h]	278.82	22.72	118.07	43.47	106.82	106.79	109.89	
VOC [g/h]	332.12	27.06	140.64	51.78	127.24	127.21	130.90	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1220	1220	570	0
d_b, Bicycle Delay [s]	9.13	9.13	30.67	60.00
l_b,int, Bicycle LOS Score for Intersection	2.951	2.541	3.601	4.132
Bicycle LOS	C	B	D	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 25: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Base Volume Input [veh/h]	0	438	590	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-1	-6	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	437	584	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	109	146	0	0	0
Total Analysis Volume [veh/h]	0	437	584	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	12.04
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		12.04	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 26: Latrobe/Wetsl-Oviatt

Control Type:	Two-way stop	Delay (sec / veh):	16.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.078

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Base Volume Input [veh/h]	0	328	485	20	27	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-1	-6	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	327	479	20	27	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	82	120	5	7	0
Total Analysis Volume [veh/h]	0	327	479	20	27	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					Yes	
Storage Area [veh]	0		0		1	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.08	0.00
d_M, Delay for Movement [s/veh]	8.38	0.00	0.00	0.00	16.26	12.09
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.25	0.25
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	6.30	6.30
d_A, Approach Delay [s/veh]	0.00		0.00		16.26	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.51					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 27: Latrobe/S. Shingle

Control Type:	Two-way stop	Delay (sec / veh):	20.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.159

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Base Volume Input [veh/h]	0	185	67	47	288	46	10	41	2	49	25	87
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-1	0	0	-6	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	184	67	47	282	46	10	41	2	49	25	87
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	47	17	12	73	12	3	11	1	13	6	22
Total Analysis Volume [veh/h]	0	190	69	48	291	47	10	42	2	51	26	90
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free		Free		Stop		Stop	
Flared Lane					No		No	
Storage Area [veh]	0		0		0		0	
Two-Stage Gap Acceptance					No		No	
Number of Storage Spaces in Median	0		0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.00	0.00	0.04	0.12	0.00	0.16	0.07	0.11
d_M, Delay for Movement [s/veh]	7.95	0.00	0.00	7.82	0.00	0.00	19.59	16.84	11.83	20.01	18.58	13.17
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.08	0.08	0.08	0.54	0.54	0.54	1.50	1.50	1.50
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.11	2.11	2.11	13.50	13.50	13.50	37.40	37.40	37.40
d_A, Approach Delay [s/veh]	0.00			0.97			17.16			16.10		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	4.61											
Intersection LOS	C											

Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	437	607	60	0
2	424	589	58	0
3	415	577	57	0
4	389	540	53	0
5	345	480	47	0
6	341	473	47	0
7	336	467	46	0
8	306	425	42	0
9	302	419	41	0
10	297	413	41	0
11	258	358	35	0
12	240	334	33	0
13	236	328	32	0
14	175	243	24	0
15	175	243	24	0
16	122	170	17	0
17	70	97	10	0
18	70	97	10	0
19	39	55	5	0
20	22	30	3	0
21	13	18	2	0
22	4	6	1	0
23	4	6	1	0
24	4	6	1	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1044	1	60	No	No	No	No	No	Yes	Yes	Yes	No	No
2	1	1013	1	58	No	No	No	No	No	No	Yes	Yes	No	No
3	1	992	1	57	No	No	No	No	No	No	Yes	Yes	No	No
4	1	929	1	53	No	No	No	No	No	No	Yes	Yes	No	No
5	1	825	1	47	No	No	No	No	No	No	No	Yes	No	No
6	1	814	1	47	No	No	No	No	No	No	No	Yes	No	No
7	1	803	1	46	No	No	No	No	No	No	No	Yes	No	No
8	1	731	1	42	No	No	No	No	No	No	No	Yes	No	No
9	1	721	1	41	No	No	No	No	No	No	No	No	No	No
10	1	710	1	41	No	No	No	No	No	No	No	No	No	No
11	1	616	1	35	No	No	No	No	No	No	No	No	No	No
12	1	574	1	33	No	No	No	No	No	No	No	No	No	No
13	1	564	1	32	No	No	No	No	No	No	No	No	No	No
14	1	418	1	24	No	No	No	No	No	No	No	No	No	No
15	1	418	1	24	No	No	No	No	No	No	No	No	No	No
16	1	292	1	17	No	No	No	No	No	No	No	No	No	No
17	1	167	1	10	No	No	No	No	No	No	No	No	No	No
18	1	167	1	10	No	No	No	No	No	No	No	No	No	No
19	1	94	1	5	No	No	No	No	No	No	No	No	No	No
20	1	52	1	3	No	No	No	No	No	No	No	No	No	No
21	1	31	1	2	No	No	No	No	No	No	No	No	No	No
22	1	10	1	1	No	No	No	No	No	No	No	No	No	No
23	1	10	1	1	No	No	No	No	No	No	No	No	No	No
24	1	10	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	1	4	8	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	12.3	22.2
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:12	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	60	0
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1104	1104
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 12: Latrobe Rd/Royal Oaks Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	354	584	163	0
2	343	566	158	0
3	336	555	155	0
4	315	520	145	0
5	280	461	129	0
6	276	456	127	0
7	273	450	126	0
8	248	409	114	0
9	244	403	112	0
10	241	397	111	0
11	209	345	96	0
12	195	321	90	0
13	191	315	88	0
14	142	234	65	0
15	142	234	65	0
16	99	164	46	0
17	57	93	26	0
18	57	93	26	0
19	32	53	15	0
20	18	29	8	0
21	11	18	5	0
22	4	6	2	0
23	4	6	2	0
24	4	6	2	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	938	1	163	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	2	909	1	158	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	2	891	1	155	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
4	2	835	1	145	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
5	2	741	1	129	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
6	2	732	1	127	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
7	2	723	1	126	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
8	2	657	1	114	No	No	Yes	Yes	No	No	Yes	Yes	Yes	No
9	2	647	1	112	No	No	Yes	Yes	No	No	Yes	Yes	No	No
10	2	638	1	111	No	No	Yes	Yes	No	No	Yes	Yes	No	No
11	2	554	1	96	No	No	No	Yes	No	No	No	Yes	No	No
12	2	516	1	90	No	No	No	Yes	No	No	No	Yes	No	No
13	2	506	1	88	No	No	No	Yes	No	No	No	Yes	No	No
14	2	376	1	65	No	No	No	No	No	No	No	No	No	No
15	2	376	1	65	No	No	No	No	No	No	No	No	No	No
16	2	263	1	46	No	No	No	No	No	No	No	No	No	No
17	2	150	1	26	No	No	No	No	No	No	No	No	No	No
18	2	150	1	26	No	No	No	No	No	No	No	No	No	No
19	2	85	1	15	No	No	No	No	No	No	No	No	No	No
20	2	47	1	8	No	No	No	No	No	No	No	No	No	No
21	2	29	1	5	No	No	No	No	No	No	No	No	No	No
22	2	10	1	2	No	No	No	No	No	No	No	No	No	No
23	2	10	1	2	No	No	No	No	No	No	No	No	No	No
24	2	10	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					3	7	10	13	2	7	10	13	8	3

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	32.3	24.5
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:27	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	163	0
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1101	1101
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 13: Golden Foothill/Robert J Mathews

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	1186	217	1068
2	1150	210	1036
3	1127	206	1015
4	1056	193	951
5	937	171	844
6	925	169	833
7	913	167	822
8	830	152	748
9	818	150	737
10	806	148	726
11	700	128	630
12	652	119	587
13	640	117	577
14	474	87	427
15	474	87	427
16	332	61	299
17	190	35	171
18	190	35	171
19	107	20	96
20	59	11	53
21	36	7	32
22	12	2	11
23	12	2	11
24	12	2	11

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1403	1	1068	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1360	1	1036	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1333	1	1015	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1249	1	951	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	1108	1	844	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	1094	1	833	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1	1080	1	822	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	1	982	1	748	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	1	968	1	737	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	1	954	1	726	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	1	828	1	630	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	1	771	1	587	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	1	757	1	577	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	1	561	1	427	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
15	1	561	1	427	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
16	1	393	1	299	No	No	Yes	Yes	No	No	No	No	No	No
17	1	225	1	171	No	No	No	No	No	No	No	No	No	No
18	1	225	1	171	No	No	No	No	No	No	No	No	No	No
19	1	127	1	96	No	No	No	No	No	No	No	No	No	No
20	1	70	1	53	No	No	No	No	No	No	No	No	No	No
21	1	43	1	32	No	No	No	No	No	No	No	No	No	No
22	1	14	1	11	No	No	No	No	No	No	No	No	No	No
23	1	14	1	11	No	No	No	No	No	No	No	No	No	No
24	1	14	1	11	No	No	No	No	No	No	No	No	No	No
Hours Met					15	15	16	16	13	13	15	15	15	13

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	10000
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2966:40
Delay Condition Met	Yes
Volume on Minor Street Approach During Same Hour	1068
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	2471
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	Yes
Warrant Met for Intersection	**Yes**

Signal Warrants Report For Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	822	647	308	40
2	797	628	299	39
3	781	615	293	38
4	732	576	274	36
5	649	511	243	32
6	641	505	240	31
7	633	498	237	31
8	575	453	216	28
9	567	446	213	28
10	559	440	209	27
11	485	382	182	24
12	452	356	169	22
13	444	349	166	22
14	329	259	123	16
15	329	259	123	16
16	230	181	86	11
17	132	104	49	6
18	132	104	49	6
19	74	58	28	4
20	41	32	15	2
21	25	19	9	1
22	8	6	3	0
23	8	6	3	0
24	8	6	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1469	1	308	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1425	1	299	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1396	1	293	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1308	1	274	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	1160	1	243	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	1146	1	240	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1	1131	1	237	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
8	1	1028	1	216	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
9	1	1013	1	213	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
10	1	999	1	209	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
11	1	867	1	182	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
12	1	808	1	169	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
13	1	793	1	166	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
14	1	588	1	123	No	Yes	Yes	Yes	No	No	Yes	Yes	No	No
15	1	588	1	123	No	Yes	Yes	Yes	No	No	Yes	Yes	No	No
16	1	411	1	86	No	No	No	Yes	No	No	No	No	No	No
17	1	236	1	49	No	No	No	No	No	No	No	No	No	No
18	1	236	1	49	No	No	No	No	No	No	No	No	No	No
19	1	132	1	28	No	No	No	No	No	No	No	No	No	No
20	1	73	1	15	No	No	No	No	No	No	No	No	No	No
21	1	44	1	9	No	No	No	No	No	No	No	No	No	No
22	1	14	1	3	No	No	No	No	No	No	No	No	No	No
23	1	14	1	3	No	No	No	No	No	No	No	No	No	No
24	1	14	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					13	15	15	16	13	13	15	15	13	6

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	30	12.4
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2:33	0:08
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	308	40
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1817	1817
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	301	436	233
2	292	423	226
3	286	414	221
4	268	388	207
5	238	344	184
6	235	340	182
7	232	336	179
8	211	305	163
9	208	301	161
10	205	296	158
11	178	257	137
12	166	240	128
13	163	235	126
14	120	174	93
15	120	174	93
16	84	122	65
17	48	70	37
18	48	70	37
19	27	39	21
20	15	22	12
21	9	13	7
22	3	4	2
23	3	4	2
24	3	4	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	737	2	233	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
2	2	715	2	226	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
3	2	700	2	221	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
4	2	656	2	207	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
5	2	582	2	184	No	Yes	Yes	Yes	No	No	No	Yes	No	No
6	2	575	2	182	No	Yes	Yes	Yes	No	No	No	Yes	No	No
7	2	568	2	179	No	Yes	Yes	Yes	No	No	No	Yes	No	No
8	2	516	2	163	No	Yes	Yes	Yes	No	No	No	Yes	No	No
9	2	509	2	161	No	Yes	Yes	Yes	No	No	No	Yes	No	No
10	2	501	2	158	No	No	Yes	Yes	No	No	No	No	No	No
11	2	435	2	137	No	No	No	Yes	No	No	No	No	No	No
12	2	406	2	128	No	No	No	Yes	No	No	No	No	No	No
13	2	398	2	126	No	No	No	Yes	No	No	No	No	No	No
14	2	294	2	93	No	No	No	No	No	No	No	No	No	No
15	2	294	2	93	No	No	No	No	No	No	No	No	No	No
16	2	206	2	65	No	No	No	No	No	No	No	No	No	No
17	2	118	2	37	No	No	No	No	No	No	No	No	No	No
18	2	118	2	37	No	No	No	No	No	No	No	No	No	No
19	2	66	2	21	No	No	No	No	No	No	No	No	No	No
20	2	37	2	12	No	No	No	No	No	No	No	No	No	No
21	2	22	2	7	No	No	No	No	No	No	No	No	No	No
22	2	7	2	2	No	No	No	No	No	No	No	No	No	No
23	2	7	2	2	No	No	No	No	No	No	No	No	No	No
24	2	7	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					4	9	10	13	0	1	4	9	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	27.6
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:47
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	233
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	970
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 16: Carson Crossing Rd/Calypso Cir.

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	454	282	413
2	440	274	401
3	431	268	392
4	404	251	368
5	359	223	326
6	354	220	322
7	350	217	318
8	318	197	289
9	313	195	285
10	309	192	281
11	268	166	244
12	250	155	227
13	245	152	223
14	182	113	165
15	182	113	165
16	127	79	116
17	73	45	66
18	73	45	66
19	41	25	37
20	23	14	21
21	14	8	12
22	5	3	4
23	5	3	4
24	5	3	4

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	736	1	413	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
2	2	714	1	401	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
3	2	699	1	392	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
4	2	655	1	368	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
5	2	582	1	326	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
6	2	574	1	322	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
7	2	567	1	318	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
8	2	515	1	289	No	Yes	Yes	Yes	No	No	No	Yes	No	No
9	2	508	1	285	No	Yes	Yes	Yes	No	No	No	Yes	No	No
10	2	501	1	281	No	Yes	Yes	Yes	No	No	No	No	No	No
11	2	434	1	244	No	No	Yes	Yes	No	No	No	No	No	No
12	2	405	1	227	No	No	No	Yes	No	No	No	No	No	No
13	2	397	1	223	No	No	No	Yes	No	No	No	No	No	No
14	2	295	1	165	No	No	No	No	No	No	No	No	No	No
15	2	295	1	165	No	No	No	No	No	No	No	No	No	No
16	2	206	1	116	No	No	No	No	No	No	No	No	No	No
17	2	118	1	66	No	No	No	No	No	No	No	No	No	No
18	2	118	1	66	No	No	No	No	No	No	No	No	No	No
19	2	66	1	37	No	No	No	No	No	No	No	No	No	No
20	2	37	1	21	No	No	No	No	No	No	No	No	No	No
21	2	22	1	12	No	No	No	No	No	No	No	No	No	No
22	2	8	1	4	No	No	No	No	No	No	No	No	No	No
23	2	8	1	4	No	No	No	No	No	No	No	No	No	No
24	2	8	1	4	No	No	No	No	No	No	No	No	No	No
Hours Met					4	10	11	13	0	1	4	9	7	1

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	146.3
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	16:46
Delay Condition Met	Yes
Volume on Minor Street Approach During Same Hour	413
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1149
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	Yes
Warrant Met for Intersection	**Yes**

Signal Warrants Report For Intersection 17: Carson Crossing Rd/Four Seasons Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	295	225	3
2	286	218	3
3	280	214	3
4	263	200	3
5	233	178	2
6	230	176	2
7	227	173	2
8	207	158	2
9	204	155	2
10	201	153	2
11	174	133	2
12	162	124	2
13	159	122	2
14	118	90	1
15	118	90	1
16	83	63	1
17	47	36	0
18	47	36	0
19	27	20	0
20	15	11	0
21	9	7	0
22	3	2	0
23	3	2	0
24	3	2	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	520	1	3	No	No	No	No	No	No	No	No	No	No
2	3	504	1	3	No	No	No	No	No	No	No	No	No	No
3	3	494	1	3	No	No	No	No	No	No	No	No	No	No
4	3	463	1	3	No	No	No	No	No	No	No	No	No	No
5	3	411	1	2	No	No	No	No	No	No	No	No	No	No
6	3	406	1	2	No	No	No	No	No	No	No	No	No	No
7	3	400	1	2	No	No	No	No	No	No	No	No	No	No
8	3	365	1	2	No	No	No	No	No	No	No	No	No	No
9	3	359	1	2	No	No	No	No	No	No	No	No	No	No
10	3	354	1	2	No	No	No	No	No	No	No	No	No	No
11	3	307	1	2	No	No	No	No	No	No	No	No	No	No
12	3	286	1	2	No	No	No	No	No	No	No	No	No	No
13	3	281	1	2	No	No	No	No	No	No	No	No	No	No
14	3	208	1	1	No	No	No	No	No	No	No	No	No	No
15	3	208	1	1	No	No	No	No	No	No	No	No	No	No
16	3	146	1	1	No	No	No	No	No	No	No	No	No	No
17	3	83	1	0	No	No	No	No	No	No	No	No	No	No
18	3	83	1	0	No	No	No	No	No	No	No	No	No	No
19	3	47	1	0	No	No	No	No	No	No	No	No	No	No
20	3	26	1	0	No	No	No	No	No	No	No	No	No	No
21	3	16	1	0	No	No	No	No	No	No	No	No	No	No
22	3	5	1	0	No	No	No	No	No	No	No	No	No	No
23	3	5	1	0	No	No	No	No	No	No	No	No	No	No
24	3	5	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	8.1
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	3
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	523
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 25: New Intersection

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	437	584	0
2	424	566	0
3	415	555	0
4	389	520	0
5	345	461	0
6	341	456	0
7	336	450	0
8	306	409	0
9	302	403	0
10	297	397	0
11	258	345	0
12	240	321	0
13	236	315	0
14	175	234	0
15	175	234	0
16	122	164	0
17	70	93	0
18	70	93	0
19	39	53	0
20	22	29	0
21	13	18	0
22	4	6	0
23	4	6	0
24	4	6	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1021	1	0	No	No	No	No	No	No	No	No	No	No
2	1	990	1	0	No	No	No	No	No	No	No	No	No	No
3	1	970	1	0	No	No	No	No	No	No	No	No	No	No
4	1	909	1	0	No	No	No	No	No	No	No	No	No	No
5	1	806	1	0	No	No	No	No	No	No	No	No	No	No
6	1	797	1	0	No	No	No	No	No	No	No	No	No	No
7	1	786	1	0	No	No	No	No	No	No	No	No	No	No
8	1	715	1	0	No	No	No	No	No	No	No	No	No	No
9	1	705	1	0	No	No	No	No	No	No	No	No	No	No
10	1	694	1	0	No	No	No	No	No	No	No	No	No	No
11	1	603	1	0	No	No	No	No	No	No	No	No	No	No
12	1	561	1	0	No	No	No	No	No	No	No	No	No	No
13	1	551	1	0	No	No	No	No	No	No	No	No	No	No
14	1	409	1	0	No	No	No	No	No	No	No	No	No	No
15	1	409	1	0	No	No	No	No	No	No	No	No	No	No
16	1	286	1	0	No	No	No	No	No	No	No	No	No	No
17	1	163	1	0	No	No	No	No	No	No	No	No	No	No
18	1	163	1	0	No	No	No	No	No	No	No	No	No	No
19	1	92	1	0	No	No	No	No	No	No	No	No	No	No
20	1	51	1	0	No	No	No	No	No	No	No	No	No	No
21	1	31	1	0	No	No	No	No	No	No	No	No	No	No
22	1	10	1	0	No	No	No	No	No	No	No	No	No	No
23	1	10	1	0	No	No	No	No	No	No	No	No	No	No
24	1	10	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	12
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1021
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 26: Latrobe/Wetsl-Oviatt

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	327	499	27
2	317	484	26
3	311	474	26
4	291	444	24
5	258	394	21
6	255	389	21
7	252	384	21
8	229	349	19
9	226	344	19
10	222	339	18
11	193	294	16
12	180	274	15
13	177	269	15
14	131	200	11
15	131	200	11
16	92	140	8
17	52	80	4
18	52	80	4
19	29	45	2
20	16	25	1
21	10	15	1
22	3	5	0
23	3	5	0
24	3	5	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	826	1	27	No	No	No	No	No	No	No	No	No	No
2	1	801	1	26	No	No	No	No	No	No	No	No	No	No
3	1	785	1	26	No	No	No	No	No	No	No	No	No	No
4	1	735	1	24	No	No	No	No	No	No	No	No	No	No
5	1	652	1	21	No	No	No	No	No	No	No	No	No	No
6	1	644	1	21	No	No	No	No	No	No	No	No	No	No
7	1	636	1	21	No	No	No	No	No	No	No	No	No	No
8	1	578	1	19	No	No	No	No	No	No	No	No	No	No
9	1	570	1	19	No	No	No	No	No	No	No	No	No	No
10	1	561	1	18	No	No	No	No	No	No	No	No	No	No
11	1	487	1	16	No	No	No	No	No	No	No	No	No	No
12	1	454	1	15	No	No	No	No	No	No	No	No	No	No
13	1	446	1	15	No	No	No	No	No	No	No	No	No	No
14	1	331	1	11	No	No	No	No	No	No	No	No	No	No
15	1	331	1	11	No	No	No	No	No	No	No	No	No	No
16	1	232	1	8	No	No	No	No	No	No	No	No	No	No
17	1	132	1	4	No	No	No	No	No	No	No	No	No	No
18	1	132	1	4	No	No	No	No	No	No	No	No	No	No
19	1	74	1	2	No	No	No	No	No	No	No	No	No	No
20	1	41	1	1	No	No	No	No	No	No	No	No	No	No
21	1	25	1	1	No	No	No	No	No	No	No	No	No	No
22	1	8	1	0	No	No	No	No	No	No	No	No	No	No
23	1	8	1	0	No	No	No	No	No	No	No	No	No	No
24	1	8	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.3
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:07
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	27
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	853
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 27: Latrobe/S. Shingle

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

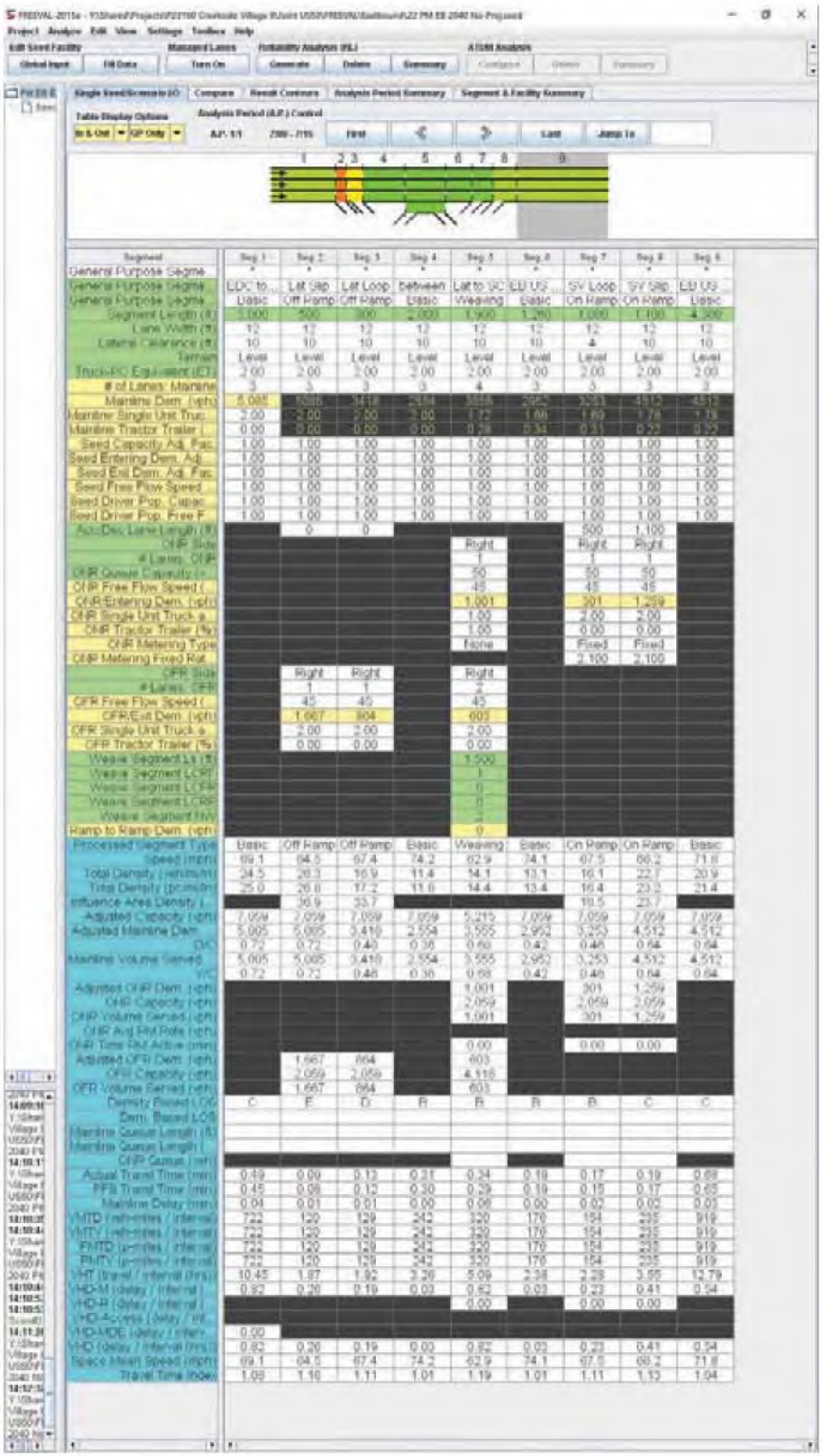
Hour	Major Streets		Minor Streets	
	S	N	E	W
1	251	375	161	53
2	243	364	156	51
3	238	356	153	50
4	223	334	143	47
5	198	296	127	42
6	196	293	126	41
7	193	289	124	41
8	176	263	113	37
9	173	259	111	37
10	171	255	109	36
11	148	221	95	31
12	138	206	89	29
13	136	203	87	29
14	100	150	64	21
15	100	150	64	21
16	70	105	45	15
17	40	60	26	8
18	40	60	26	8
19	23	34	14	5
20	13	19	8	3
21	8	11	5	2
22	3	4	2	1
23	3	4	2	1
24	3	4	2	1

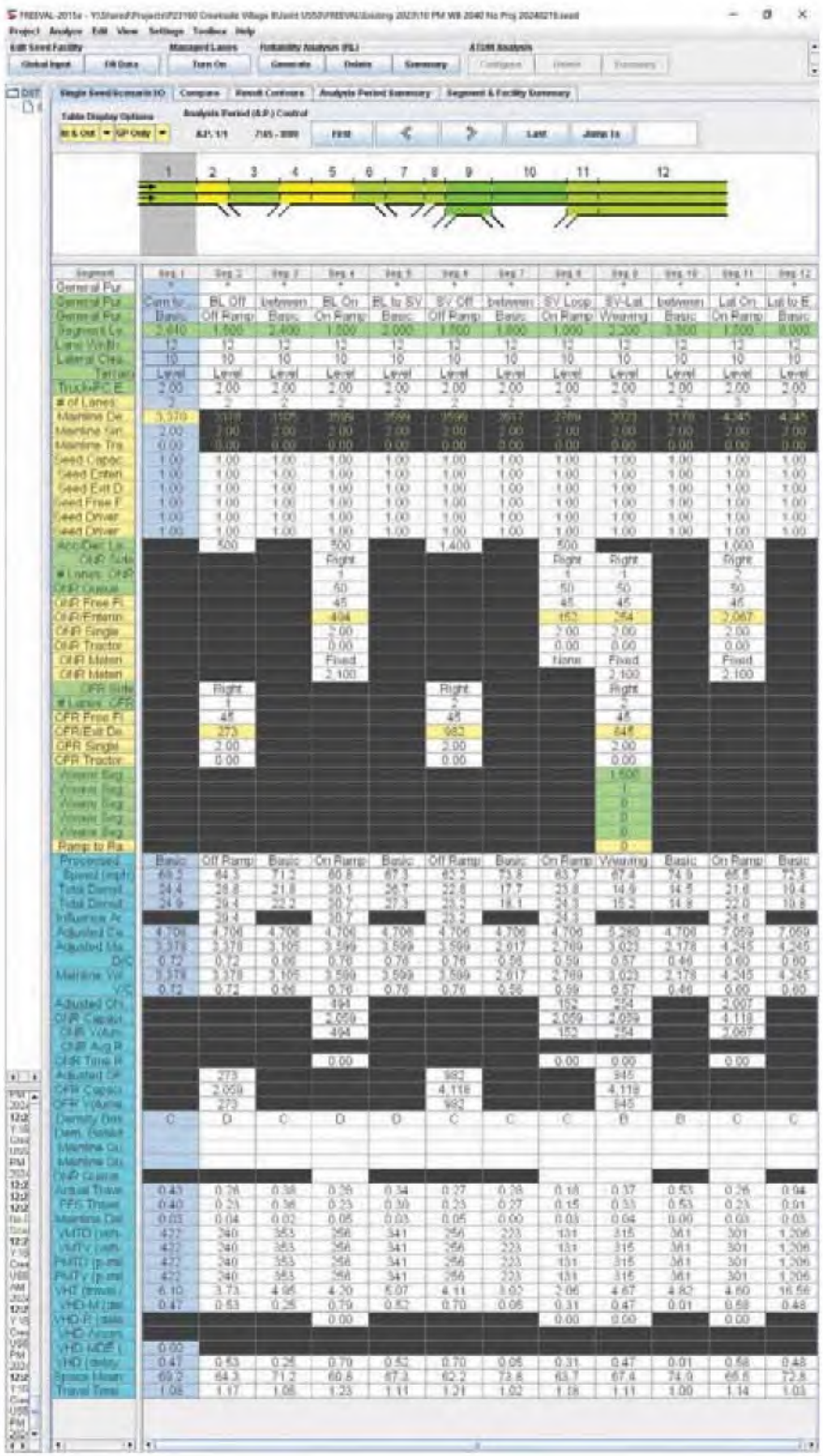
Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	626	1	161	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
2	1	607	1	156	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
3	1	594	1	153	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
4	1	557	1	143	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
5	1	494	1	127	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
6	1	489	1	126	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
7	1	482	1	124	No	Yes	Yes	Yes	No	No	No	Yes	No	No
8	1	439	1	113	No	No	Yes	Yes	No	No	No	Yes	No	No
9	1	432	1	111	No	No	Yes	Yes	No	No	No	Yes	No	No
10	1	426	1	109	No	No	Yes	Yes	No	No	No	Yes	No	No
11	1	369	1	95	No	No	No	Yes	No	No	No	No	No	No
12	1	344	1	89	No	No	No	Yes	No	No	No	No	No	No
13	1	339	1	87	No	No	No	Yes	No	No	No	No	No	No
14	1	250	1	64	No	No	No	No	No	No	No	No	No	No
15	1	250	1	64	No	No	No	No	No	No	No	No	No	No
16	1	175	1	45	No	No	No	No	No	No	No	No	No	No
17	1	100	1	26	No	No	No	No	No	No	No	No	No	No
18	1	100	1	26	No	No	No	No	No	No	No	No	No	No
19	1	57	1	14	No	No	No	No	No	No	No	No	No	No
20	1	32	1	8	No	No	No	No	No	No	No	No	No	No
21	1	19	1	5	No	No	No	No	No	No	No	No	No	No
22	1	7	1	2	No	No	No	No	No	No	No	No	No	No
23	1	7	1	2	No	No	No	No	No	No	No	No	No	No
24	1	7	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					3	7	10	13	0	2	4	10	6	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.1	17.2
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:43	0:15
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	161	53
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	840	840
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	





Cumulative AM plus Project

Vistro File: C:\...\AM 918 DU 20240213.vistro Scenario 6 2040 AM with CCSP, + Project
Report File: C:\...\15 2040 AM plus Proj.pdf 2/14/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	El Dorado Hills Blvd/Serrano Pkwy	Signalized	HCM 7th Edition	SB Right	1.176	188.9	F
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	EB Right	0.977	54.7	D
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	NB Left	1.193	130.5	F
4	Latrobe Rd/US 50 EB	Signalized	HCM 7th Edition	EB Right	1.044	35.5	D
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	SB Left	0.963	37.5	D
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	SB Thru	0.758	60.1	E
7	Latrobe Rd/Golden Foothill Pkwy N	Signalized	HCM 7th Edition	SB Left	0.768	16.4	B
8	Latrobe Rd/Suncast Ln	Signalized	HCM 7th Edition	SB Right	0.939	27.2	C
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	WB Right	1.261	161.2	F
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	NB Thru	0.974	23.4	C
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	EB Left	1.135	317.8	F
12	Latrobe Rd/Royal Oaks Dr	Two-way stop	HCM 7th Edition	EB Left	7.691	3,188.6	F
13	Golden Foothill/Robert J Mathews	Two-way stop	HCM 7th Edition	NB Left	0.548	797.9	F
14	Investment Blvd/Robert J Mathews Pkwy	All-way stop	HCM 7th Edition	SB Thru	1.194	88.3	F
15	Golden Foothill Pkwy/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.481	22.8	C
16	Carson Crossing Rd/Calypso Cir.	Two-way stop	HCM 7th Edition	NB Left	0.508	32.8	D
17	Carson Crossing Rd/Four Seasons Dr	All-way stop	HCM 7th Edition	WB Left	0.104	8.1	A
	White Rock Rd/Carson		HCM 7th				

18	White Rock Rd/Carson Crossing Rd	Signalized	HCM 7th Edition	EB Left	0.491	17.7	B
19	White Rock Rd/Windfield Way	Signalized	HCM 7th Edition	EB Left	0.656	35.0	C
20	White Rock Rd/Post St	Signalized	HCM 7th Edition	NB Left	0.613	43.6	D
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 7th Edition	NB Left	0.781	26.8	C
22	White Rock Rd/Clarksville Crossing	Signalized	HCM 7th Edition	SB Right	0.936	42.2	D
23	White Rock Rd/US 50 EB	Signalized	HCM 7th Edition	EB Left	0.563	11.1	B
24	Silva Valley Pkwy/US 50 WB	Signalized	HCM 7th Edition	WB Left	1.016	49.4	D
25	New Intersection	Two-way stop	HCM 6th Edition	NB Thru	0.011	0.0	A
26	Latrobe/Wetsl-Oviatt	Two-way stop	HCM 7th Edition	EB Left	0.069	15.6	C
27	Latrobe/S. Shingle	Two-way stop	HCM 7th Edition	EB Left	0.198	24.3	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: El Dorado Hills Blvd/Serrano Pkwy

Control Type:	Signalized	Delay (sec / veh):	188.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.176

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	260.0	100.0	100.0	100.0	110.00	100.00	100.00	100.00	100.00	100.00	430.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No			No		
Crosswalk	No				Yes			Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Base Volume Input [veh/h]	5	242	863	301	72	1684	51	27	16	270	494	70	114
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	39	0	0	-40	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	15	0	0	81	0	0	34
Total Hourly Volume [veh/h]	5	242	902	301	72	1644	36	27	16	189	494	70	80
Peak Hour Factor	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	70	259	86	21	472	10	8	5	54	142	20	23
Total Analysis Volume [veh/h]	5	278	1037	346	83	1890	41	31	18	217	568	80	92
Presence of On-Street Parking	No			No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	1	6	0	7	7	0	0	8	0
Auxiliary Signal Groups													
Maximum Green [s]	0	25	40	0	25	40	0	35	35	0	0	35	0
Amber [s]	0.0	3.0	4.7	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	12	0	0	12	0	0	0	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	100.0	245.0	0.0	100.0	100.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	29	46	0	29	46	0	39	39	0	0	39	0
Lead / Lag	-	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	3	6	0	3	3	0	3	3	0	0	3	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	4.0	0.0
Minimum Recall		No	No		No	No			No			No	
Maximum Recall		No	No		No	No			No			No	
Pedestrian Recall		No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C
C, Cycle Length [s]	134	134	134	134	134	134	134	134	134	134
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	55	55	8	40	40	22	22	31	31
g / C, Green / Cycle	0.17	0.41	0.41	0.06	0.30	0.30	0.16	0.16	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.16	0.29	0.22	0.05	0.52	0.52	0.02	0.15	0.21	0.21
s, saturation flow rate [veh/h]	1781	3560	1589	1781	1870	1856	1781	1608	1781	1746
c, Capacity [veh/h]	308	1467	655	106	558	554	289	261	417	409
d1, Uniform Delay [s]	54.51	32.72	29.64	62.22	47.06	47.06	47.90	55.12	49.70	49.77
k, delay calibration	0.31	0.04	0.19	0.04	0.50	0.50	0.04	0.07	0.33	0.34
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	24.16	0.24	1.19	4.72	336.50	342.32	0.06	7.28	17.52	18.42
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.71	0.53	0.78	1.73	1.74	0.11	0.90	0.89	0.90
d, Delay for Lane Group [s/veh]	78.67	32.96	30.84	66.94	383.56	389.38	47.96	62.40	67.22	68.19
Lane Group LOS	E	C	C	E	F	F	D	E	E	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	11.22	13.42	8.30	2.87	70.01	70.39	0.90	8.31	14.09	14.00
50th-Percentile Queue Length [ft/ln]	280.41	335.43	207.48	71.84	1750.31	1759.67	22.42	207.73	352.26	349.91
95th-Percentile Queue Length [veh/ln]	16.71	19.42	13.02	5.17	108.13	108.86	1.61	13.04	20.25	20.13
95th-Percentile Queue Length [ft/ln]	417.72	485.61	325.59	129.31	2703.30	2721.57	40.36	325.92	506.16	503.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	78.67	78.67	32.96	30.84	66.94	386.41	389.38	47.96	62.40	62.40	67.56	68.19	68.19
Movement LOS	E	E	C	C	E	F	F	D	E	E	E	E	E
d_A, Approach Delay [s/veh]	40.28				373.30			60.72			67.70		
Approach LOS	D				F			E			E		
d_I, Intersection Delay [s/veh]	188.90												
Intersection LOS	F												
Intersection V/C	1.176												

Emissions

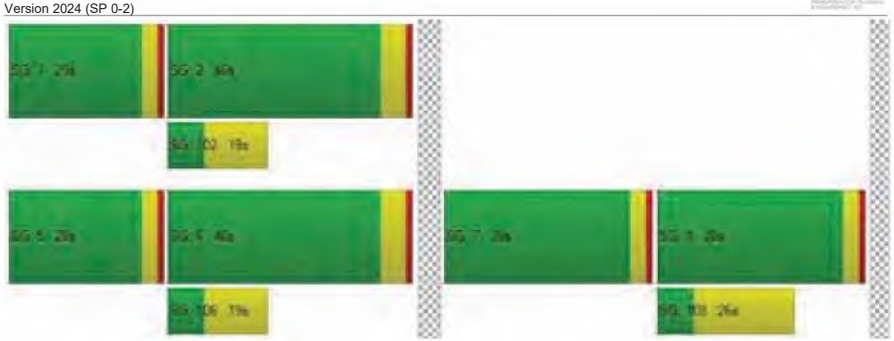
Vehicle Miles Traveled [mph]	67.59	247.67	82.64	12.20	141.95	141.95	1.32	10.04	19.50	19.22
Stops [stops/h]	301.70	721.81	223.24	77.29	1883.26	1893.33	24.12	223.51	379.02	376.49
Fuel consumption [US gal/h]	10.60	24.42	7.78	2.51	103.63	104.89	0.49	4.63	7.99	7.97
CO [g/h]	740.79	1706.88	543.77	175.44	7243.39	7332.07	34.27	323.78	558.80	556.96
NOx [g/h]	144.13	332.10	105.80	34.13	1409.30	1426.55	6.67	63.00	108.72	108.36
VOC [g/h]	171.69	395.59	126.02	40.66	1678.73	1699.28	7.94	75.04	129.51	129.08

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	56.37	56.37	56.37
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.283	2.322	2.404
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	602	602	523	523
d_b, Bicycle Delay [s]	32.68	32.68	36.49	36.49
l_b,int, Bicycle LOS Score for Intersection	2.930	3.234	2.132	2.837
Bicycle LOS	C	C	B	C

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	54.7
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.977

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	500.0	100.0	100.0	100.0	500.0	100.0	100.0	300.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	1	420	988	150	1	218	1793	441	150	61	724	68	52	272
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	20	39	0	0	0	-40	0	0	0	-19	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	45	0	0	0	132	0	0	212	0	0	82
Total Hourly Volume [veh/h]	1	440	1027	105	1	218	1753	309	150	61	493	68	52	190
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	118	276	28	0	59	471	83	40	16	133	18	14	51
Total Analysis Volume [veh/h]	1	473	1104	113	1	234	1885	332	161	66	530	73	56	204
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	5	3	8	0
Auxiliary Signal Groups														
Maximum Green [s]	0	20	50	0	0	20	50	0	20	20	20	0	20	0
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	14	0	0	0	24	0	0	0	0	0	31	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	2.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	0	24	56	0	24	24	24	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	4	0	5	0
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Cycle Length [s]	127	127	127	127	127	127	127	127	127	127	127
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	19	51	51	19	50	50	20	20	20	20	20
g / C, Green / Cycle	0.15	0.40	0.40	0.15	0.39	0.39	0.16	0.16	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.14	0.23	0.23	0.13	0.37	0.21	0.06	0.06	0.19	0.04	0.16
s, saturation flow rate [veh/h]	3459	3560	1783	1781	5094	1589	1781	1831	2813	1781	1643
c, Capacity [veh/h]	526	1418	710	262	2003	625	281	289	443	281	259
d1, Uniform Delay [s]	52.87	29.75	29.76	53.19	37.09	29.53	48.08	48.05	53.47	46.97	53.47
k, delay calibration	0.04	0.13	0.16	0.28	0.13	0.13	0.04	0.04	0.08	0.04	0.42
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.37	0.44	1.07	22.56	3.32	0.85	0.34	0.33	91.85	0.18	52.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.90	0.57	0.57	0.90	0.94	0.53	0.40	0.40	1.20	0.26	1.00
d, Delay for Lane Group [s/veh]	55.24	30.19	30.83	75.75	40.40	30.38	48.42	48.38	145.32	47.15	105.93
Lane Group LOS	E	C	C	E	D	C	D	D	F	D	F
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	7.40	9.34	9.49	8.82	18.38	7.62	3.24	3.30	12.71	2.05	12.01
50th-Percentile Queue Length [ft/ln]	185.09	233.44	237.21	220.50	459.55	190.55	81.06	82.58	317.66	51.36	300.14
95th-Percentile Queue Length [veh/ln]	11.87	14.35	14.54	13.69	25.41	12.15	5.84	5.95	20.06	3.70	17.73
95th-Percentile Queue Length [ft/ln]	296.65	358.73	363.51	342.27	635.33	303.74	145.90	148.64	501.59	92.45	443.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.24	55.24	30.36	30.83	75.75	75.75	40.40	30.38	48.42	48.38	145.32	47.15	105.93	105.93
Movement LOS	E	E	C	C	E	E	D	C	D	D	F	D	F	F
d_A, Approach Delay [s/veh]	37.37				42.43				116.26			93.05		
Approach LOS	D				D				F			F		
d_I, Intersection Delay [s/veh]	54.70													
Intersection LOS	D													
Intersection V/C	0.977													

Emissions

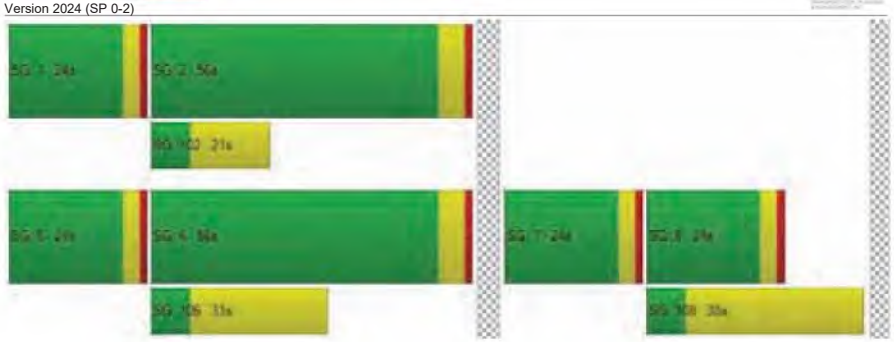
Vehicle Miles Traveled [mph]	89.25	152.64	76.51	56.13	450.20	79.29	7.01	7.15	33.05	3.56	12.68
Stops [stops/h]	420.16	529.91	269.23	250.27	1564.74	216.27	92.00	93.73	721.09	58.29	340.65
Fuel consumption [US gal/h]	13.61	16.80	8.52	8.66	50.38	7.46	1.90	1.94	21.02	1.17	8.01
CO [g/h]	951.41	1174.39	595.51	605.17	3521.85	521.40	133.11	135.62	1468.96	81.71	559.76
NOx [g/h]	185.11	228.49	115.87	117.74	685.22	101.44	25.90	26.39	285.81	15.90	108.91
VOC [g/h]	220.50	272.18	138.02	140.25	816.22	120.84	30.85	31.43	340.45	18.94	129.73

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	52.91	52.91	52.91
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.686	3.090	2.357
Crosswalk LOS	F	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	793	793	315	315
d_b, Bicycle Delay [s]	23.11	23.11	45.01	45.01
l_b,int, Bicycle LOS Score for Intersection	2.514	2.852	3.158	2.244
Bicycle LOS	B	C	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	130.5
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.193

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1588	1190	150	3	70	1406	1107	260	92	837	171	104	106
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	65	59	13	0	0	-59	0	0	0	-31	-12	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	49	0	0	0	332	0	0	242	0	0	32
Total Hourly Volume [veh/h]	1	1653	1249	114	3	70	1347	775	260	92	564	159	104	74
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	413	312	29	1	18	337	194	65	23	141	40	26	19
Total Analysis Volume [veh/h]	1	1653	1249	114	3	70	1347	775	260	92	564	159	104	74
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	134
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	37	62	0	0	14	39	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	42	68	0	0	19	45	28	0	28	0	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	37	69	69	8	39	73	28	28	11	11	11
g / C, Green / Cycle	0.28	0.51	0.51	0.06	0.29	0.53	0.21	0.21	0.08	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.48	0.25	0.26	0.04	0.26	0.49	0.10	0.10	0.06	0.06	0.07
s, saturation flow rate [veh/h]	3459	3560	1793	1781	5094	1589	1781	1826	1781	1833	1670
c, Capacity [veh/h]	951	1811	912	98	1472	849	369	379	144	148	135
d1, Uniform Delay [s]	36.83	5.76	5.81	63.28	46.73	28.83	47.34	47.33	61.35	61.30	61.47
k, delay calibration	0.33	0.50	0.50	0.04	0.50	0.50	0.08	0.08	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	335.46	0.96	2.07	4.06	10.35	15.87	0.69	0.67	3.56	3.28	4.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.74	0.49	0.51	0.74	0.91	0.91	0.47	0.47	0.79	0.78	0.81
d, Delay for Lane Group [s/veh]	372.29	6.72	7.88	67.34	57.08	44.69	48.04	48.01	64.91	64.59	65.74
Lane Group LOS	F	A	A	E	E	D	D	D	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	58.06	2.60	3.01	2.56	15.64	24.98	5.29	5.41	3.99	4.04	3.87
50th-Percentile Queue Length [ft/ln]	1451.46	65.03	75.29	63.92	390.95	624.39	132.13	135.14	99.71	101.08	96.71
95th-Percentile Queue Length [veh/ln]	90.33	4.68	5.42	4.60	22.12	33.17	9.06	9.22	7.18	7.28	6.96
95th-Percentile Queue Length [ft/ln]	2258.26	117.05	135.52	115.05	553.09	829.29	226.39	230.46	179.47	181.95	174.08

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	372.2	372.2	7.05	7.88	67.34	67.34	57.08	44.69	48.03	48.01	0.00	64.82	64.97	65.74
Movement LOS	F	F	A	A	E	E	E	D	D	D		E	E	E
d_A, Approach Delay [s/veh]	207.32				53.05				18.45			65.07		
Approach LOS	F				D				B			E		
d_I, Intersection Delay [s/veh]	130.54													
Intersection LOS	F													
Intersection V/C	1.193													

Emissions

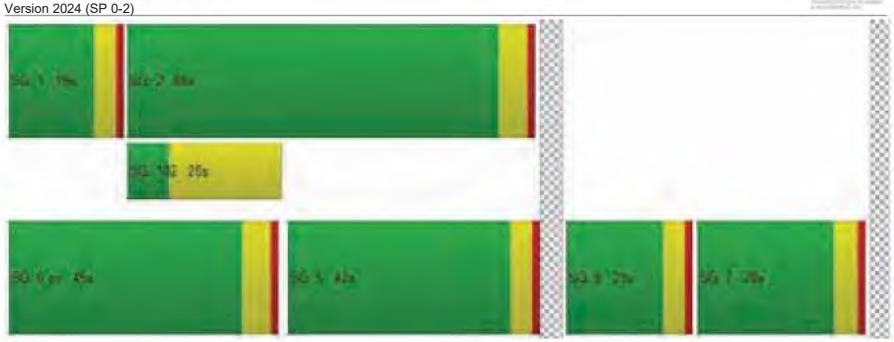
Vehicle Miles Traveled [mph]	283.02	152.91	80.31	13.75	253.63	145.92	8.05	8.23	3.60	3.66	3.46
Stops [stops/h]	3073.68	137.71	79.72	67.68	1241.85	661.12	139.90	143.09	105.57	107.03	102.40
Fuel consumption [US gal/h]	153.91	8.28	4.50	2.31	39.78	20.27	2.80	2.87	2.23	2.25	2.16
CO [g/h]	10758.4	578.65	314.51	161.67	2780.53	1416.90	196.05	200.52	155.54	157.53	151.29
NOx [g/h]	2093.20	112.58	61.19	31.46	540.99	275.68	38.14	39.01	30.26	30.65	29.44
VOC [g/h]	2493.38	134.11	72.89	37.47	644.41	328.38	45.44	46.47	36.05	36.51	35.06

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		57.44	
I_p,int, Pedestrian LOS Score for Intersectio	0.000		0.000		0.000		2.366	
Crosswalk LOS	F		F		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	915		576		337		241	
d_b, Bicycle Delay [s]	20.02		34.45		47.03		52.59	
I_b,int, Bicycle LOS Score for Intersection	3.245		2.911		2.140		1.864	
Bicycle LOS	C		C		B		A	

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Latrobe Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	35.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.044

Intersection Setup

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	2	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	300.00	570.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No			No		
Crosswalk	No			No				No			Yes		

Volumes

Name	Latrobe Rd			El Dorado Hills Blvd			US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Base Volume Input [veh/h]	0	2400	463	0	529	1886	0	0	0	1410	0	0	529
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	137	20	0	0	-102	0	0	0	-72	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	145	0	0	0	0	0	0	401	0	0	159
Total Hourly Volume [veh/h]	0	2537	338	0	529	1784	0	0	0	937	0	0	370
Peak Hour Factor	1.0000	0.8400	0.8400	1.000	0.840	0.840	1.000	1.0000	1.0000	0.8400	1.0000	1.0000	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	755	101	0	157	531	0	0	0	279	0	0	110
Total Analysis Volume [veh/h]	0	3020	402	0	630	2124	0	0	0	1115	0	0	440
Presence of On-Street Parking	No		No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	74.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	50	0	0	39	50	0	0	0	45	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No				No			
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
l2, Clearance Lost Time [s]	0.0	4.2	0.0	0.0	2.6	4.2	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	2.5	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Minimum Recall		No			No	No				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	R	
C, Cycle Length [s]	68	68	68	68	68	
L, Total Lost Time per Cycle [s]	6.20	6.20	4.60	6.20	4.60	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	4.20	4.20	2.60	4.20	2.60	
g_i, Effective Green Time [s]	32	32	26	35	22	
g / C, Green / Cycle	0.47	0.47	0.38	0.51	0.33	
(v / s)_i Volume / Saturation Flow Rate	0.44	0.25	0.35	0.31	0.40	
s, saturation flow rate [veh/h]	6792	1589	1781	6792	2813	
c, Capacity [veh/h]	3159	739	670	3476	927	
d1, Uniform Delay [s]	17.51	13.02	20.49	11.79	22.80	
k, delay calibration	0.50	0.50	0.15	0.50	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	8.61	2.86	9.26	0.81	92.31	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.96	0.54	0.94	0.61	1.20	
d, Delay for Lane Group [s/veh]	26.12	15.88	29.74	12.60	115.11	
Lane Group LOS	C	B	C	B	F	
Critical Lane Group	Yes	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	10.76	4.10	9.75	4.57	18.64	
50th-Percentile Queue Length [ft/ln]	268.91	102.44	243.76	114.16	466.05	
95th-Percentile Queue Length [veh/ln]	16.14	7.38	14.87	8.07	28.64	
95th-Percentile Queue Length [ft/ln]	403.38	184.39	371.78	201.77	715.94	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	26.12	15.88	29.74	29.74	12.60	0.00	0.00	0.00	115.11	0.00	0.00	0.00
Movement LOS		C	B	C	C	B				F			
d_A, Approach Delay [s/veh]		24.91			16.52				115.11			0.00	
Approach LOS		C			B				F			A	
d_I, Intersection Delay [s/veh]						35.54							
Intersection LOS						D							
Intersection V/C						1.044							

Emissions

Vehicle Miles Traveled [mph]	436.98	58.17	107.80	363.44	79.79	
Stops [stops/h]	2277.82	216.92	516.19	966.99	1973.85	
Fuel consumption [US gal/h]	59.35	5.99	13.93	29.93	40.31	
CO [g/h]	4148.65	418.70	973.46	2092.01	2817.39	
NOx [g/h]	807.18	81.46	189.40	407.03	548.16	
VOC [g/h]	961.49	97.04	225.61	484.84	652.96	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00	0.00
d_p, Pedestrian Delay [s]	0.00		0.00		0.00	23.89
I_p,int, Pedestrian LOS Score for Intersectio	0.000		0.000		0.000	2.273
Crosswalk LOS	F		F		F	B
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	906		1024		659	0
d_b, Bicycle Delay [s]	10.18		8.10		15.29	34.00
I_b,int, Bicycle LOS Score for Intersection	3.031		2.436		1.560	1.560
Bicycle LOS	C		B		A	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	37.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.963

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	73	2071	262	4	570	2319	403	184	10	32	1	74	33	604
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	157	16	0	0	-174	0	0	0	-3	0	-9	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	83	0	0	0	121	0	0	9	0	0	0	181
Total Hourly Volume [veh/h]	1	77	2228	195	4	570	2145	282	184	10	20	1	65	33	423
Peak Hour Factor	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.9800	0.9800	0.9800	0.980	0.980	0.980	0.980
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	20	568	50	1	145	547	72	47	3	5	0	17	8	108
Total Analysis Volume [veh/h]	1	79	2273	199	4	582	2189	288	188	10	20	1	66	34	432
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

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Version 2024 (SP 0-2)
Report File: C:\...\15 2040 AM plus Proj.pdf
TKEAR

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	123
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	5	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	50	0	15	15	50	0	15	20	0	0	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	3.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.5	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	1.5	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	245.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	19	19	56	0	19	24	0	0	19	19	0
Lead / Lag	-	Lead	-	-	Lead	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	4	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	No			No	No			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	104	104	104	104	104	104	104	104	104	104	104	104
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	4	50	50	15	61	61	8	8	8	15	15	15
g / C, Green / Cycle	0.04	0.48	0.48	0.14	0.59	0.59	0.08	0.08	0.08	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.02	0.45	0.13	0.17	0.43	0.18	0.05	0.01	0.01	0.04	0.14	0.14
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	1870	1589	1781	1625	1589
c, Capacity [veh/h]	138	2450	764	499	2981	930	266	144	122	257	234	229
d1, Uniform Delay [s]	49.09	25.31	16.02	44.52	15.69	10.93	46.87	44.56	44.88	39.59	44.52	44.52
k, delay calibration	0.04	0.04	0.04	0.07	0.04	0.04	0.08	0.08	0.08	0.08	0.43	0.43
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.44	0.74	0.07	82.11	0.13	0.07	2.56	0.15	0.46	0.40	55.78	56.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.58	0.93	0.26	1.18	0.73	0.31	0.71	0.07	0.16	0.26	1.01	1.01
d, Delay for Lane Group [s/veh]	50.53	26.05	16.09	126.63	15.82	11.00	49.43	44.71	45.35	39.98	100.29	100.94
Lane Group LOS	D	C	B	F	B	B	D	D	D	D	F	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.05	16.73	2.77	12.05	11.64	3.21	2.46	0.25	0.50	1.55	9.60	9.44
50th-Percentile Queue Length [ft/ln]	26.14	418.13	69.17	301.16	290.96	80.18	61.47	6.13	12.44	38.69	240.09	235.93
95th-Percentile Queue Length [veh/ln]	1.88	23.43	4.98	19.01	17.23	5.77	4.43	0.44	0.90	2.79	14.72	14.51
95th-Percentile Queue Length [ft/ln]	47.05	585.81	124.51	475.19	430.83	144.32	110.65	11.03	22.38	69.65	368.07	362.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.53	50.53	26.05	16.09	126.6	126.6	15.82	11.00	49.43	44.71	45.35	39.98	39.98	100.2	100.6
Movement LOS	D	D	C	B	F	F	B	B	D	D	D	D	D	F	F
d_A, Approach Delay [s/veh]	26.04				36.57				48.84			92.99			
Approach LOS	C				D				D			F			
d_I, Intersection Delay [s/veh]	37.49														
Intersection LOS	D														
Intersection V/C	0.963														

Emissions

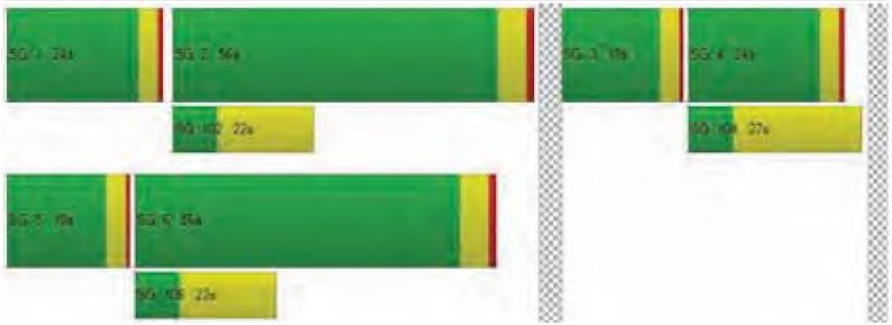
Vehicle Miles Traveled [mph]	17.87	507.85	44.46	84.79	316.74	41.67	23.98	1.28	2.55	23.51	82.66	80.89
Stops [stops/h]	72.41	1737.61	95.82	834.33	1209.12	111.06	170.31	8.49	17.23	53.60	332.58	326.81
Fuel consumption [US gal/h]	1.96	42.56	3.01	23.20	26.77	2.97	3.82	0.19	0.38	1.81	10.05	9.87
CO [g/h]	136.90	2974.79	210.49	1621.55	1871.13	207.86	266.95	13.31	26.89	126.47	702.26	689.85
NOx [g/h]	26.64	578.79	40.95	315.49	364.05	40.44	51.94	2.59	5.23	24.61	136.63	134.22
VOC [g/h]	31.73	689.44	48.78	375.81	433.65	48.17	61.87	3.08	6.23	29.31	162.76	159.88

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.56	0.00	41.56	41.56
I_p,int, Pedestrian LOS Score for Intersectio	3.507	0.000	2.594	2.874
Crosswalk LOS	D	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	972	972	394	298
d_b, Bicycle Delay [s]	13.74	13.74	33.50	37.63
I_b,int, Bicycle LOS Score for Intersection	3.008	2.991	1.747	2.629
Bicycle LOS	C	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	60.1
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.758

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	2	0	0	1	2	0	0	1	1	0	2
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	400.0	100.0	100.0	400.0	360.0	100.0	100.0	300.0	400.00	100.00	300.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	2	157	1794	426	1	98	1858	469	2	355	447	90	517	381	257
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	177	47	0	0	-186	0	0	0	0	0	-47	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	142	0	0	0	141	0	0	0	27	0	0	77
Total Hourly Volume [veh/h]	2	157	1971	331	1	98	1672	328	2	355	447	63	470	381	180
Peak Hour Factor	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	0.9400	0.9400	0.9400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	42	524	88	0	26	445	87	1	94	119	17	125	101	48
Total Analysis Volume [veh/h]	2	167	2097	352	1	104	1779	349	2	378	476	67	500	405	191
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	160
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Overl	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	3	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups				2,3											
Maximum Green [s]	0	20	53	37	0	20	53	0	0	30	30	0	37	45	0
Amber [s]	0.0	4.0	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	5	0	0	0	5	0	0	0	4	0	0	5	0
Pedestrian Clearance [s]	0	0	28	0	0	0	24	0	0	0	31	0	0	31	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	58	42	0	25	58	0	0	27	35	0	42	50	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	9	9	9	0	9	9	0	0	9	9	0	9	9	0
Vehicle Extension [s]	0.0	1.0	1.5	1.0	0.0	1.0	1.5	0.0	0.0	1.0	1.5	0.0	1.0	1.5	0.0
Minimum Recall		No	Yes	No		No	Yes			No	No		No	No	
Maximum Recall		No	No	No		No	No			No	No		No	No	
Pedestrian Recall		No	No	No		No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	160	160	160	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	0.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	10	54	113	9	53	53	20	24	24	53	57	57
g / C, Green / Cycle	0.06	0.34	0.70	0.06	0.33	0.33	0.12	0.15	0.15	0.33	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.05	0.31	0.22	0.03	0.35	0.22	0.11	0.13	0.04	0.15	0.11	0.12
s, saturation flow rate [veh/h]	3431	6737	1577	3431	5053	1577	3431	3532	1577	3431	3532	1577
c, Capacity [veh/h]	212	2284	1108	193	1685	526	420	520	232	1141	1262	563
d1, Uniform Delay [s]	74.06	50.75	9.09	73.50	53.33	45.65	69.28	67.26	60.78	19.71	15.64	15.71
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.04	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.59	7.37	0.75	0.89	38.39	6.48	3.04	2.82	0.25	1.22	0.67	1.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.92	0.32	0.54	1.06	0.66	0.90	0.92	0.29	0.44	0.32	0.34
d, Delay for Lane Group [s/veh]	76.65	58.12	9.85	74.39	91.71	52.13	72.32	70.08	61.03	20.94	16.31	17.34
Lane Group LOS	E	E	A	E	F	D	E	E	E	C	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.47	20.82	4.59	2.10	27.95	12.63	7.89	9.84	2.47	3.81	2.55	2.55
50th-Percentile Queue Length [ft/ln]	86.65	520.41	114.85	52.57	698.69	315.72	197.37	245.95	61.68	95.22	63.64	63.79
95th-Percentile Queue Length [veh/ln]	6.24	28.30	8.11	3.79	38.01	18.46	12.50	14.98	4.44	6.86	4.58	4.59
95th-Percentile Queue Length [ft/ln]	155.97	707.47	202.73	94.63	950.19	461.42	312.57	374.55	111.02	171.39	114.55	114.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	76.65	76.65	58.12	9.85	74.39	74.39	91.71	52.13	72.32	72.32	70.08	61.03	20.94	16.31	17.34
Movement LOS	E	E	E	A	E	E	F	D	E	E	E	E	C	B	B
d_A, Approach Delay [s/veh]	52.83				84.71				70.35				18.60		
Approach LOS	D				F				E				B		
d_I, Intersection Delay [s/veh]	60.08														
Intersection LOS	E														
Intersection V/C	0.758														

Emissions

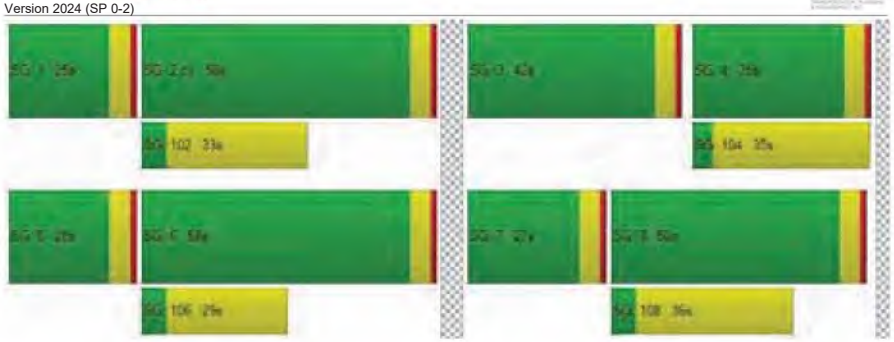
Vehicle Miles Traveled [mph]	67.24	834.36	140.05	23.46	397.48	77.98	94.69	118.61	16.69	52.44	42.48	20.03
Stops [stops/h]	155.97	1873.47	103.37	94.63	1886.45	284.15	355.27	442.71	55.51	171.39	114.55	57.41
Fuel consumption [US gal/h]	6.88	76.69	6.79	3.57	70.28	9.91	11.45	14.12	1.83	5.24	3.73	1.82
CO [g/h]	480.90	5360.82	474.71	249.54	4912.36	692.57	800.54	986.70	127.63	365.98	260.44	126.93
NOx [g/h]	93.56	1043.02	92.36	48.55	955.77	134.75	155.76	191.98	24.83	71.21	50.67	24.70
VOC [g/h]	111.45	1242.42	110.02	57.83	1138.49	160.51	185.53	228.68	29.58	84.82	60.36	29.42

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	72.20	71.25	71.25	71.25
I_p,int, Pedestrian LOS Score for Intersectio	3.948	3.944	2.941	3.045
Crosswalk LOS	D	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	663	663	375	563
d_b, Bicycle Delay [s]	35.78	35.78	52.81	41.33
I_b,int, Bicycle LOS Score for Intersection	2.697	2.808	2.032	2.527
Bicycle LOS	B	C	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	16.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.768

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0	0	1	1	0	1	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	300.0	200.0	100.0	100.0	100.0	320.00	100.00	320.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	74	1954	3	2	19	1885	577	279	6	21	5	11	15
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	224	0	0	0	-233	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	1	0	0	0	173	0	0	6	0	0	5
Total Hourly Volume [veh/h]	1	74	2178	2	2	19	1652	404	279	6	15	5	11	10
Peak Hour Factor	1.000	0.870	0.870	0.870	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	21	626	1	1	5	475	116	80	2	4	1	3	3
Total Analysis Volume [veh/h]	1	85	2503	2	2	22	1899	464	321	7	17	6	13	11
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	16	34	0	0	15	34	0	0	36	0	0	16	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	11	0	0	0	18	0	0	24	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	20	40	0	0	20	40	0	0	40	0	0	20	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	C
C, Cycle Length [s]	67	67	67	67	67	67	67	67	67	67
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	37	37	1	34	34	9	9	9	2
g / C, Green / Cycle	0.06	0.55	0.55	0.02	0.50	0.50	0.13	0.13	0.13	0.03
(v / s)_i Volume / Saturation Flow Rate	0.05	0.46	0.46	0.01	0.37	0.29	0.09	0.09	0.01	0.02
s, saturation flow rate [veh/h]	1781	3560	1869	1781	5094	1589	1781	1785	1589	1740
c, Capacity [veh/h]	114	1954	1026	30	2556	798	237	238	212	57
d1, Uniform Delay [s]	30.89	12.67	12.68	32.86	13.27	11.76	27.75	27.75	25.47	31.93
k, delay calibration	0.04	0.15	0.37	0.04	0.15	0.16	0.11	0.11	0.11	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.81	1.46	6.33	16.51	0.62	1.03	3.57	3.56	0.16	2.77
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.84	0.84	0.80	0.74	0.58	0.69	0.69	0.08	0.53
d, Delay for Lane Group [s/veh]	34.70	14.14	19.00	49.38	13.90	12.78	31.32	31.31	25.63	34.70
Lane Group LOS	C	B	B	D	B	B	C	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.43	8.77	10.59	0.48	5.42	3.65	2.62	2.63	0.24	0.50
50th-Percentile Queue Length [ft/ln]	35.83	219.18	264.86	12.10	135.47	91.25	65.61	65.72	5.92	12.62
95th-Percentile Queue Length [veh/ln]	2.58	13.62	15.93	0.87	9.24	6.57	4.72	4.73	0.43	0.91
95th-Percentile Queue Length [ft/ln]	64.50	340.57	398.31	21.79	230.90	164.25	118.09	118.29	10.66	22.72

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.70	34.70	15.81	19.00	49.38	49.38	13.90	12.78	31.31	31.31	25.63	34.70	34.70	34.70
Movement LOS	C	C	B	B	D	D	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	16.44				14.04				31.03			34.70		
Approach LOS	B				B				C			C		
d_I, Intersection Delay [s/veh]	16.41													
Intersection LOS	B													
Intersection V/C	0.768													

Emissions

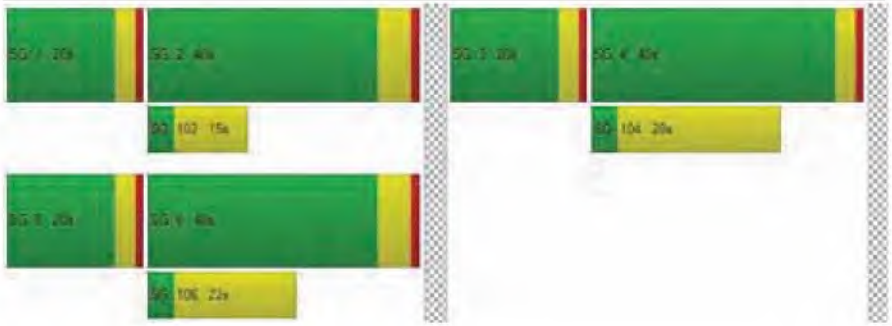
Vehicle Miles Traveled [mph]	30.43	581.21	305.21	9.55	755.58	184.62	39.46	39.53	4.09	0.57
Stops [stops/h]	77.10	943.24	569.92	26.05	874.48	196.35	141.17	141.41	12.75	27.16
Fuel consumption [US gal/h]	2.29	33.86	19.05	1.04	46.89	11.03	3.45	3.45	0.33	0.39
CO [g/h]	159.79	2367.08	1331.48	73.00	3277.52	771.00	241.06	241.47	22.90	26.94
NOx [g/h]	31.09	460.55	259.06	14.20	637.69	150.01	46.90	46.98	4.46	5.24
VOC [g/h]	37.03	548.59	308.58	16.92	759.60	178.69	55.87	55.96	5.31	6.24

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	25.94	0.00	25.94	25.94
l_p,int, Pedestrian LOS Score for Intersectio	3.213	0.000	2.392	1.743
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1016	1016	1076	478
d_b, Bicycle Delay [s]	8.10	8.10	7.14	19.37
l_b,int, Bicycle LOS Score for Intersection	2.985	2.956	2.139	1.617
Bicycle LOS	C	C	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Latrobe Rd/Suncast Ln

Control Type:	Signalized	Delay (sec / veh):	27.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.939

Intersection Setup

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Approach	Northbound			Southbound		Eastbound	
Lane Configuration							
Turning Movement	U-turn	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			No		Yes	

Volumes

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Base Volume Input [veh/h]	1	155	1839	1449	463	193	104
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	96	0	0	0
Site-Generated Trips [veh/h]	0	12	224	-233	0	0	-2
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	139	0	31
Total Hourly Volume [veh/h]	1	167	2063	1312	324	193	71
Peak Hour Factor	1.0000	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	48	593	377	93	55	20
Total Analysis Volume [veh/h]	1	192	2371	1508	372	222	82
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permissive	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	5	2	6	0	3	0
Auxiliary Signal Groups							
Maximum Green [s]	0	12	40	40	0	20	0
Amber [s]	0.0	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No	No		No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	46	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-
Minimum Green [s]	0	5	5	5	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall		No	No	No		No	
Maximum Recall		No	No	No		No	
Pedestrian Recall		No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	L	R
C, Cycle Length [s]	76	76	76	76	76	76
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	10	54	40	40	12	12
g / C, Green / Cycle	0.13	0.71	0.53	0.53	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.11	0.67	0.50	0.54	0.12	0.05
s, saturation flow rate [veh/h]	1781	3560	1870	1748	1781	1589
c, Capacity [veh/h]	235	2535	986	922	278	248
d1, Uniform Delay [s]	32.06	9.42	17.04	17.93	30.85	28.47
k, delay calibration	0.12	0.21	0.41	0.45	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.74	3.74	16.86	33.21	5.22	0.77
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.94	0.95	1.02	0.80	0.33
d, Delay for Lane Group [s/veh]	39.79	13.16	33.90	51.14	36.07	29.24
Lane Group LOS	D	B	C	F	D	C
Critical Lane Group	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.83	12.53	17.91	22.22	4.18	1.34
50th-Percentile Queue Length [ft/ln]	95.87	313.34	447.87	555.49	104.42	33.49
95th-Percentile Queue Length [veh/ln]	6.90	18.34	24.86	30.42	7.52	2.41
95th-Percentile Queue Length [ft/ln]	172.57	458.49	621.40	760.61	187.95	60.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.79	39.79	13.16	40.40	51.14	36.07	29.24
Movement LOS	D	D	B	D	D	D	C
d_A, Approach Delay [s/veh]	15.16			42.52		34.23	
Approach LOS	B			D		C	
d_I, Intersection Delay [s/veh]	27.22						
Intersection LOS	C						
Intersection V/C	0.939						

Emissions

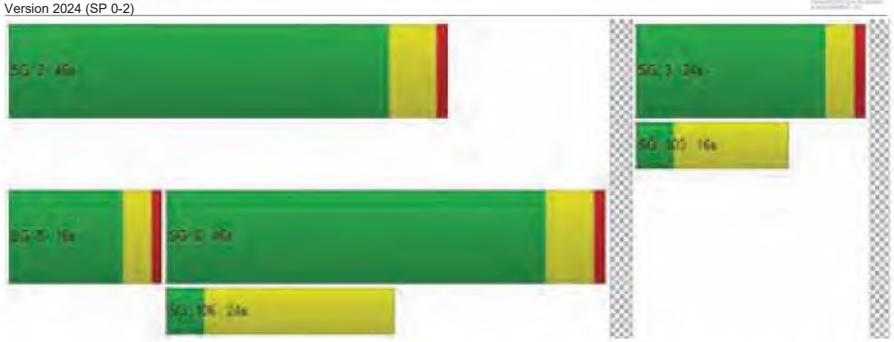
Vehicle Miles Traveled [mph]	134.69	1654.70	332.63	332.63	74.90	27.67
Stops [stops/h]	182.35	1191.96	851.86	1056.57	198.61	63.70
Fuel consumption [US gal/h]	8.12	81.05	24.88	29.31	5.81	1.98
CO [g/h]	567.25	5665.58	1739.45	2048.99	406.13	138.32
NOx [g/h]	110.37	1102.32	338.43	398.66	79.02	26.91
VOC [g/h]	131.47	1313.05	403.13	474.87	94.12	32.06

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0		0.0		8.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	30.28		0.00		30.28	
I_p,int, Pedestrian LOS Score for Intersectio	3.110		0.000		2.316	
Crosswalk LOS	C		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	1057		1057		528	
d_b, Bicycle Delay [s]	8.42		8.42		20.50	
I_b,int, Bicycle LOS Score for Intersection	3.674		3.225		1.560	
Bicycle LOS	D		C		A	

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	161.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.261

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	60	778	21	276	401	877	613	90	86	136	351	604
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	20	8	0	148	0	0	0	11	28	0	0
Site-Generated Trips [veh/h]	84	308	34	0	1	-235	-72	-12	-3	-9	-41	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	19	0	0	193	0	0	28	0	0	181
Total Hourly Volume [veh/h]	144	1106	44	276	550	449	541	78	66	155	310	423
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	311	12	78	154	126	152	22	19	44	87	119
Total Analysis Volume [veh/h]	162	1243	49	310	618	504	608	88	74	174	348	475
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Cycle Length [s]	91	91	91	91	91	91	91	91	91	91
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	10	25	25	12	27	27	15	15	20	20
g / C, Green / Cycle	0.11	0.28	0.28	0.13	0.30	0.30	0.17	0.17	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.09	0.35	0.35	0.17	0.32	0.33	0.22	0.22	0.28	0.30
s, saturation flow rate [veh/h]	1781	1870	1845	1781	1870	1600	1781	1759	1839	1589
c, Capacity [veh/h]	197	515	508	235	556	475	294	291	405	350
d1, Uniform Delay [s]	39.53	32.90	32.90	39.40	31.91	31.91	37.90	37.90	35.40	35.40
k, delay calibration	0.12	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.42	132.45	134.34	169.45	58.89	73.92	163.43	165.84	147.29	178.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	1.26	1.27	1.32	1.07	1.11	1.31	1.32	1.29	1.36
d, Delay for Lane Group [s/veh]	48.95	165.35	167.24	208.85	90.80	105.83	201.33	203.74	182.69	213.55
Lane Group LOS	D	F	F	F	F	F	F	F	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	4.00	29.88	29.75	15.92	19.91	19.02	19.76	19.71	25.30	24.86
50th-Percentile Queue Length [ft/ln]	100.04	746.99	743.72	398.11	497.85	475.51	494.01	492.86	632.40	621.52
95th-Percentile Queue Length [veh/ln]	7.20	44.21	44.10	25.06	28.44	27.84	30.49	30.47	38.09	38.24
95th-Percentile Queue Length [ft/ln]	180.07	1105.22	1102.47	626.50	711.02	695.99	762.18	761.66	952.29	955.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.95	166.25	167.24	208.85	91.34	105.83	202.21	203.74	203.74	182.69	182.69	213.55
Movement LOS	D	F	F	F	F	F	F	F	F	F	F	F
d_A, Approach Delay [s/veh]	153.21			121.88			202.53			197.39		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	161.20											
Intersection LOS	F											
Intersection V/C	1.261											

Emissions

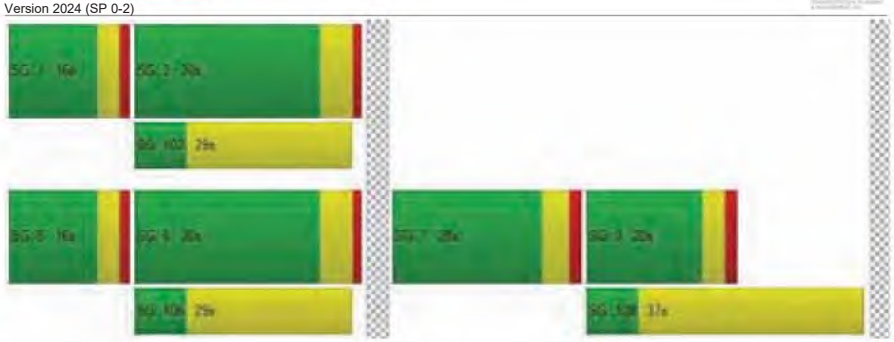
Vehicle Miles Traveled [mph]	93.56	374.97	371.19	216.35	415.65	367.39	29.08	28.84	57.73	52.53
Stops [stops/h]	158.65	1184.65	1179.47	631.36	789.54	754.11	783.45	781.63	1002.92	985.67
Fuel consumption [US gal/h]	6.34	43.82	43.67	32.14	39.57	37.63	21.36	21.40	27.32	28.25
CO [g/h]	443.28	3063.33	3052.33	2246.37	2766.14	2630.53	1493.17	1495.85	1909.74	1974.44
NOx [g/h]	86.25	596.01	593.87	437.06	538.19	511.80	290.52	291.04	371.57	384.15
VOC [g/h]	102.73	709.96	707.41	520.62	641.08	609.65	346.06	346.68	442.60	457.60

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	35.07	0.00	35.07	35.07
I_p,int, Pedestrian LOS Score for Intersectio	2.788	0.000	2.632	2.732
Crosswalk LOS	C	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	544	544	341	441
d_b, Bicycle Delay [s]	24.06	24.06	31.22	27.60
I_b,int, Bicycle LOS Score for Intersection	2.775	2.900	2.876	3.503
Bicycle LOS	C	C	C	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	23.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.974

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	122	582	265	358	277	109
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	44	0	0	155	21	0
Site-Generated Trips [veh/h]	-31	498	229	-240	-72	-10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	82	0	30
Total Hourly Volume [veh/h]	135	1080	494	191	226	69
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	300	137	53	63	19
Total Analysis Volume [veh/h]	150	1200	549	212	251	77
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	12	40	40	0	20	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	46	46	0	24	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	61	61	61	61	61	61
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	7	40	29	29	11	11
g / C, Green / Cycle	0.11	0.66	0.48	0.48	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.08	0.64	0.29	0.13	0.14	0.05
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1589
c, Capacity [veh/h]	194	1227	900	765	322	287
d1, Uniform Delay [s]	26.50	10.11	11.65	9.49	23.91	21.58
k, delay calibration	0.04	0.43	0.15	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.45	19.07	0.96	0.28	4.13	0.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.98	0.61	0.28	0.78	0.27
d, Delay for Lane Group [s/veh]	28.95	29.17	12.60	9.77	28.03	22.08
Lane Group LOS	C	C	B	A	C	C
Critical Lane Group	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.95	12.52	3.93	1.22	3.59	0.93
50th-Percentile Queue Length [ft/ln]	48.69	313.02	98.15	30.48	89.65	23.26
95th-Percentile Queue Length [veh/ln]	3.51	18.32	7.07	2.19	6.45	1.68
95th-Percentile Queue Length [ft/ln]	87.64	458.10	176.67	54.87	161.36	41.88

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.95	29.17	12.60	9.77	28.03	22.08
Movement LOS	C	C	B	A	C	C
d_A, Approach Delay [s/veh]	29.15		11.81		26.63	
Approach LOS	C		B		C	
d_I, Intersection Delay [s/veh]	23.40					
Intersection LOS	C					
Intersection V/C	0.974					

Emissions

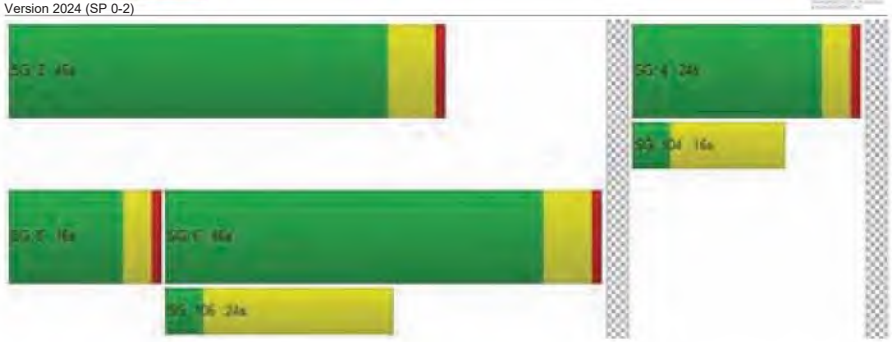
Vehicle Miles Traveled [mph]	18.51	148.06	317.06	122.44	58.95	18.08
Stops [stops/h]	114.98	739.26	231.80	72.00	211.72	54.94
Fuel consumption [US gal/h]	3.64	25.81	16.32	5.85	5.03	1.39
CO [g/h]	254.34	1803.99	1140.77	409.23	351.49	97.44
NOx [g/h]	49.48	350.99	221.95	79.62	68.39	18.96
VOC [g/h]	58.94	418.09	264.38	94.84	81.46	22.58

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	23.01	0.00	23.01
l_p,int, Pedestrian LOS Score for Intersectio	3.119	0.000	2.227
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1312	1312	656
d_b, Bicycle Delay [s]	3.61	3.61	13.77
l_b,int, Bicycle LOS Score for Intersection	3.787	2.951	1.560
Bicycle LOS	D	C	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	317.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.135

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	658	0	14	360	0	0	0	0	0	0	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	13	0	0	0	4	11	0	0	0	0	0
Site-Generated Trips [veh/h]	2	433	0	0	208	12	34	0	5	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	1104	0	14	568	16	45	0	5	0	0	39
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	300	0	4	154	4	12	0	1	0	0	10
Total Analysis Volume [veh/h]	2	1200	0	14	617	17	49	0	5	0	0	39
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			Yes	Yes
Storage Area [veh]	0	0	1	1
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.02	0.01	0.00	1.14	0.00	0.01	0.00	0.00	0.17
d_M, Delay for Movement [s/veh]	8.80	0.00	0.00	11.21	0.00	0.00	317.81	285.60	241.83	76.10	60.14	24.27
Movement LOS	A	A	A	B	A	A	F	F	F	F	F	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.02	0.02	0.02	4.92	4.92	4.92	0.61	0.61	0.61
95th-Percentile Queue Length [ft/ln]	0.08	0.08	0.08	0.59	0.59	0.59	123.00	123.00	123.00	15.28	15.28	15.28
d_A, Approach Delay [s/veh]	0.01			0.24			310.77			24.27		
Approach LOS	A			A			F			C		
d_I, Intersection Delay [s/veh]	9.21											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Two-way stop	Delay (sec / veh):	3,188.6
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	7.691

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	422	48	74	286	0	0	0	0	12	0	250
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	22	-10	0	0	4	141	446	6	51	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	37	0	0	0	0	0	37	0	18	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	59	412	48	74	290	141	483	6	69	12	2	250
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	111	13	20	78	38	130	2	19	3	1	67
Total Analysis Volume [veh/h]	63	443	52	80	312	152	519	6	74	13	2	269
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.00	0.07	0.00	0.00	7.69	0.04	0.11	0.10	0.01	0.45
d_M, Delay for Movement [s/veh]	8.48	0.00	0.00	8.64	0.00	0.00	3188.65	3156.68	3140.76	42.98	37.02	20.18
Movement LOS	A	A	A	A	A	A	F	F	F	E	E	C
95th-Percentile Queue Length [veh/ln]	0.18	0.00	0.00	0.24	0.00	0.00	68.60	68.60	68.60	3.51	3.51	3.51
95th-Percentile Queue Length [ft/ln]	4.56	0.00	0.00	6.06	0.00	0.00	1714.93	1714.93	1714.93	87.76	87.76	87.76
d_A, Approach Delay [s/veh]		0.96			1.27			3182.41			21.34	
Approach LOS		A			A			F			C	
d_I, Intersection Delay [s/veh]	964.01											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Two-way stop	Delay (sec / veh):	797.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.548

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	13	560	229	53	0	1106	182
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-24	-85	-3	-83	0	-277	84
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	14	0	0	59	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	3	475	226	29	0	829	266
Peak Hour Factor	1.0000	0.9060	0.9060	0.9060	0.9060	1.0000	0.9060	0.9060
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	131	62	8	0	229	73
Total Analysis Volume [veh/h]	0	3	524	249	32	0	915	294
Pedestrian Volume [ped/h]	0			0		0		

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.55	0.68	0.00	0.00	0.00	0.71	0.00
d_M, Delay for Movement [s/veh]	797.94	797.94	145.09	0.00	0.00	22.22	10.31	0.00
Movement LOS	F	F	F	A	A	C	B	A
95th-Percentile Queue Length [veh/ln]	21.36	21.36	21.36	0.00	0.00	3.43	3.43	3.43
95th-Percentile Queue Length [ft/ln]	534.04	534.04	534.04	0.00	0.00	85.83	85.83	85.83
d_A, Approach Delay [s/veh]	148.80			0.00		7.80		
Approach LOS	F			A		A		
d_I, Intersection Delay [s/veh]	43.56							
Intersection LOS	F							

Intersection Level Of Service Report
Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Control Type:	All-way stop	Delay (sec / veh):	88.3
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.194

Intersection Setup

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Base Volume Input [veh/h]	16	229	88	2	30	1009	55	19	21	0	258	55	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-117	-90	0	4	-299	-75	6	3	0	-229	-55	13
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	112	0	2	34	710	0	25	24	0	29	0	83
Peak Hour Factor	0.8300	0.8300	0.8300	1.000	0.830	0.830	0.830	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	34	0	1	10	214	0	8	7	0	9	0	25
Total Analysis Volume [veh/h]	19	135	0	2	41	855	0	30	29	0	35	0	100
Pedestrian Volume [ped/h]	0			0				0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	655	898	552	614
Degree of Utilization, x	0.24	1.19	0.11	0.22

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.91	29.63	0.36	0.83
95th-Percentile Queue Length [ft]	22.75	740.73	8.92	20.82
Approach Delay [s/veh]	10.19	118.48	10.30	10.50
Approach LOS	B	F	B	B
Intersection Delay [s/veh]	88.27			
Intersection LOS	F			

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Intersection Level Of Service Report
Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	22.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.481

Intersection Setup

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00			30.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	No		No			No		

Volumes

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Base Volume Input [veh/h]	175	151	1	131	225	0	67	128
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-78	0	-8	0	0	62	-2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	175	73	1	123	225	0	129	126
Peak Hour Factor	0.9500	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	19	0	32	59	0	34	33
Total Analysis Volume [veh/h]	184	77	1	129	237	0	136	133
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.48	0.10	0.00	0.00	0.00	0.00	0.11	0.00
d_M, Delay for Movement [s/veh]	22.84	10.04	8.80	0.00	0.00	11.37	8.41	0.00
Movement LOS	C	B	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	2.52	0.32	0.00	0.00	0.00	0.39	0.39	0.00
95th-Percentile Queue Length [ft/ln]	63.11	8.06	0.05	0.05	0.05	9.63	9.63	0.00
d_A, Approach Delay [s/veh]	19.06		0.02			4.25		
Approach LOS	C		A			A		
d_I, Intersection Delay [s/veh]	6.83							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 16: Carson Crossing Rd/Calypso Cir.

Control Type:	Two-way stop	Delay (sec / veh):	32.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.508

Intersection Setup

Name			Carson Crossing Rd		Carson Crossing Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	190.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			Carson Crossing Rd		Carson Crossing Rd	
Base Volume Input [veh/h]	134	128	233	92	194	152
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-78	0	0	62
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	134	128	155	92	194	214
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	35	42	25	53	58
Total Analysis Volume [veh/h]	146	139	168	100	211	233
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.51	0.16	0.00	0.00	0.16	0.00
d_M, Delay for Movement [s/veh]	32.82	24.40	0.00	0.00	8.32	0.00
Movement LOS	D	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	4.74	4.74	0.00	0.00	0.58	0.00
95th-Percentile Queue Length [ft/ln]	118.51	118.51	0.00	0.00	14.53	0.00
d_A, Approach Delay [s/veh]	28.71		0.00		3.95	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	9.97					
Intersection LOS	D					

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Intersection Level Of Service Report
Intersection 17: Carson Crossing Rd/Four Seasons Dr

Control Type:	All-way stop	Delay (sec / veh):	8.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.104

Intersection Setup

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	500.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	500.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Base Volume Input [veh/h]	67	10	12	202	20	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	62	0	0	-78	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	129	10	12	124	20	18
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	3	3	34	5	5
Total Analysis Volume [veh/h]	140	11	13	135	22	20
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	729	744	684	755	755	720
Degree of Utilization, x	0.10	0.10	0.02	0.09	0.09	0.06

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.35	0.34	0.06	0.29	0.29	0.19
95th-Percentile Queue Length [ft]	8.63	8.44	1.45	7.34	7.34	4.64
Approach Delay [s/veh]	8.15		7.95			8.31
Approach LOS	A		A			A
Intersection Delay [s/veh]	8.08					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Signalized	Delay (sec / veh):	17.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.491

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	200.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	65	0	18	66	1	8	4	343	152	60	603	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	62	0	0	0	0	0	0	0	-78	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	127	0	18	66	1	8	4	343	74	60	603	15
Peak Hour Factor	0.9700	1.0000	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	0	5	17	0	2	1	88	19	15	155	4
Total Analysis Volume [veh/h]	131	0	19	68	1	8	4	354	76	62	622	15
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	7	25	0	0	25	0	15	35	0	15	35	0
Amber [s]	3.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	21	0	0	11	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	150.0	150.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	0	30	0	20	40	0	20	40	0
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	9	0	0	9	0	9	9	0	9	9	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	C	L	C	R	L	C	R
C, Cycle Length [s]	48	48	48	48	48	48	48	48	48	48
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	8	8	8	6	0	9	9	5	14	14
g / C, Green / Cycle	0.16	0.16	0.16	0.12	0.01	0.19	0.19	0.11	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.08	0.00	0.01	0.05	0.00	0.11	0.05	0.04	0.19	0.01
s, saturation flow rate [veh/h]	1603	1683	1431	1584	1603	3204	1431	1603	3204	1431
c, Capacity [veh/h]	263	277	235	196	17	603	269	174	916	409
d1, Uniform Delay [s]	18.31	0.00	17.04	19.44	23.62	17.84	16.76	19.91	15.23	12.41
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.45	0.00	0.15	1.28	6.70	0.91	0.57	1.23	0.89	0.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.00	0.08	0.39	0.23	0.59	0.28	0.36	0.68	0.04
d, Delay for Lane Group [s/veh]	19.76	0.00	17.19	20.72	30.32	18.75	17.32	21.14	16.12	12.44
Lane Group LOS	B	A	B	C	C	B	B	C	B	B
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.28	0.00	0.17	0.78	0.07	1.65	0.68	0.64	2.67	0.10
50th-Percentile Queue Length [ft/ln]	32.04	0.00	4.20	19.52	1.83	41.27	16.94	15.98	66.71	2.61
95th-Percentile Queue Length [veh/ln]	2.31	0.00	0.30	1.41	0.13	2.97	1.22	1.15	4.80	0.19
95th-Percentile Queue Length [ft/ln]	57.66	0.00	7.57	35.14	3.30	74.29	30.49	28.77	120.07	4.70

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	19.76	0.00	17.19	20.72	20.72	20.72	30.32	18.75	17.32	21.14	16.12	12.44
Movement LOS	B	A	B	C	C	C	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	19.44			20.72			18.61			16.49		
Approach LOS	B			C			B			B		
d_I, Intersection Delay [s/veh]	17.73											
Intersection LOS	B											
Intersection V/C	0.491											

Emissions

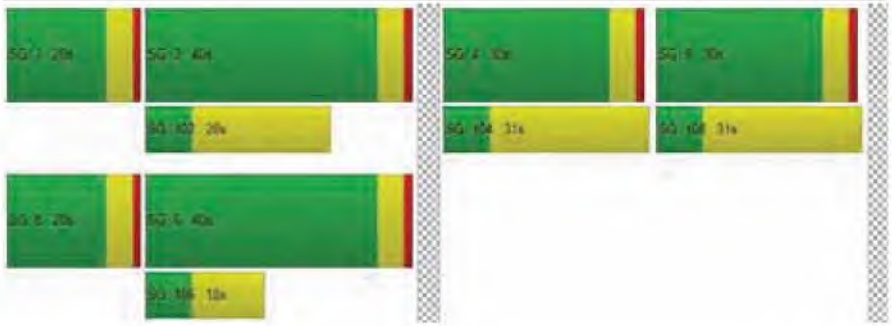
Vehicle Miles Traveled [mph]	38.89	0.00	5.64	1.72	0.57	50.69	10.88	52.17	523.43	12.62
Stops [stops/h]	96.32	0.00	12.64	58.70	5.51	248.21	50.93	48.06	401.15	7.85
Fuel consumption [US gal/h]	2.66	0.00	0.37	0.72	0.08	4.81	1.00	2.68	25.81	0.60
CO [g/h]	185.94	0.00	25.76	50.30	5.50	336.12	69.71	187.35	1803.79	42.01
NOx [g/h]	36.18	0.00	5.01	9.79	1.07	65.40	13.56	36.45	350.95	8.17
VOC [g/h]	43.09	0.00	5.97	11.66	1.27	77.90	16.16	43.42	418.05	9.74

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	14.21	14.21	14.21	14.21
l_p,int, Pedestrian LOS Score for Intersectio	2.320	1.725	2.611	2.602
Crosswalk LOS	B	A	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1044	1044	1462	1462
d_b, Bicycle Delay [s]	5.47	5.47	1.74	1.74
l_b,int, Bicycle LOS Score for Intersection	1.807	1.687	1.918	2.136
Bicycle LOS	A	A	A	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 19: White Rock Rd/Windfield Way

Control Type:	Signalized	Delay (sec / veh):	35.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.656

Intersection Setup

Name	Windfield Way						White Rock Rd			White Rock Rd			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00			
Grade [%]	0.00			0.00			0.00			0.00			
Curb Present	No			No			No			No			
Crosswalk	Yes			Yes			Yes			No			

Volumes

Name	Windfield Way						White Rock Rd			White Rock Rd			
Base Volume Input [veh/h]	72	5	243	5	5	0	5	644	184	0	499	505	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	73	0	0	0	0	0	55	0	0	0	2
Total Hourly Volume [veh/h]	72	5	170	5	5	0	5	644	129	0	499	505	3
Peak Hour Factor	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000	1.0000	0.9700	0.9700	1.000	0.970	0.970	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	19	1	44	1	1	0	1	166	33	0	129	130	1
Total Analysis Volume [veh/h]	74	5	175	5	5	0	5	664	133	0	514	521	3
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	31.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi
Signal Group	3	8	0	7	4	0	5	2	0	0	1	6	0
Auxiliary Signal Groups													
Maximum Green [s]	25	25	0	10	10	0	9	19	0	0	44	54	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	2.0	1.0	0.0	0.0	2.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	26	0	0	13	0	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	245.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	15	15	0	15	25	0	0	50	60	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	3	3	0	5	3	0	5	7	0	0	3	7	0
Vehicle Extension [s]	1.0	1.0	0.0	3.0	1.0	0.0	3.0	3.6	0.0	0.0	1.0	3.6	0.0
Minimum Recall	No	No		No	No		No	Yes			No	Yes	
Maximum Recall	No	No		No	No		No	No			No	No	
Pedestrian Recall	No	No		No	No		No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	6	15	1	10	1	46	46	36	81	81
g / C, Green / Cycle	0.05	0.13	0.01	0.08	0.01	0.38	0.38	0.30	0.68	0.68
(v / s)_i Volume / Saturation Flow Rate	0.04	0.11	0.00	0.00	0.00	0.19	0.08	0.29	0.14	0.14
s, saturation flow rate [veh/h]	1781	1596	1781	1870	1781	3560	1589	1781	1870	1866
c, Capacity [veh/h]	96	204	12	152	12	1354	604	537	1262	1259
d1, Uniform Delay [s]	56.04	51.41	59.33	50.78	59.34	28.34	25.16	41.16	7.39	7.39
k, delay calibration	0.04	0.04	0.11	0.04	0.11	0.50	0.50	0.24	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.83	4.76	19.50	0.03	19.95	1.27	0.84	18.67	0.37	0.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.88	0.40	0.03	0.40	0.49	0.22	0.96	0.21	0.21
d, Delay for Lane Group [s/veh]	60.87	56.16	78.83	50.82	79.29	29.61	26.00	59.83	7.76	7.76
Lane Group LOS	E	E	E	D	E	C	C	E	A	A
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.34	5.58	0.22	0.14	0.22	7.49	2.72	17.53	2.55	2.55
50th-Percentile Queue Length [ft/ln]	58.56	139.55	5.48	3.51	5.50	187.21	67.97	438.14	63.82	63.70
95th-Percentile Queue Length [veh/ln]	4.22	9.46	0.39	0.25	0.40	11.98	4.89	24.39	4.59	4.59
95th-Percentile Queue Length [ft/ln]	105.40	236.42	9.86	6.32	9.90	299.40	122.35	609.78	114.87	114.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	60.87	56.16	56.16	78.83	50.82	0.00	79.29	29.61	26.00	59.83	59.83	7.76	7.76
Movement LOS	E	E	E	E	D		E	C	C	E	E	A	A
d_A, Approach Delay [s/veh]	57.53			64.82			29.32			33.55			
Approach LOS	E			E			C			C			
d_I, Intersection Delay [s/veh]	34.98												
Intersection LOS	C												
Intersection V/C	0.656												

Emissions

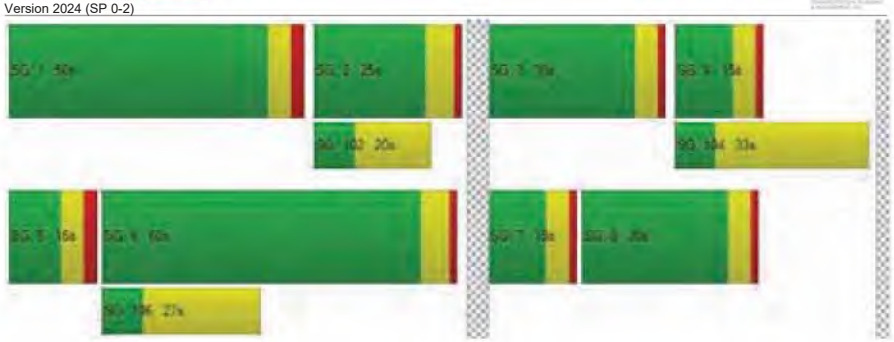
Vehicle Miles Traveled [mph]	28.51	69.36	0.17	0.17	4.21	558.77	111.92	128.07	65.35	65.22
Stops [stops/h]	70.27	167.46	6.57	4.21	6.60	449.30	81.57	525.77	76.58	76.43
Fuel consumption [US gal/h]	2.48	5.84	0.12	0.08	0.29	29.49	5.76	14.44	3.53	3.52
CO [g/h]	173.25	408.03	8.65	5.74	20.30	2061.06	402.74	1009.02	246.58	246.09
NOx [g/h]	33.71	79.39	1.68	1.12	3.95	401.01	78.36	196.32	47.98	47.88
VOC [g/h]	40.15	94.57	2.00	1.33	4.70	477.67	93.34	233.85	57.15	57.03

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.394	1.962	2.781	0.000
Crosswalk LOS	B	A	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	417	167	317	900
d_b, Bicycle Delay [s]	37.60	50.42	42.50	18.15
I_b,int, Bicycle LOS Score for Intersection	2.099	1.576	2.267	1.994
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 20: White Rock Rd/Post St

Control Type:	Signalized	Delay (sec / veh):	43.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.613

Intersection Setup

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Approach	Northbound			Southbound			Eastbound				Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	300.0	100.0	100.0	100.0	200.00	100.00	400.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00				30.00		
Grade [%]	0.00			0.00			0.00				0.00		
Curb Present	No			No			No				No		
Crosswalk	Yes			Yes			No				No		

Volumes

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	60	7	28	115	11	210	0	243	666	62	56	885	214
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	-18	0	-5	52	0	0	-29	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	58	0	0	0	19	0	0	64
Total Hourly Volume [veh/h]	60	7	20	115	11	134	0	238	718	43	56	856	150
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	1.000	0.910	0.910	0.910	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	2	5	32	3	37	0	65	197	12	15	235	41
Total Analysis Volume [veh/h]	66	8	22	126	12	147	0	262	789	47	62	941	165
Presence of On-Street Parking	No		No	No		No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0				0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0				0		
v_co, Outbound Pedestrian Volume crossing	0			0			0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0				0		
Bicycle Volume [bicycles/h]	0			0			0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	160
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	71.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups													
Maximum Green [s]	7	24	0	7	26	0	0	23	75	0	15	67	0
Amber [s]	3.5	4.0	0.0	3.5	4.0	0.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.7	1.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	24	0	0	0	21	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.2	3.0	0.0	2.5	3.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	100.0	0.0	100.0	100.0	0.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	29	0	13	31	0	0	28	80	0	20	72	0
Lead / Lag	Lead	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	3	9	0	3	9	0	0	9	9	0	9	9	0
Vehicle Extension [s]	1.0	1.5	0.0	1.0	1.5	0.0	0.0	1.0	1.5	0.0	1.0	1.5	0.0
Minimum Recall		No			No			No	Yes		No	No	
Maximum Recall		No			No			No	No		No	No	
Pedestrian Recall		No			No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	160	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	9	9	18	18	69	105	105	8	44	44
g / C, Green / Cycle	0.06	0.06	0.11	0.11	0.43	0.66	0.66	0.05	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.04	0.01	0.07	0.10	0.15	0.22	0.03	0.03	0.26	0.10
s, saturation flow rate [veh/h]	1790	1589	1781	1608	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	100	89	199	179	767	2331	1041	94	987	440
d1, Uniform Delay [s]	74.39	72.32	67.96	70.08	30.42	12.25	9.82	74.36	56.83	46.65
k, delay calibration	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.97	0.53	1.25	5.66	1.21	0.39	0.08	2.90	2.67	0.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.25	0.63	0.89	0.34	0.34	0.05	0.66	0.95	0.37
d, Delay for Lane Group [s/veh]	78.37	72.85	69.21	75.74	31.63	12.64	9.90	77.26	59.50	46.85
Lane Group LOS	E	E	E	E	C	B	A	E	E	D
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.13	0.89	5.03	6.74	7.14	6.43	0.63	2.59	19.07	5.41
50th-Percentile Queue Length [ft/ln]	78.19	22.13	125.81	168.52	178.60	160.86	15.66	64.87	476.72	135.21
95th-Percentile Queue Length [veh/ln]	5.63	1.59	8.71	11.00	11.53	10.59	1.13	4.67	26.23	9.22
95th-Percentile Queue Length [ft/ln]	140.74	39.83	217.78	274.97	288.19	264.86	28.19	116.77	655.76	230.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	78.37	78.37	72.85	69.21	75.74	75.74	31.63	31.63	12.64	9.90	77.26	59.50	46.85
Movement LOS	E	E	E	E	E	E	C	C	B	A	E	E	D
d_A, Approach Delay [s/veh]	77.10			72.85			17.06				58.65		
Approach LOS	E			E			B				E		
d_I, Intersection Delay [s/veh]	43.60												
Intersection LOS	D												
Intersection V/C	0.613												

Emissions

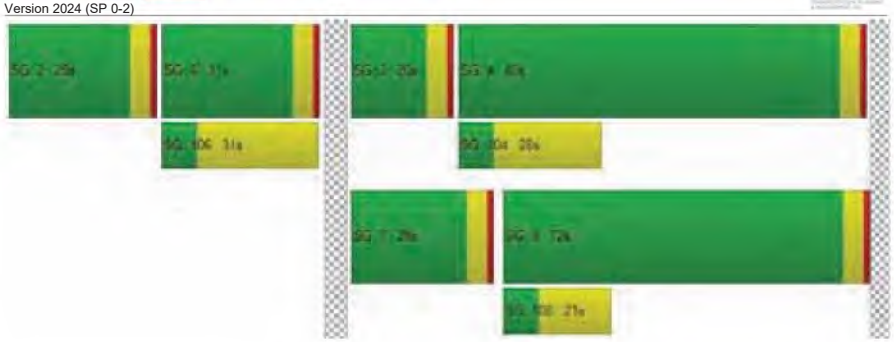
Vehicle Miles Traveled [mph]	3.70	1.10	5.86	7.39	27.48	82.75	4.93	21.71	329.50	57.78
Stops [stops/h]	70.37	19.92	113.23	151.67	160.74	289.55	14.09	58.39	858.10	121.69
Fuel consumption [US gal/h]	1.72	0.48	2.64	3.59	3.71	7.04	0.38	2.19	29.70	4.62
CO [g/h]	120.31	33.65	184.60	251.13	259.02	491.82	26.25	153.15	2075.81	323.18
NOx [g/h]	23.41	6.55	35.92	48.86	50.40	95.69	5.11	29.80	403.88	62.88
VOC [g/h]	27.88	7.80	42.78	58.20	60.03	113.98	6.08	35.49	481.09	74.90

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	69.38	69.38	69.38	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.058	2.324	2.886	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	300	325	938	838
d_b, Bicycle Delay [s]	57.80	56.11	22.58	27.03
l_b,int, Bicycle LOS Score for Intersection	1.731	2.126	2.265	2.576
Bicycle LOS	A	B	B	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	26.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.781

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	2	2	0	1	2	0	1	2	0	1
Entry Pocket Length [ft]	300.00	100.00	300.00	200.00	100.00	200.00	300.00	100.00	200.00	500.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	300.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	129	55	474	219	51	48	223	336	271	414	989	335
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-3	27	0	-9	10	21	31	0	-10	-38	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	150	0	0	17	0	0	81	0	0	101
Total Hourly Volume [veh/h]	129	52	351	219	42	41	244	367	190	404	951	234
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	15	101	63	12	12	70	105	55	116	273	67
Total Analysis Volume [veh/h]	148	60	403	252	48	47	280	422	218	464	1093	269
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	153
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	1	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups			1,4									
Maximum Green [s]	0	35	25	0	40	0	25	45	0	25	44	0
Amber [s]	0.0	3.2	3.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.5	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	28	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.2	1.5	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	150.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	29	0	45	0	29	50	0	29	50	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	5	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	2.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No	No		No		No	No		No	No	
Maximum Recall		No	No		No		No	No		No	No	
Pedestrian Recall		No	No		No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	86	86	86	86	86	86	86	86	86	86	86	86
L, Total Lost Time per Cycle [s]	4.20	4.20	3.50	4.20	4.20	4.20	3.50	5.30	5.30	3.50	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	0.00	2.20	2.20	2.20	1.50	3.30	3.30	1.50	4.00	4.00
g_i, Effective Green Time [s]	10	10	49	16	16	16	9	28	28	14	33	33
g / C, Green / Cycle	0.12	0.12	0.57	0.19	0.19	0.19	0.11	0.33	0.33	0.17	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.08	0.03	0.14	0.13	0.03	0.03	0.08	0.12	0.14	0.13	0.31	0.17
s, saturation flow rate [veh/h]	1781	1870	2813	1907	1870	1589	3459	3560	1589	3459	3560	1589
c, Capacity [veh/h]	212	223	1601	392	346	294	369	1171	523	579	1358	606
d1, Uniform Delay [s]	36.53	34.60	9.36	34.97	29.43	29.55	37.48	22.06	22.53	34.57	23.84	19.89
k, delay calibration	0.13	0.13	0.04	0.13	0.13	0.13	0.04	0.11	0.11	0.04	0.14	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.05	0.80	0.03	2.21	0.23	0.31	1.21	0.19	0.53	1.00	1.50	0.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.27	0.25	0.64	0.14	0.16	0.76	0.36	0.42	0.80	0.80	0.44
d, Delay for Lane Group [s/veh]	41.58	35.40	9.39	37.18	29.66	29.86	38.69	22.24	23.06	35.57	25.33	20.54
Lane Group LOS	D	D	A	D	C	C	D	C	C	D	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.24	1.18	1.75	2.61	0.84	0.83	2.88	3.19	3.41	4.65	9.70	3.98
50th-Percentile Queue Length [ft/ln]	80.97	29.47	43.87	65.37	21.01	20.76	72.07	79.73	85.28	116.34	242.48	99.44
95th-Percentile Queue Length [veh/ln]	5.83	2.12	3.16	4.71	1.51	1.49	5.19	5.74	6.14	8.19	14.81	7.16
95th-Percentile Queue Length [ft/ln]	145.75	53.04	78.97	117.66	37.82	37.37	129.73	143.51	153.50	204.78	370.17	178.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.58	35.40	9.39	37.18	29.66	29.86	38.69	22.24	23.06	35.57	25.33	20.54
Movement LOS	D	D	A	D	C	C	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	19.74			35.15			27.44			27.23		
Approach LOS	B			D			C			C		
d_I, Intersection Delay [s/veh]	26.79											
Intersection LOS	C											
Intersection V/C	0.781											

Emissions

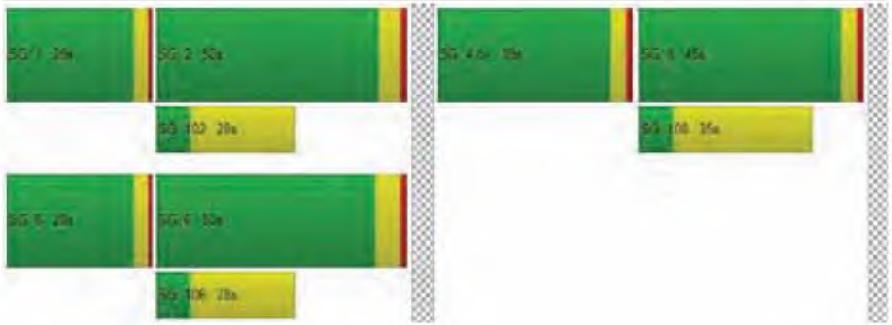
Vehicle Miles Traveled [mph]	253.80	102.89	691.08	51.09	9.73	9.53	98.04	147.77	76.33	209.37	493.19	121.38
Stops [stops/h]	135.22	49.21	146.53	218.32	35.08	34.67	240.71	266.28	142.40	388.55	809.84	166.05
Fuel consumption [US gal/h]	12.45	4.94	30.03	5.22	0.88	0.87	7.57	9.46	4.95	14.12	30.41	7.04
CO [g/h]	870.06	345.29	2099.02	364.60	61.80	60.77	529.19	661.56	346.17	987.26	2125.80	492.01
NOx [g/h]	169.28	67.18	408.39	70.94	12.02	11.82	102.96	128.72	67.35	192.08	413.60	95.73
VOC [g/h]	201.65	80.02	486.47	84.50	14.32	14.08	122.64	153.32	80.23	228.81	492.68	114.03

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			0.0		
M_corner, Corner Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	32.82			32.82			32.82			0.00		
l_p,int, Pedestrian LOS Score for Intersectio	2.919			2.649			3.028			0.000		
Crosswalk LOS	C			B			C			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	807			946			1037			1021		
d_b, Bicycle Delay [s]	15.34			11.97			10.00			10.34		
l_b,int, Bicycle LOS Score for Intersection	2.815			2.160			2.385			3.149		
Bicycle LOS	C			B			B			C		

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 22: White Rock Rd/Clarksville Crossing

Control Type:	Signalized	Delay (sec / veh):	42.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.936

Intersection Setup

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	460.00	100.00	100.00	290.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	0	0	5	4	0	354	3	1026	0	4	1384	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	58	0	0	-48	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	5	4	0	354	3	1084	0	4	1336	31
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	2	1	0	113	1	347	0	1	428	10
Total Analysis Volume [veh/h]	0	0	6	5	0	454	4	1390	0	5	1713	40
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	20	0	0	20	0	20	50	0	20	50	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	5.0	0.0	4.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	5.0	0.0	3.0	5.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	R
C, Cycle Length [s]	92	92	92	92	92	92	92	92	92	92
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	7.00	7.00	5.00	7.00	7.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	5.00	5.00	3.00	5.00	5.00
g_i, Effective Green Time [s]	1	1	20	20	1	48	48	1	49	49
g / C, Green / Cycle	0.01	0.01	0.22	0.22	0.01	0.53	0.53	0.01	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.00	0.29	0.00	0.37	0.37	0.00	0.48	0.03
s, saturation flow rate [veh/h]	1870	1589	1781	1589	1781	1870	1870	1781	3560	1589
c, Capacity [veh/h]	15	13	387	346	10	987	987	12	1884	841
d1, Uniform Delay [s]	0.00	45.38	28.21	35.96	45.54	16.30	16.30	45.45	19.64	10.45
k, delay calibration	0.11	0.11	0.11	0.50	0.11	0.20	0.20	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	23.17	0.01	159.95	22.53	1.74	1.74	19.52	1.97	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.46	0.01	1.31	0.39	0.70	0.70	0.40	0.91	0.05
d, Delay for Lane Group [s/veh]	0.00	68.55	28.23	195.91	68.06	18.04	18.04	64.97	21.61	10.48
Lane Group LOS	A	E	C	F	E	B	B	E	C	B
Critical Lane Group	No	Yes	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.00	0.22	0.09	22.91	0.15	10.61	10.61	0.18	15.58	0.38
50th-Percentile Queue Length [ft/ln]	0.00	5.47	2.17	572.73	3.85	265.17	265.17	4.50	389.54	9.50
95th-Percentile Queue Length [veh/ln]	0.00	0.39	0.16	35.11	0.28	15.95	15.95	0.32	22.06	0.68
95th-Percentile Queue Length [ft/ln]	0.00	9.85	3.91	877.78	6.94	398.70	398.70	8.10	551.38	17.09

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	68.55	28.23	28.23	195.91	68.06	18.04	18.04	64.97	21.61	10.48
Movement LOS	A	A	E	C	C	F	E	B	B	E	C	B
d_A, Approach Delay [s/veh]	68.55			194.09			18.19			21.48		
Approach LOS	E			F			B			C		
d_I, Intersection Delay [s/veh]	42.19											
Intersection LOS	D											
Intersection V/C	0.936											

Emissions

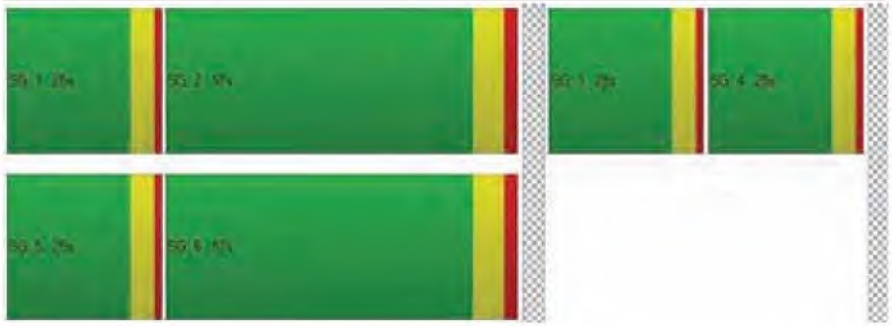
Vehicle Miles Traveled [mph]	0.00	0.30	2.37	215.36	1.80	313.60	313.60	0.87	298.82	6.98
Stops [stops/h]	0.00	8.59	3.41	898.25	6.04	415.89	415.89	7.06	1221.89	14.90
Fuel consumption [US gal/h]	0.00	0.14	0.15	31.93	0.16	17.76	17.76	0.14	26.59	0.45
CO [g/h]	0.00	10.03	10.15	2231.59	11.40	1241.39	1241.39	9.86	1858.42	31.79
NOx [g/h]	0.00	1.95	1.97	434.19	2.22	241.53	241.53	1.92	361.58	6.19
VOC [g/h]	0.00	2.32	2.35	517.19	2.64	287.70	287.70	2.28	430.71	7.37

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	436	436	1089	1089
d_b, Bicycle Delay [s]	28.09	28.09	9.52	9.52
l_b,int, Bicycle LOS Score for Intersection	1.570	2.317	2.710	3.010
Bicycle LOS	A	B	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 23: White Rock Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	11.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.563

Intersection Setup

Name	White Rock Rd			White Rock Rd			US 50 EB					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			No		

Volumes

Name	White Rock Rd			White Rock Rd			US 50 EB					
Base Volume Input [veh/h]	0	425	610	0	1303	320	243	0	116	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	10	45	0	-48	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	12	0	0	0
Total Hourly Volume [veh/h]	3	435	655	0	1255	320	243	0	104	0	0	0
Peak Hour Factor	0.8300	0.8300	1.0000	1.0000	0.8300	0.8300	0.8300	1.0000	0.8300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	131	164	0	378	96	73	0	31	0	0	0
Total Analysis Volume [veh/h]	4	524	655	0	1512	386	293	0	125	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	4	0	0	0	0	0
Auxiliary Signal Groups												
Maximum Green [s]	0	62	0	0	62	0	45	0	0	0	0	0
Amber [s]	0.0	5.0	0.0	0.0	5.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	5.0	0.0	0.0	5.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	0.0	245.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	69	0	0	69	0	51	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	9	0	0	9	0	8	0	0	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	1.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		Yes			Yes		No					
Maximum Recall		No			No		No					
Pedestrian Recall		No			No		No					

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	R	
C, Cycle Length [s]	120	120	120	120	120	120	120	
L, Total Lost Time per Cycle [s]	7.00	7.00	7.00	7.00	6.00	6.00	6.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	5.00	5.00	5.00	5.00	4.00	4.00	4.00	
g_i, Effective Green Time [s]	95	95	95	95	12	12	12	
g / C, Green / Cycle	0.79	0.79	0.79	0.79	0.10	0.10	0.10	
(v / s)_i Volume / Saturation Flow Rate	0.15	0.41	0.42	0.24	0.08	0.08	0.08	
s, saturation flow rate [veh/h]	3560	1589	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	2808	1254	2808	1254	183	183	164	
d1, Uniform Delay [s]	3.14	4.55	4.65	3.54	52.62	52.62	52.41	
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.15	1.56	0.74	0.64	3.04	3.04	2.79	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.19	0.52	0.54	0.31	0.80	0.80	0.76	
d, Delay for Lane Group [s/veh]	3.29	6.11	5.40	4.17	55.66	55.66	55.20	
Lane Group LOS	A	A	A	A	E	E	E	
Critical Lane Group	No	No	Yes	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	1.33	5.15	5.73	2.33	4.47	4.47	3.80	
50th-Percentile Queue Length [ft/ln]	33.20	128.79	143.15	58.27	111.78	111.78	94.88	
95th-Percentile Queue Length [veh/ln]	2.39	8.87	9.65	4.20	7.94	7.94	6.83	
95th-Percentile Queue Length [ft/ln]	59.76	221.84	241.25	104.88	198.47	198.47	170.79	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	3.29	6.11	0.00	5.40	4.17	55.66	0.00	55.20	0.00	0.00	0.00
Movement LOS		A	A		A	A	E		E			
d_A, Approach Delay [s/veh]		4.86			5.15		55.52			0.00		
Approach LOS		A			A		E			A		
d_I, Intersection Delay [s/veh]	11.07											
Intersection LOS	B											
Intersection V/C	0.563											

Emissions

Vehicle Miles Traveled [mph]	91.41	114.26	267.94	68.40	8.87	8.87	7.57	
Stops [stops/h]	79.68	154.54	343.55	69.92	134.13	134.13	113.86	
Fuel consumption [US gal/h]	4.55	6.37	14.59	3.53	2.77	2.77	2.34	
CO [g/h]	318.30	445.43	1019.78	246.75	193.30	193.30	163.89	
NOx [g/h]	61.93	86.66	198.41	48.01	37.61	37.61	31.89	
VOC [g/h]	73.77	103.23	236.34	57.19	44.80	44.80	37.98	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1033	1033	750	0
d_b, Bicycle Delay [s]	14.02	14.02	23.44	60.00
I_b,int, Bicycle LOS Score for Intersection	2.532	3.125	2.269	4.132
Bicycle LOS	B	C	B	D

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 24: Silva Valley Pkwy/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	49.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.016

Intersection Setup

Name	White Rock Rd			Silva Valley Pkwy			US 50 WB			US 50 WB		
Approach	Northbound			Southbound			Westbound			Northeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			No		

Volumes

Name	White Rock Rd			Silva Valley Pkwy			US 50 WB			US 50 WB		
Base Volume Input [veh/h]	0	590	78	0	518	719	1105	0	398	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	10	0	0	-10	0	-38	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	47	0	0	30	0	0	0
Total Hourly Volume [veh/h]	0	600	78	0	508	672	1067	0	368	0	0	0
Peak Hour Factor	0.7900	0.7900	1.0000	1.0000	0.7900	0.7900	0.7900	0.7900	0.7900	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	190	20	0	161	213	338	0	116	0	0	0
Total Analysis Volume [veh/h]	0	759	78	0	643	851	1351	0	466	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Maximum Green [s]	20	54	0	0	26	0	0	23	0	0	0	0
Amber [s]	3.7	4.8	0.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0
All red [s]	0.5	2.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
l2, Clearance Lost Time [s]	2.2	4.8	0.0	0.0	4.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	125	70	0	0	70	0	0	50	0	0	0	0
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	8	8	0	0	8	0	0	8	0	0	0	0
Vehicle Extension [s]	2.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		Yes			Yes			No				
Maximum Recall		No			No			No				
Pedestrian Recall		No			No			No				

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	R	
C, Cycle Length [s]	120	120	120	120	120	120	120	
L, Total Lost Time per Cycle [s]	6.80	6.80	6.80	6.80	5.80	5.80	5.80	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	4.80	4.80	4.80	4.80	3.80	3.80	3.80	
g_i, Effective Green Time [s]	63	63	63	63	44	44	44	
g / C, Green / Cycle	0.53	0.53	0.53	0.53	0.37	0.37	0.37	
(v / s)_i Volume / Saturation Flow Rate	0.21	0.05	0.18	0.54	0.38	0.38	0.29	
s, saturation flow rate [veh/h]	3560	1589	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	1875	837	1875	837	656	656	585	
d1, Uniform Delay [s]	17.08	14.14	16.41	28.40	37.90	37.90	33.87	
k, delay calibration	0.50	0.50	0.50	0.50	0.45	0.45	0.25	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.65	0.22	0.50	35.31	41.27	41.27	5.74	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.40	0.09	0.34	1.02	1.03	1.03	0.80	
d, Delay for Lane Group [s/veh]	17.74	14.36	16.91	63.71	79.17	79.17	39.61	
Lane Group LOS	B	B	B	F	F	F	D	
Critical Lane Group	No	No	No	Yes	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	6.39	1.11	5.19	31.01	26.39	26.39	12.91	
50th-Percentile Queue Length [ft/ln]	159.71	27.72	129.73	775.37	659.77	659.77	322.85	
95th-Percentile Queue Length [veh/ln]	10.53	2.00	8.93	40.70	35.56	35.56	18.81	
95th-Percentile Queue Length [ft/ln]	263.34	49.90	223.13	1017.52	888.92	888.92	470.18	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	17.74	14.36	0.00	16.91	63.71	79.17	79.17	39.61	0.00	0.00	0.00
Movement LOS		B	B		B	F	F	E	D			
d_A, Approach Delay [s/veh]		17.42			43.57			69.02			0.00	
Approach LOS		B			D			E			A	
d_I, Intersection Delay [s/veh]	49.44											
Intersection LOS	D											
Intersection V/C	1.016											

Emissions

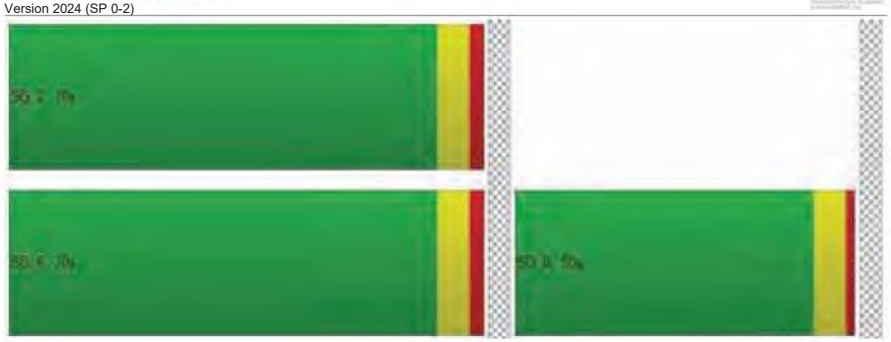
Vehicle Miles Traveled [mph]	134.50	13.82	87.92	116.36	44.36	44.36	30.60
Stops [stops/h]	383.30	33.27	311.35	930.44	791.72	791.72	387.41
Fuel consumption [US gal/h]	10.39	0.98	7.55	20.96	17.08	17.08	7.16
CO [g/h]	726.55	68.55	527.87	1465.33	1194.02	1194.02	500.22
NOx [g/h]	141.36	13.34	102.70	285.10	232.31	232.31	97.33
VOC [g/h]	168.38	15.89	122.34	339.61	276.72	276.72	115.93

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1053	1053	737	0
d_b, Bicycle Delay [s]	13.44	13.44	23.94	60.00
I_b,int, Bicycle LOS Score for Intersection	2.250	2.831	4.607	4.132
Bicycle LOS	B	C	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 25: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Base Volume Input [veh/h]	0	658	360	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	13	0	0	0	0
Site-Generated Trips [veh/h]	0	435	144	68	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	18	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1106	504	86	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	277	126	22	0	0
Total Analysis Volume [veh/h]	0	1106	504	86	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	11.71
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		11.71	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 26: Latrobe/Wetsl-Oviatt

Control Type:	Two-way stop	Delay (sec / veh):	15.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.069

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Base Volume Input [veh/h]	0	466	260	38	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-9	46	9	21	3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	457	306	47	25	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	114	77	12	6	1
Total Analysis Volume [veh/h]	0	457	306	47	25	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.07	0.00
d_M, Delay for Movement [s/veh]	7.99	0.00	0.00	0.00	15.65	10.72
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.22	0.22
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	5.57	5.57
d_A, Approach Delay [s/veh]	0.00		0.00		15.12	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.51					
Intersection LOS	C					

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Intersection Level Of Service Report
Intersection 27: Latrobe/S. Shingle

Control Type:	Two-way stop	Delay (sec / veh):	24.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.198

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Base Volume Input [veh/h]	6	241	41	52	127	9	48	87	0	37	75	47
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-29	0	23	3	23	10	0	0	0	0	10
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	212	41	75	130	32	58	87	0	37	75	57
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	53	10	19	33	8	15	22	0	9	19	14
Total Analysis Volume [veh/h]	6	212	41	75	130	32	58	87	0	37	75	57
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.06	0.00	0.00	0.20	0.21	0.00	0.12	0.18	0.07
d_M, Delay for Movement [s/veh]	7.55	0.00	0.00	7.84	0.00	0.00	24.27	20.82	15.97	21.04	18.40	14.07
Movement LOS	A	A	A	A	A	A	C	C	C	C	C	B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.14	0.14	0.14	1.95	1.95	1.95	1.69	1.69	1.69
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.26	3.39	3.39	3.39	48.83	48.83	48.83	42.32	42.32	42.32
d_A, Approach Delay [s/veh]	0.17			2.48			22.20			17.52		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	8.41											
Intersection LOS	C											

Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	1106	598	39	50
2	1073	580	38	49
3	1051	568	37	48
4	984	532	35	45
5	874	472	31	40
6	863	466	30	39
7	852	460	30	39
8	774	419	27	35
9	763	413	27	35
10	752	407	27	34
11	653	353	23	30
12	608	329	21	28
13	597	323	21	27
14	442	239	16	20
15	442	239	16	20
16	310	167	11	14
17	177	96	6	8
18	177	96	6	8
19	100	54	4	5
20	55	30	2	3
21	33	18	1	2
22	11	6	0	1
23	11	6	0	1
24	11	6	0	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1704	1	50	No	No	No	No	No	No	No	Yes	No	No
2	1	1653	1	49	No	No	No	No	No	No	No	Yes	No	No
3	1	1619	1	48	No	No	No	No	No	No	No	Yes	No	No
4	1	1516	1	45	No	No	No	No	No	No	No	Yes	No	No
5	1	1346	1	40	No	No	No	No	No	No	No	No	No	No
6	1	1329	1	39	No	No	No	No	No	No	No	No	No	No
7	1	1312	1	39	No	No	No	No	No	No	No	No	No	No
8	1	1193	1	35	No	No	No	No	No	No	No	No	No	No
9	1	1176	1	35	No	No	No	No	No	No	No	No	No	No
10	1	1159	1	34	No	No	No	No	No	No	No	No	No	No
11	1	1006	1	30	No	No	No	No	No	No	No	No	No	No
12	1	937	1	28	No	No	No	No	No	No	No	No	No	No
13	1	920	1	27	No	No	No	No	No	No	No	No	No	No
14	1	681	1	20	No	No	No	No	No	No	No	No	No	No
15	1	681	1	20	No	No	No	No	No	No	No	No	No	No
16	1	477	1	14	No	No	No	No	No	No	No	No	No	No
17	1	273	1	8	No	No	No	No	No	No	No	No	No	No
18	1	273	1	8	No	No	No	No	No	No	No	No	No	No
19	1	154	1	5	No	No	No	No	No	No	No	No	No	No
20	1	85	1	3	No	No	No	No	No	No	No	No	No	No
21	1	51	1	2	No	No	No	No	No	No	No	No	No	No
22	1	17	1	1	No	No	No	No	No	No	No	No	No	No
23	1	17	1	1	No	No	No	No	No	No	No	No	No	No
24	1	17	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	4	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	24.3	310.8
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:15	4:18
Delay Condition Met	No	Yes
Volume on Minor Street Approach During Same Hour	39	50
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1793	1793
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 12: Latrobe Rd/Royal Oaks Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	519	505	264	558
2	503	490	256	541
3	493	480	251	530
4	462	449	235	497
5	410	399	209	441
6	405	394	206	435
7	400	389	203	430
8	363	354	185	391
9	358	348	182	385
10	353	343	180	379
11	306	298	156	329
12	285	278	145	307
13	280	273	143	301
14	208	202	106	223
15	208	202	106	223
16	145	141	74	156
17	83	81	42	89
18	83	81	42	89
19	47	45	24	50
20	26	25	13	28
21	16	15	8	17
22	5	5	3	6
23	5	5	3	6
24	5	5	3	6

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1024	1	558	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	2	993	1	541	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	2	973	1	530	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	2	911	1	497	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	2	809	1	441	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
6	2	799	1	435	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
7	2	789	1	430	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
8	2	717	1	391	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
9	2	706	1	385	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
10	2	696	1	379	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
11	2	604	1	329	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
12	2	563	1	307	No	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
13	2	553	1	301	No	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
14	2	410	1	223	No	No	No	Yes	No	No	No	No	Yes	No
15	2	410	1	223	No	No	No	Yes	No	No	No	No	Yes	No
16	2	286	1	156	No	No	No	No	No	No	No	No	No	No
17	2	164	1	89	No	No	No	No	No	No	No	No	No	No
18	2	164	1	89	No	No	No	No	No	No	No	No	No	No
19	2	92	1	50	No	No	No	No	No	No	No	No	No	No
20	2	51	1	28	No	No	No	No	No	No	No	No	No	No
21	2	31	1	17	No	No	No	No	No	No	No	No	No	No
22	2	10	1	6	No	No	No	No	No	No	No	No	No	No
23	2	10	1	6	No	No	No	No	No	No	No	No	No	No
24	2	10	1	6	No	No	No	No	No	No	No	No	No	No
Hours Met					11	13	13	15	4	7	10	13	15	13

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	21.3	3182.4
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:33	493:16
Delay Condition Met	No	Yes
Volume on Minor Street Approach During Same Hour	264	558
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	1846	1846
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	Yes
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 13: Golden Foothill/Robert J Mathews

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	1095	255	478
2	1062	247	464
3	1040	242	454
4	975	227	425
5	865	201	378
6	854	199	373
7	843	196	368
8	767	179	335
9	756	176	330
10	745	173	325
11	646	150	282
12	602	140	263
13	591	138	258
14	438	102	191
15	438	102	191
16	307	71	134
17	175	41	76
18	175	41	76
19	99	23	43
20	55	13	24
21	33	8	14
22	11	3	5
23	11	3	5
24	11	3	5

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1350	1	478	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1309	1	464	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1282	1	454	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1202	1	425	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	1066	1	378	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	1053	1	373	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1	1039	1	368	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	1	946	1	335	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	1	932	1	330	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	1	918	1	325	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	1	796	1	282	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
12	1	742	1	263	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
13	1	729	1	258	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
14	1	540	1	191	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
15	1	540	1	191	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
16	1	378	1	134	No	No	Yes	Yes	No	No	No	No	No	No
17	1	216	1	76	No	No	No	No	No	No	No	No	No	No
18	1	216	1	76	No	No	No	No	No	No	No	No	No	No
19	1	122	1	43	No	No	No	No	No	No	No	No	No	No
20	1	68	1	24	No	No	No	No	No	No	No	No	No	No
21	1	41	1	14	No	No	No	No	No	No	No	No	No	No
22	1	14	1	5	No	No	No	No	No	No	No	No	No	No
23	1	14	1	5	No	No	No	No	No	No	No	No	No	No
24	1	14	1	5	No	No	No	No	No	No	No	No	No	No
Hours Met					15	15	16	16	11	13	15	15	13	10

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	148.8
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	19:45
Delay Condition Met	Yes
Volume on Minor Street Approach During Same Hour	478
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1828
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	Yes
Warrant Met for Intersection	**Yes**

Signal Warrants Report For Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	128	746	112	49
2	124	724	109	48
3	122	709	106	47
4	114	664	100	44
5	101	589	88	39
6	100	582	87	38
7	99	574	86	38
8	90	522	78	34
9	88	515	77	34
10	87	507	76	33
11	76	440	66	29
12	70	410	62	27
13	69	403	60	26
14	51	298	45	20
15	51	298	45	20
16	36	209	31	14
17	20	119	18	8
18	20	119	18	8
19	12	67	10	4
20	6	37	6	2
21	4	22	3	1
22	1	7	1	0
23	1	7	1	0
24	1	7	1	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	874	1	112	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
2	1	848	1	109	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
3	1	831	1	106	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
4	1	778	1	100	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
5	1	690	1	88	No	No	No	Yes	No	Yes	Yes	Yes	No	No
6	1	682	1	87	No	No	No	Yes	No	Yes	Yes	Yes	No	No
7	1	673	1	86	No	No	No	Yes	No	Yes	Yes	Yes	No	No
8	1	612	1	78	No	No	No	No	No	Yes	Yes	Yes	No	No
9	1	603	1	77	No	No	No	No	No	Yes	Yes	Yes	No	No
10	1	594	1	76	No	No	No	No	No	No	Yes	Yes	No	No
11	1	516	1	66	No	No	No	No	No	No	No	Yes	No	No
12	1	480	1	62	No	No	No	No	No	No	No	Yes	No	No
13	1	472	1	60	No	No	No	No	No	No	No	Yes	No	No
14	1	349	1	45	No	No	No	No	No	No	No	No	No	No
15	1	349	1	45	No	No	No	No	No	No	No	No	No	No
16	1	245	1	31	No	No	No	No	No	No	No	No	No	No
17	1	139	1	18	No	No	No	No	No	No	No	No	No	No
18	1	139	1	18	No	No	No	No	No	No	No	No	No	No
19	1	79	1	10	No	No	No	No	No	No	No	No	No	No
20	1	43	1	6	No	No	No	No	No	No	No	No	No	No
21	1	26	1	3	No	No	No	No	No	No	No	No	No	No
22	1	8	1	1	No	No	No	No	No	No	No	No	No	No
23	1	8	1	1	No	No	No	No	No	No	No	No	No	No
24	1	8	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	3	7	4	9	10	13	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	10.5	10.3
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:19	0:08
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	112	49
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1035	1035
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	255	349	248
2	247	339	241
3	242	332	236
4	227	311	221
5	201	276	196
6	199	272	193
7	196	269	191
8	179	244	174
9	176	241	171
10	173	237	169
11	150	206	146
12	140	192	136
13	138	188	134
14	102	140	99
15	102	140	99
16	71	98	69
17	41	56	40
18	41	56	40
19	23	31	22
20	13	17	12
21	8	10	7
22	3	3	2
23	3	3	2
24	3	3	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	604	2	248	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
2	2	586	2	241	No	Yes	Yes	Yes	No	No	No	Yes	No	No
3	2	574	2	236	No	Yes	Yes	Yes	No	No	No	Yes	No	No
4	2	538	2	221	No	Yes	Yes	Yes	No	No	No	Yes	No	No
5	2	477	2	196	No	No	Yes	Yes	No	No	No	No	No	No
6	2	471	2	193	No	No	Yes	Yes	No	No	No	No	No	No
7	2	465	2	191	No	No	Yes	Yes	No	No	No	No	No	No
8	2	423	2	174	No	No	Yes	Yes	No	No	No	No	No	No
9	2	417	2	171	No	No	No	Yes	No	No	No	No	No	No
10	2	410	2	169	No	No	No	Yes	No	No	No	No	No	No
11	2	356	2	146	No	No	No	Yes	No	No	No	No	No	No
12	2	332	2	136	No	No	No	No	No	No	No	No	No	No
13	2	326	2	134	No	No	No	No	No	No	No	No	No	No
14	2	242	2	99	No	No	No	No	No	No	No	No	No	No
15	2	242	2	99	No	No	No	No	No	No	No	No	No	No
16	2	169	2	69	No	No	No	No	No	No	No	No	No	No
17	2	97	2	40	No	No	No	No	No	No	No	No	No	No
18	2	97	2	40	No	No	No	No	No	No	No	No	No	No
19	2	54	2	22	No	No	No	No	No	No	No	No	No	No
20	2	30	2	12	No	No	No	No	No	No	No	No	No	No
21	2	18	2	7	No	No	No	No	No	No	No	No	No	No
22	2	6	2	2	No	No	No	No	No	No	No	No	No	No
23	2	6	2	2	No	No	No	No	No	No	No	No	No	No
24	2	6	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					1	4	8	11	0	0	0	4	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	19.1
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:18
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	248
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	852
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

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Signal Warrants Report For Intersection 16: Carson Crossing Rd/Calypso Cir.

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	408	247	262
2	396	240	254
3	388	235	249
4	363	220	233
5	322	195	207
6	318	193	204
7	314	190	202
8	286	173	183
9	282	170	181
10	277	168	178
11	241	146	155
12	224	136	144
13	220	133	141
14	163	99	105
15	163	99	105
16	114	69	73
17	65	40	42
18	65	40	42
19	37	22	24
20	20	12	13
21	12	7	8
22	4	2	3
23	4	2	3
24	4	2	3

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	655	1	262	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
2	2	636	1	254	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
3	2	623	1	249	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
4	2	583	1	233	No	Yes	Yes	Yes	No	No	No	Yes	No	No
5	2	517	1	207	No	Yes	Yes	Yes	No	No	No	Yes	No	No
6	2	511	1	204	No	Yes	Yes	Yes	No	No	No	Yes	No	No
7	2	504	1	202	No	Yes	Yes	Yes	No	No	No	Yes	No	No
8	2	459	1	183	No	No	Yes	Yes	No	No	No	No	No	No
9	2	452	1	181	No	No	Yes	Yes	No	No	No	No	No	No
10	2	445	1	178	No	No	Yes	Yes	No	No	No	No	No	No
11	2	387	1	155	No	No	No	Yes	No	No	No	No	No	No
12	2	360	1	144	No	No	No	Yes	No	No	No	No	No	No
13	2	353	1	141	No	No	No	Yes	No	No	No	No	No	No
14	2	262	1	105	No	No	No	No	No	No	No	No	No	No
15	2	262	1	105	No	No	No	No	No	No	No	No	No	No
16	2	183	1	73	No	No	No	No	No	No	No	No	No	No
17	2	105	1	42	No	No	No	No	No	No	No	No	No	No
18	2	105	1	42	No	No	No	No	No	No	No	No	No	No
19	2	59	1	24	No	No	No	No	No	No	No	No	No	No
20	2	32	1	13	No	No	No	No	No	No	No	No	No	No
21	2	19	1	8	No	No	No	No	No	No	No	No	No	No
22	2	6	1	3	No	No	No	No	No	No	No	No	No	No
23	2	6	1	3	No	No	No	No	No	No	No	No	No	No
24	2	6	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					3	7	10	13	0	0	2	7	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	28.7
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2:05
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	262
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	917
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 17: Carson Crossing Rd/Four Seasons Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	139	136	38
2	135	132	37
3	132	129	36
4	124	121	34
5	110	107	30
6	108	106	30
7	107	105	29
8	97	95	27
9	96	94	26
10	95	92	26
11	82	80	22
12	76	75	21
13	75	73	21
14	56	54	15
15	56	54	15
16	39	38	11
17	22	22	6
18	22	22	6
19	13	12	3
20	7	7	2
21	4	4	1
22	1	1	0
23	1	1	0
24	1	1	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	275	1	38	No	No	No	No	No	No	No	No	No	No
2	3	267	1	37	No	No	No	No	No	No	No	No	No	No
3	3	261	1	36	No	No	No	No	No	No	No	No	No	No
4	3	245	1	34	No	No	No	No	No	No	No	No	No	No
5	3	217	1	30	No	No	No	No	No	No	No	No	No	No
6	3	214	1	30	No	No	No	No	No	No	No	No	No	No
7	3	212	1	29	No	No	No	No	No	No	No	No	No	No
8	3	192	1	27	No	No	No	No	No	No	No	No	No	No
9	3	190	1	26	No	No	No	No	No	No	No	No	No	No
10	3	187	1	26	No	No	No	No	No	No	No	No	No	No
11	3	162	1	22	No	No	No	No	No	No	No	No	No	No
12	3	151	1	21	No	No	No	No	No	No	No	No	No	No
13	3	148	1	21	No	No	No	No	No	No	No	No	No	No
14	3	110	1	15	No	No	No	No	No	No	No	No	No	No
15	3	110	1	15	No	No	No	No	No	No	No	No	No	No
16	3	77	1	11	No	No	No	No	No	No	No	No	No	No
17	3	44	1	6	No	No	No	No	No	No	No	No	No	No
18	3	44	1	6	No	No	No	No	No	No	No	No	No	No
19	3	25	1	3	No	No	No	No	No	No	No	No	No	No
20	3	14	1	2	No	No	No	No	No	No	No	No	No	No
21	3	8	1	1	No	No	No	No	No	No	No	No	No	No
22	3	2	1	0	No	No	No	No	No	No	No	No	No	No
23	3	2	1	0	No	No	No	No	No	No	No	No	No	No
24	3	2	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	8.3
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:05
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	38
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	313
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 25: New Intersection

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	1106	590	0
2	1073	572	0
3	1051	561	0
4	984	525	0
5	874	466	0
6	863	460	0
7	852	454	0
8	774	413	0
9	763	407	0
10	752	401	0
11	653	348	0
12	608	325	0
13	597	319	0
14	442	236	0
15	442	236	0
16	310	165	0
17	177	94	0
18	177	94	0
19	100	53	0
20	55	30	0
21	33	18	0
22	11	6	0
23	11	6	0
24	11	6	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1696	1	0	No	No	No	No	No	No	No	No	No	No
2	1	1645	1	0	No	No	No	No	No	No	No	No	No	No
3	1	1612	1	0	No	No	No	No	No	No	No	No	No	No
4	1	1509	1	0	No	No	No	No	No	No	No	No	No	No
5	1	1340	1	0	No	No	No	No	No	No	No	No	No	No
6	1	1323	1	0	No	No	No	No	No	No	No	No	No	No
7	1	1306	1	0	No	No	No	No	No	No	No	No	No	No
8	1	1187	1	0	No	No	No	No	No	No	No	No	No	No
9	1	1170	1	0	No	No	No	No	No	No	No	No	No	No
10	1	1153	1	0	No	No	No	No	No	No	No	No	No	No
11	1	1001	1	0	No	No	No	No	No	No	No	No	No	No
12	1	933	1	0	No	No	No	No	No	No	No	No	No	No
13	1	916	1	0	No	No	No	No	No	No	No	No	No	No
14	1	678	1	0	No	No	No	No	No	No	No	No	No	No
15	1	678	1	0	No	No	No	No	No	No	No	No	No	No
16	1	475	1	0	No	No	No	No	No	No	No	No	No	No
17	1	271	1	0	No	No	No	No	No	No	No	No	No	No
18	1	271	1	0	No	No	No	No	No	No	No	No	No	No
19	1	153	1	0	No	No	No	No	No	No	No	No	No	No
20	1	85	1	0	No	No	No	No	No	No	No	No	No	No
21	1	51	1	0	No	No	No	No	No	No	No	No	No	No
22	1	17	1	0	No	No	No	No	No	No	No	No	No	No
23	1	17	1	0	No	No	No	No	No	No	No	No	No	No
24	1	17	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	11.7
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1696
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 26: Latrobe/Wetsl-Oviatt

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	457	353	28
2	443	342	27
3	434	335	27
4	407	314	25
5	361	279	22
6	356	275	22
7	352	272	22
8	320	247	20
9	315	244	19
10	311	240	19
11	270	208	17
12	251	194	15
13	247	191	15
14	183	141	11
15	183	141	11
16	128	99	8
17	73	56	4
18	73	56	4
19	41	32	3
20	23	18	1
21	14	11	1
22	5	4	0
23	5	4	0
24	5	4	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	810	1	28	No	No	No	No	No	No	No	No	No	No
2	1	785	1	27	No	No	No	No	No	No	No	No	No	No
3	1	769	1	27	No	No	No	No	No	No	No	No	No	No
4	1	721	1	25	No	No	No	No	No	No	No	No	No	No
5	1	640	1	22	No	No	No	No	No	No	No	No	No	No
6	1	631	1	22	No	No	No	No	No	No	No	No	No	No
7	1	624	1	22	No	No	No	No	No	No	No	No	No	No
8	1	567	1	20	No	No	No	No	No	No	No	No	No	No
9	1	559	1	19	No	No	No	No	No	No	No	No	No	No
10	1	551	1	19	No	No	No	No	No	No	No	No	No	No
11	1	478	1	17	No	No	No	No	No	No	No	No	No	No
12	1	445	1	15	No	No	No	No	No	No	No	No	No	No
13	1	438	1	15	No	No	No	No	No	No	No	No	No	No
14	1	324	1	11	No	No	No	No	No	No	No	No	No	No
15	1	324	1	11	No	No	No	No	No	No	No	No	No	No
16	1	227	1	8	No	No	No	No	No	No	No	No	No	No
17	1	129	1	4	No	No	No	No	No	No	No	No	No	No
18	1	129	1	4	No	No	No	No	No	No	No	No	No	No
19	1	73	1	3	No	No	No	No	No	No	No	No	No	No
20	1	41	1	1	No	No	No	No	No	No	No	No	No	No
21	1	25	1	1	No	No	No	No	No	No	No	No	No	No
22	1	9	1	0	No	No	No	No	No	No	No	No	No	No
23	1	9	1	0	No	No	No	No	No	No	No	No	No	No
24	1	9	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	15.1
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:07
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	28
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	838
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

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Signal Warrants Report For Intersection 27: Latrobe/S. Shingle

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

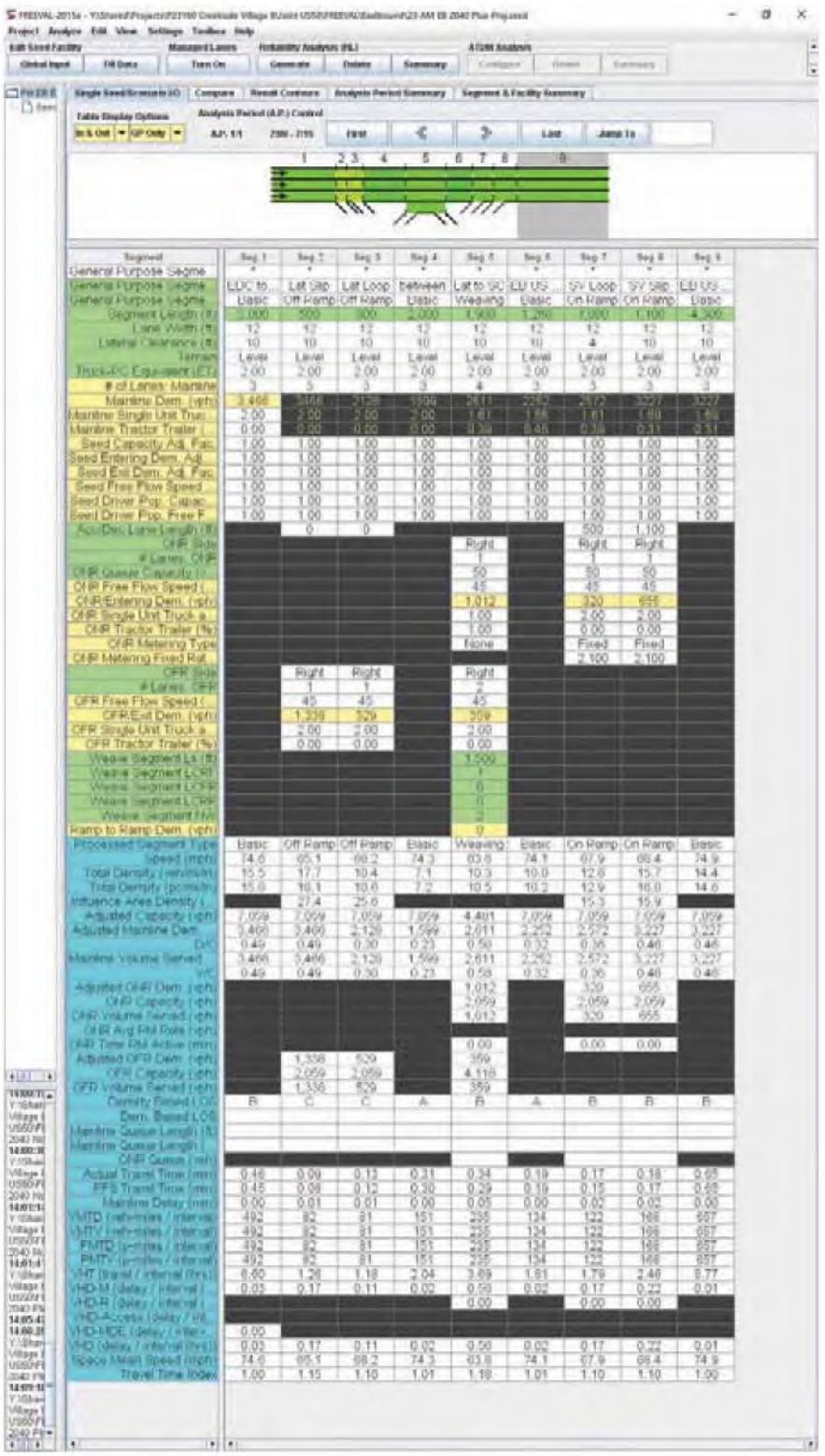
Hour	Major Streets		Minor Streets	
	S	N	E	W
1	259	237	169	145
2	251	230	164	141
3	246	225	161	138
4	231	211	150	129
5	205	187	134	115
6	202	185	132	113
7	199	182	130	112
8	181	166	118	102
9	179	164	117	100
10	176	161	115	99
11	153	140	100	86
12	142	130	93	80
13	140	128	91	78
14	104	95	68	58
15	104	95	68	58
16	73	66	47	41
17	41	38	27	23
18	41	38	27	23
19	23	21	15	13
20	13	12	8	7
21	8	7	5	4
22	3	2	2	1
23	3	2	2	1
24	3	2	2	1

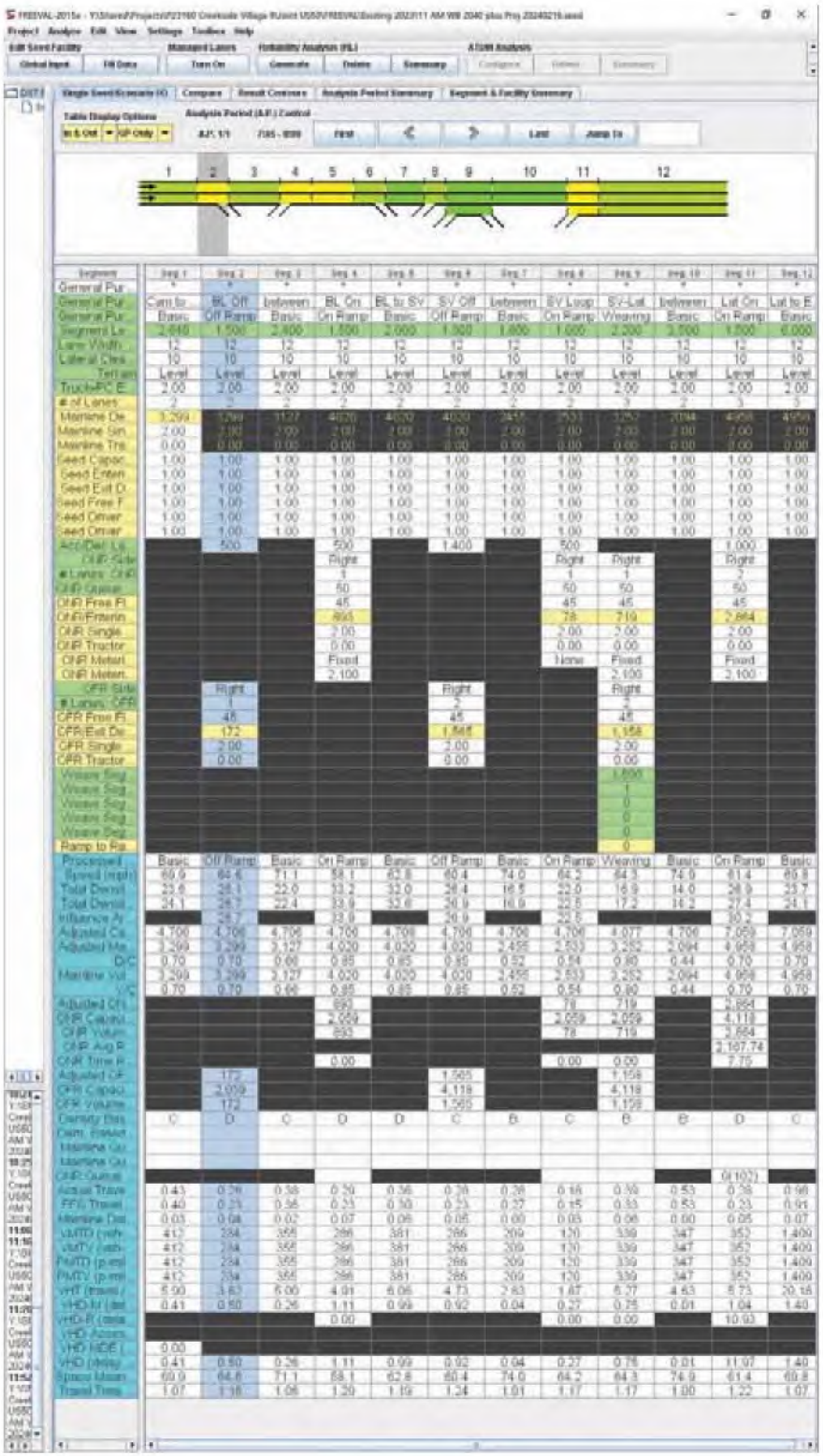
Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	496	1	169	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
2	1	481	1	164	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
3	1	471	1	161	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
4	1	442	1	150	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
5	1	392	1	134	No	No	Yes	Yes	No	No	No	No	No	No
6	1	387	1	132	No	No	Yes	Yes	No	No	No	No	No	No
7	1	381	1	130	No	No	Yes	Yes	No	No	No	No	No	No
8	1	347	1	118	No	No	No	Yes	No	No	No	No	No	No
9	1	343	1	117	No	No	No	Yes	No	No	No	No	No	No
10	1	337	1	115	No	No	No	Yes	No	No	No	No	No	No
11	1	293	1	100	No	No	No	Yes	No	No	No	No	No	No
12	1	272	1	93	No	No	No	No	No	No	No	No	No	No
13	1	268	1	91	No	No	No	No	No	No	No	No	No	No
14	1	199	1	68	No	No	No	No	No	No	No	No	No	No
15	1	199	1	68	No	No	No	No	No	No	No	No	No	No
16	1	139	1	47	No	No	No	No	No	No	No	No	No	No
17	1	79	1	27	No	No	No	No	No	No	No	No	No	No
18	1	79	1	27	No	No	No	No	No	No	No	No	No	No
19	1	44	1	15	No	No	No	No	No	No	No	No	No	No
20	1	25	1	8	No	No	No	No	No	No	No	No	No	No
21	1	15	1	5	No	No	No	No	No	No	No	No	No	No
22	1	5	1	2	No	No	No	No	No	No	No	No	No	No
23	1	5	1	2	No	No	No	No	No	No	No	No	No	No
24	1	5	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	11	0	0	0	4	4	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	17.5	22.2
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:49	0:53
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	169	145
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	810	810
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	





Cumulative PM plus Project

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Scenario 6 2040 PM with CCSP, + Project
2/14/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	El Dorado Hills Blvd/Serrano Pkwy	Signalized	HCM 7th Edition	NB Thru	0.979	59.2	E
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	NB Left	0.988	68.2	E
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	NB Left	1.074	70.7	E
4	Latrobe Rd/US 50 EB	Signalized	HCM 7th Edition	EB Right	0.998	67.9	E
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	SB Left	1.039	77.0	E
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	NB Left	0.843	49.1	D
7	Latrobe Rd/Golden Foothill Pkwy N	Signalized	HCM 7th Edition	SB Left	0.862	25.3	C
8	Latrobe Rd/Suncast Ln	Signalized	HCM 7th Edition	SB Right	1.064	68.3	E
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	SB Left	1.231	207.0	F
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	SB Thru	1.069	83.9	F
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	EB Left	0.961	311.1	F
12	Latrobe Rd/Royal Oaks Dr	Two-way stop	HCM 7th Edition	EB Left	7.067	2,977.7	F
13	Golden Foothill/Robert J Mathews	Two-way stop	HCM 7th Edition	NB Left	55.000	10,000.0	F
14	Investment Blvd/Robert J Mathews Pkwy	All-way stop	HCM 7th Edition	SB Thru	0.952	36.5	E
15	Golden Foothill Pkwy/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.526	25.6	D
16	Carson Crossing Rd/Calypso Cir.	Two-way stop	HCM 7th Edition	NB Left	0.999	170.2	F
17	Carson Crossing Rd/Four Seasons Dr	All-way stop	HCM 7th Edition	NB Thru	0.197	8.7	A
18	White Rock Rd/Carson Crossing Rd	Signalized	HCM 7th Edition	EB Left	0.546	16.9	B
19	White Rock Rd/Windfield Way	Signalized	HCM 7th Edition	SB Thru	0.640	34.8	C
20	White Rock Rd/Post St	Signalized	HCM 7th Edition	WB Left	0.672	43.9	D
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 7th Edition	EB Left	0.894	33.7	C
22	White Rock Rd/Clarksville Crossing	Signalized	HCM 7th Edition	SB Right	1.001	55.7	E
23	White Rock Rd/US 50 EB	Signalized	HCM 7th Edition	NB Right	1.059	36.2	D
24	Silva Valley Pkwy/US 50 WB	Signalized	HCM 7th Edition	WB Left	0.757	28.2	C
25	New Intersection	Two-way stop	HCM 7th Edition	SB Thru	0.010	0.0	A
26	Latrobe/Wetsl-Oviatt	Two-way stop	HCM 7th Edition	EB Left	0.130	18.1	C
27	Latrobe/S. Shingle	Two-way stop	HCM 7th Edition	EB Left	0.136	23.0	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: El Dorado Hills Blvd/Serrano Pkwy

Control Type:	Signalized	Delay (sec / veh):	59.2
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.979

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	260.0	100.0	100.0	100.0	110.00	100.00	100.00	100.00	100.00	100.00	430.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No			No		
Crosswalk	No				Yes			Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Base Volume Input [veh/h]	3	131	1772	406	35	1147	74	62	29	110	339	66	22
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-30	0	0	27	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	22	0	0	33	0	0	7
Total Hourly Volume [veh/h]	3	131	1742	406	35	1174	52	62	29	77	339	66	15
Peak Hour Factor	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	38	501	117	10	337	15	18	8	22	97	19	4
Total Analysis Volume [veh/h]	3	151	2002	467	40	1349	60	71	33	89	390	76	17
Presence of On-Street Parking	No			No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	1	6	0	7	7	0	0	8	0
Auxiliary Signal Groups													
Maximum Green [s]	0	25	40	0	25	40	0	35	35	0	0	35	0
Amber [s]	0.0	3.0	4.7	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	12	0	0	12	0	0	0	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	100.0	245.0	0.0	100.0	100.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	29	46	0	29	46	0	39	39	0	0	39	0
Lead / Lag	-	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	3	6	0	3	3	0	3	3	0	0	3	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	4.0	0.0
Minimum Recall		No	No		No	No			No			No	
Maximum Recall		No	No		No	No			No			No	
Pedestrian Recall		No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	41	41	2	34	34	8	8	15	15
g / C, Green / Cycle	0.11	0.49	0.49	0.03	0.41	0.41	0.10	0.10	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.09	0.56	0.29	0.02	0.38	0.38	0.04	0.07	0.14	0.14
s, saturation flow rate [veh/h]	1781	3560	1589	1781	1870	1842	1781	1657	1781	1793
c, Capacity [veh/h]	191	1729	772	51	760	749	174	162	319	321
d1, Uniform Delay [s]	36.93	21.78	15.86	40.89	24.00	24.05	35.90	37.21	32.98	32.98
k, delay calibration	0.04	0.08	0.10	0.04	0.26	0.26	0.04	0.04	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.01	72.18	0.74	9.79	11.89	12.49	0.57	2.67	5.10	5.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	1.16	0.60	0.79	0.93	0.93	0.41	0.75	0.75	0.75
d, Delay for Lane Group [s/veh]	39.94	93.95	16.60	50.68	35.89	36.54	36.47	39.88	38.08	38.05
Lane Group LOS	D	F	B	D	D	D	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.09	31.65	5.79	0.93	14.34	14.32	1.38	2.53	5.01	5.04
50th-Percentile Queue Length [ft/ln]	77.31	791.31	144.74	23.13	358.55	358.02	34.53	63.26	125.34	126.09
95th-Percentile Queue Length [veh/ln]	5.57	45.44	9.74	1.67	20.55	20.53	2.49	4.55	8.69	8.73
95th-Percentile Queue Length [ft/ln]	139.17	1135.90	243.40	41.63	513.82	513.17	62.15	113.87	217.15	218.17

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.94	39.94	93.95	16.60	50.68	36.20	36.54	36.47	39.88	39.88	38.07	38.05	38.05
Movement LOS	D	D	F	B	D	D	D	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	77.01				36.61			38.63			38.07		
Approach LOS	E				D			D			D		
d_I, Intersection Delay [s/veh]	59.16												
Intersection LOS	E												
Intersection V/C	0.979												

Emissions

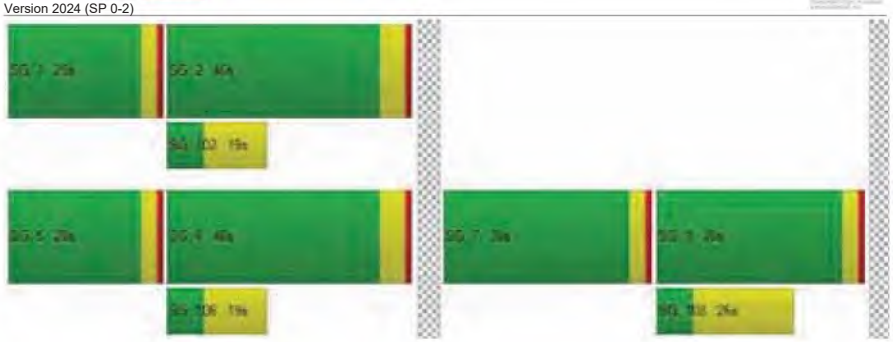
Vehicle Miles Traveled [mph]	36.78	478.14	111.53	5.88	104.17	102.99	3.03	5.21	12.60	12.68
Stops [stops/h]	131.71	2696.09	246.58	39.40	610.81	609.91	58.82	107.77	213.53	214.80
Fuel consumption [US gal/h]	4.15	88.18	8.47	1.10	16.34	16.32	0.98	1.80	3.56	3.58
CO [g/h]	290.08	6163.97	591.80	77.17	1142.16	1140.94	68.28	125.82	249.09	250.57
NOx [g/h]	56.44	1199.28	115.14	15.01	222.22	221.98	13.28	24.48	48.46	48.75
VOC [g/h]	67.23	1428.56	137.16	17.88	264.71	264.42	15.82	29.16	57.73	58.07

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	31.98	31.98	31.98
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.371	2.157	2.281
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	954	954	828	828
d_b, Bicycle Delay [s]	11.57	11.57	14.51	14.51
l_b,int, Bicycle LOS Score for Intersection	3.721	2.773	1.933	2.368
Bicycle LOS	D	C	A	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	68.2
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.988

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	500.0	100.0	100.0	100.0	500.0	100.0	100.0	300.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	5	445	1623	173	4	218	1176	198	390	53	619	69	107	295
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-13	-30	0	0	0	27	0	0	0	14	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	52	0	0	0	59	0	0	190	0	0	89
Total Hourly Volume [veh/h]	5	432	1593	121	4	218	1203	139	390	53	443	69	107	206
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	116	428	33	1	59	323	37	105	14	119	19	29	55
Total Analysis Volume [veh/h]	5	465	1713	130	4	234	1294	149	419	57	476	74	115	222
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Overlap	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	5	3	8	0
Auxiliary Signal Groups											5,7			
Maximum Green [s]	0	20	50	0	0	20	50	0	20	20	20	0	20	0
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	14	0	0	0	24	0	0	0	0	0	31	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	2.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	0	24	56	0	24	24	24	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	4	0	5	0
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No	No		No	
Maximum Recall		No	No			No	No			No	No		No	
Pedestrian Recall		No	No			No	No			No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Cycle Length [s]	121	121	121	121	121	121	121	121	121	121	121
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	20	47	47	18	45	45	18	18	66	20	20
g / C, Green / Cycle	0.16	0.39	0.39	0.15	0.37	0.37	0.15	0.15	0.55	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.26	0.34	0.35	0.13	0.25	0.09	0.13	0.13	0.17	0.08	0.20
s, saturation flow rate [veh/h]	1783	3560	1804	1781	5094	1589	1781	1801	2813	918	1675
c, Capacity [veh/h]	323	1385	701	265	1901	593	270	274	1539	195	276
d1, Uniform Delay [s]	53.39	34.48	34.71	50.78	31.99	26.34	50.43	50.35	15.00	47.94	50.74
k, delay calibration	0.25	0.13	0.34	0.26	0.13	0.13	0.26	0.25	0.04	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	212.48	2.38	11.52	21.10	0.52	0.27	18.69	17.17	0.04	0.45	127.89
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.45	0.88	0.89	0.90	0.68	0.25	0.88	0.87	0.31	0.38	1.22
d, Delay for Lane Group [s/veh]	265.87	36.86	46.23	71.88	32.52	26.60	69.11	67.52	15.04	48.39	178.63
Lane Group LOS	F	D	D	E	C	C	E	E	B	D	F
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	14.42	16.23	18.53	8.46	10.26	2.93	8.46	8.36	3.55	2.10	18.14
50th-Percentile Queue Length [ft/ln]	360.48	405.80	463.18	211.43	256.40	73.34	211.55	208.97	88.85	52.57	453.52
95th-Percentile Queue Length [veh/ln]	23.85	22.84	25.59	13.23	15.51	5.28	13.23	13.10	6.40	3.79	27.55
95th-Percentile Queue Length [ft/ln]	596.23	570.98	639.65	330.67	387.70	132.01	330.82	327.51	159.93	94.63	688.72

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	265.8	265.8	39.57	46.23	71.88	71.88	32.52	26.60	68.42	67.52	15.04	48.39	178.63	178.63
Movement LOS	F	F	D	D	E	E	C	C	E	E	B	D	F	F
d_A, Approach Delay [s/veh]	85.93				37.57				41.68			155.18		
Approach LOS	F				D				D			F		
d_I, Intersection Delay [s/veh]	68.20													
Intersection LOS	E													
Intersection V/C	0.988													

Emissions

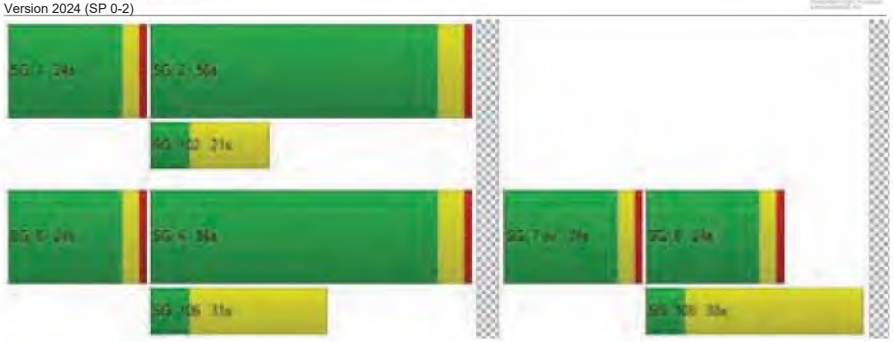
Vehicle Miles Traveled [mph]	88.45	229.27	117.57	56.84	309.05	35.59	14.84	14.85	29.69	3.61	16.43
Stops [stops/h]	855.56	963.11	549.65	250.91	912.81	87.03	251.05	247.99	210.87	62.39	538.19
Fuel consumption [US gal/h]	39.09	28.97	16.74	8.55	30.51	3.11	5.34	5.25	3.84	1.22	15.90
CO [g/h]	2732.60	2025.16	1170.17	597.57	2132.35	217.28	373.48	367.17	268.73	85.40	1111.28
NOx [g/h]	531.66	394.02	227.67	116.27	414.88	42.28	72.67	71.44	52.28	16.62	216.22
VOC [g/h]	633.31	469.35	271.20	138.49	494.19	50.36	86.56	85.09	62.28	19.79	257.55

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	50.17	50.17	50.17
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.588	3.720	2.397
Crosswalk LOS	F	D	D	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	829	829	330	330
d_b, Bicycle Delay [s]	20.80	20.80	42.32	42.32
l_b,int, Bicycle LOS Score for Intersection	2.858	2.388	3.444	2.385
Bicycle LOS	C	B	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	70.7
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.074

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1441	1689	425	0	37	1298	534	306	130	409	257	92	251
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-61	-43	-10	0	0	41	0	0	0	11	9	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	125	0	0	0	160	0	0	126	0	0	75
Total Hourly Volume [veh/h]	1	1380	1646	290	0	37	1339	374	306	130	294	266	92	176
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	345	412	73	0	9	335	94	77	33	74	67	23	44
Total Analysis Volume [veh/h]	1	1380	1646	290	0	37	1339	374	306	130	294	266	92	176
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	136
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	5	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	45	62	0	0	14	29	22	0	22	45	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	3.6	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	2.6	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	50	68	0	0	19	35	28	0	28	50	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	10	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	2.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	45	74	74	6	34	59	19	19	17	17	17
g / C, Green / Cycle	0.33	0.54	0.54	0.04	0.25	0.43	0.14	0.14	0.13	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.40	0.36	0.39	0.02	0.26	0.24	0.12	0.12	0.10	0.10	0.11
s, saturation flow rate [veh/h]	3459	3532	1723	1781	5053	1589	1781	1832	1781	1825	1589
c, Capacity [veh/h]	1155	1913	933	81	1277	684	250	257	223	228	199
d1, Uniform Delay [s]	45.28	22.30	23.31	63.30	50.81	28.83	57.16	57.15	57.81	57.78	58.54
k, delay calibration	0.10	0.50	0.50	0.04	0.50	0.50	0.16	0.16	0.17	0.17	0.24
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	89.77	1.83	4.66	1.51	38.81	3.12	12.10	11.78	9.80	9.25	23.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.20	0.66	0.71	0.46	1.05	0.55	0.86	0.86	0.80	0.79	0.89
d, Delay for Lane Group [s/veh]	135.05	24.14	27.97	64.81	89.61	31.95	69.26	68.94	67.61	67.03	81.62
Lane Group LOS	F	C	C	E	F	C	E	E	E	E	F
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	33.73	14.76	16.88	1.26	18.64	9.37	8.08	8.28	6.54	6.64	7.25
50th-Percentile Queue Length [ft/ln]	843.24	369.06	421.93	31.57	465.98	234.19	201.88	207.06	163.60	165.98	181.14
95th-Percentile Queue Length [veh/ln]	48.39	21.06	23.61	2.27	26.45	14.39	12.74	13.00	10.74	10.86	11.66
95th-Percentile Queue Length [ft/ln]	1209.64	526.59	590.37	56.82	661.37	359.68	318.39	325.05	268.49	271.62	291.50

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	135.0	135.0	25.01	27.97	64.81	64.81	89.61	31.95	69.17	68.94	0.00	67.41	67.03	81.62
Movement LOS	F	F	C	C	E	E	F	C	E	E		E	E	F
d_A, Approach Delay [s/veh]	71.08				76.77				41.27			72.03		
Approach LOS	E				E				D			E		
d_I, Intersection Delay [s/veh]	70.66													
Intersection LOS	E													
Intersection V/C	1.074													

Emissions

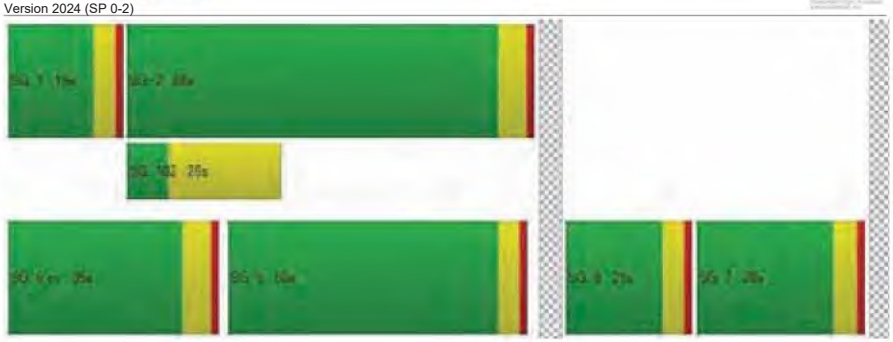
Vehicle Miles Traveled [mph]	236.52	217.40	114.18	6.96	251.99	70.39	9.94	10.23	5.63	5.75	5.60
Stops [stops/h]	1785.68	781.53	446.75	33.42	1480.17	247.97	213.75	219.24	173.23	175.74	191.79
Fuel consumption [US gal/h]	57.55	19.50	10.96	1.14	51.46	7.93	4.62	4.73	3.63	3.67	4.21
CO [g/h]	4022.70	1363.19	766.28	79.84	3596.79	554.12	322.89	330.84	253.53	256.72	294.49
NOx [g/h]	782.67	265.23	149.09	15.53	699.81	107.81	62.82	64.37	49.33	49.95	57.30
VOC [g/h]	932.30	315.93	177.59	18.50	833.59	128.42	74.83	76.68	58.76	59.50	68.25

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	57.44
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.548
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	915	429	337	241
d_b, Bicycle Delay [s]	20.02	41.93	47.03	52.59
l_b,int, Bicycle LOS Score for Intersection	3.452	2.590	2.279	2.062
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Latrobe Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	67.9
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.998

Intersection Setup

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	2	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	300.00	570.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No			No		
Crosswalk	No			No				No			Yes		

Volumes

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Base Volume Input [veh/h]	0	2691	613	1	388	1576	0	0	0	1667	0	0	864
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-114	-27	0	0	61	0	0	0	53	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	176	0	0	0	0	0	0	516	0	0	259
Total Hourly Volume [veh/h]	0	2577	410	1	388	1637	0	0	0	1204	0	0	605
Peak Hour Factor	1.0000	0.9500	0.8400	1.000	0.840	0.950	1.000	1.0000	1.0000	0.8400	1.0000	1.0000	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	678	122	0	115	431	0	0	0	358	0	0	180
Total Analysis Volume [veh/h]	0	2713	488	1	462	1723	0	0	0	1433	0	0	720
Presence of On-Street Parking	No		No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0				0			0	
v_co, Outbound Pedestrian Volume crossing		0			0				0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0	
Bicycle Volume [bicycles/h]		0			0				0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	26.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	30	0	0	26	34	0	0	0	22	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No				No			
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	4.2	0.0	0.0	2.6	4.2	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	2.5	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Minimum Recall		No			No	No				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	R	
C, Cycle Length [s]	68	68	68	68	68	
L, Total Lost Time per Cycle [s]	6.20	6.20	4.60	6.20	4.60	
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	4.20	4.20	2.60	4.20	2.60	
g_i, Effective Green Time [s]	38	38	20	35	22	
g / C, Green / Cycle	0.55	0.55	0.29	0.51	0.33	
(v / s)_i Volume / Saturation Flow Rate	0.40	0.31	0.26	0.25	0.51	
s, saturation flow rate [veh/h]	6792	1589	1781	6792	2813	
c, Capacity [veh/h]	3745	876	516	3476	927	
d1, Uniform Delay [s]	11.39	9.87	23.17	10.86	22.80	
k, delay calibration	0.50	0.50	0.17	0.50	0.22	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.25	2.55	8.80	0.51	248.18	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.72	0.56	0.90	0.50	1.55	
d, Delay for Lane Group [s/veh]	12.65	12.42	31.97	11.37	270.98	
Lane Group LOS	B	B	C	B	F	
Critical Lane Group	No	No	No	Yes	Yes	
50th-Percentile Queue Length [veh/ln]	5.85	4.07	7.43	3.39	38.70	
50th-Percentile Queue Length [ft/ln]	146.31	101.66	185.84	84.69	967.61	
95th-Percentile Queue Length [veh/ln]	9.82	7.32	11.90	6.10	60.95	
95th-Percentile Queue Length [ft/ln]	245.49	182.99	297.62	152.45	1523.87	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	12.65	12.42	31.97	31.97	11.37	0.00	0.00	0.00	270.98	0.00	0.00	0.00
Movement LOS		B	B	C	C	B				F			
d_A, Approach Delay [s/veh]		12.61			15.73				270.98			0.00	
Approach LOS		B			B				F			A	
d_I, Intersection Delay [s/veh]	67.90												
Intersection LOS	E												
Intersection V/C	0.998												

Emissions

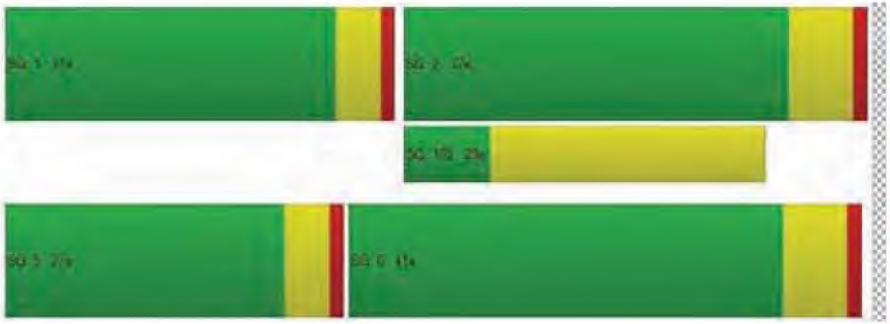
Vehicle Miles Traveled [mph]	392.56	70.61	79.30	295.10	102.55	
Stops [stops/h]	1239.30	215.28	393.53	717.40	4098.10	
Fuel consumption [US gal/h]	35.85	6.33	10.62	23.02	105.87	
CO [g/h]	2505.74	442.53	742.59	1609.19	7400.31	
NOx [g/h]	487.53	86.10	144.48	313.09	1439.83	
VOC [g/h]	580.73	102.56	172.10	372.95	1715.09	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	23.89
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.248
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	906	1024	659	0
d_b, Bicycle Delay [s]	10.18	8.10	15.29	34.00
l_b,int, Bicycle LOS Score for Intersection	2.953	2.271	1.560	1.560
Bicycle LOS	C	B	A	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	77.0
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.039

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	24	2098	245	3	606	2038	596	508	40	83	1	94	6	695
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-3	-141	-6	0	0	114	0	0	0	3	0	12	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	72	0	0	0	179	0	0	26	0	0	0	209
Total Hourly Volume [veh/h]	1	21	1957	167	3	606	2152	417	508	40	60	1	106	6	486
Peak Hour Factor	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.9600	0.9600	0.9600	0.960	0.960	0.960	0.960
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	5	510	43	1	158	560	109	132	10	16	0	28	2	127
Total Analysis Volume [veh/h]	1	22	2039	174	3	631	2242	434	529	42	63	1	110	6	506
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	138
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	0	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	40	0	0	12	65	0	15	20	0	0	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	0.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.0	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	0.0	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	46	0	0	16	71	0	19	24	0	0	19	19	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	0	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	Yes			No	Yes			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	117	117	117	117	117	117	117	117	117	117	117	117
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	2	55	55	12	64	64	20	20	20	15	15	15
g / C, Green / Cycle	0.02	0.47	0.47	0.10	0.55	0.55	0.17	0.17	0.17	0.13	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.01	0.40	0.11	0.18	0.44	0.27	0.15	0.02	0.04	0.06	0.16	0.16
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	1870	1589	1781	1595	1589
c, Capacity [veh/h]	67	2372	740	353	2794	872	583	315	268	227	204	203
d1, Uniform Delay [s]	56.92	27.98	18.85	52.78	21.41	16.49	47.97	41.57	42.31	47.72	51.28	51.28
k, delay calibration	0.04	0.04	0.04	0.31	0.04	0.04	0.08	0.08	0.08	0.08	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.14	0.37	0.06	365.30	0.21	0.16	4.38	0.14	0.33	1.21	150.36	150.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.35	0.86	0.24	1.80	0.80	0.50	0.91	0.13	0.24	0.49	1.26	1.26
d, Delay for Lane Group [s/veh]	58.06	28.36	18.91	418.08	21.62	16.65	52.36	41.71	42.64	48.92	201.64	201.86
Lane Group LOS	E	C	B	F	C	B	D	D	D	D	F	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.35	16.58	2.86	23.10	15.84	7.10	7.92	1.05	1.61	3.10	14.46	14.43
50th-Percentile Queue Length [ft/ln]	8.69	414.40	71.40	577.50	396.10	177.54	198.12	26.35	40.37	77.58	361.60	360.64
95th-Percentile Queue Length [veh/ln]	0.63	23.25	5.14	36.84	22.37	11.47	12.54	1.90	2.91	5.59	22.71	22.66
95th-Percentile Queue Length [ft/ln]	15.65	581.32	128.52	920.95	559.30	286.80	313.54	47.42	72.67	139.64	567.77	566.50

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	58.06	58.06	28.36	18.91	418.0	418.0	21.62	16.65	52.36	41.71	42.64	48.92	48.92	201.6	201.7
Movement LOS	E	E	C	B	F	F	C	B	D	D	D	D	D	F	F
d_A, Approach Delay [s/veh]	27.93				96.90				50.69			174.52			
Approach LOS	C				F				D			F			
d_I, Intersection Delay [s/veh]	77.03														
Intersection LOS	E														
Intersection V/C	1.039														

Emissions

Vehicle Miles Traveled [mph]	5.13	455.18	38.84	91.74	324.41	62.80	67.47	5.36	8.04	38.96	90.00	89.70
Stops [stops/h]	21.32	1524.44	87.55	1416.28	1457.13	217.71	485.89	32.31	49.51	95.13	443.41	442.22
Fuel consumption [US gal/h]	0.60	38.93	2.75	65.53	31.27	5.26	11.10	0.76	1.15	3.23	16.67	16.63
CO [g/h]	42.00	2720.93	192.38	4580.49	2185.60	367.57	775.74	52.81	80.45	226.08	1165.55	1162.61
NOx [g/h]	8.17	529.39	37.43	891.20	425.24	71.52	150.93	10.27	15.65	43.99	226.77	226.20
VOC [g/h]	9.73	630.60	44.59	1061.57	506.53	85.19	179.79	12.24	18.65	52.40	270.13	269.45

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	48.23	0.00	48.23	48.23
l_p,int, Pedestrian LOS Score for Intersectio	3.479	0.000	2.714	2.951
Crosswalk LOS	C	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	690	1116	349	264
d_b, Bicycle Delay [s]	25.20	11.48	40.01	44.24
l_b,int, Bicycle LOS Score for Intersection	2.828	3.132	2.104	2.751
Bicycle LOS	C	C	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	49.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.843

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	2	0	0	1	2	0	0	1	1	0	2
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	400.0	100.0	100.0	400.0	360.0	100.0	100.0	300.0	400.00	100.00	300.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	6	155	1777	629	2	259	1490	465	2	395	566	152	600	264	194
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-150	-35	0	0	129	0	0	0	0	0	30	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	178	0	0	0	140	0	0	0	46	0	0	58
Total Hourly Volume [veh/h]	6	155	1627	416	2	259	1619	325	2	395	566	106	630	264	136
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	42	437	112	1	70	435	87	1	106	152	28	169	71	37
Total Analysis Volume [veh/h]	6	167	1749	447	2	278	1741	349	2	425	609	114	677	284	146
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	160
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Overl	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	3	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups				2,3											
Maximum Green [s]	0	20	53	37	0	20	53	0	0	22	30	0	37	45	0
Amber [s]	0.0	4.0	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	5	0	0	0	5	0	0	0	4	0	0	5	0
Pedestrian Clearance [s]	0	0	28	0	0	0	24	0	0	0	31	0	0	31	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	58	42	0	25	58	0	0	27	35	0	42	50	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	9	9	9	0	9	9	0	0	9	9	0	9	9	0
Vehicle Extension [s]	0.0	1.0	1.5	1.0	0.0	1.0	1.5	0.0	0.0	1.0	1.5	0.0	1.0	1.5	0.0
Minimum Recall		No	No	No		No	No			No	No		No	No	
Maximum Recall		No	No	No		No	No			No	No		No	No	
Pedestrian Recall		No	No	No		No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	160	160	160	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	0.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	10	53	101	15	58	58	22	29	29	43	51	51
g / C, Green / Cycle	0.06	0.33	0.63	0.09	0.36	0.36	0.14	0.18	0.18	0.27	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.05	0.26	0.28	0.08	0.34	0.22	0.12	0.17	0.07	0.20	0.08	0.09
s, saturation flow rate [veh/h]	3459	6792	1589	3459	5094	1589	3459	3560	1589	3459	3560	1589
c, Capacity [veh/h]	218	2236	1003	322	1831	571	468	648	289	936	1129	504
d1, Uniform Delay [s]	73.93	48.48	15.15	71.57	49.87	42.06	68.22	64.58	57.67	32.19	20.99	21.18
k, delay calibration	0.04	0.04	0.26	0.04	0.04	0.07	0.04	0.04	0.04	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.48	0.23	0.74	2.81	1.43	0.70	2.95	3.12	0.32	4.84	0.53	1.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.78	0.45	0.87	0.95	0.61	0.91	0.94	0.39	0.72	0.25	0.29
d, Delay for Lane Group [s/veh]	76.41	48.71	15.90	74.38	51.30	42.76	71.17	67.69	57.99	37.04	21.53	22.63
Lane Group LOS	E	D	B	E	D	D	E	E	E	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.61	15.90	8.61	5.72	22.19	11.24	8.85	12.58	4.14	8.75	2.26	2.46
50th-Percentile Queue Length [ft/ln]	90.14	397.38	215.17	143.07	554.83	281.12	221.22	314.40	103.42	218.87	56.59	61.48
95th-Percentile Queue Length [veh/ln]	6.49	22.43	13.42	9.65	29.92	16.74	13.73	18.39	7.45	13.61	4.07	4.43
95th-Percentile Queue Length [ft/ln]	162.26	560.84	335.46	241.16	747.98	418.61	343.18	459.79	186.15	340.19	101.86	110.67

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	76.41	76.41	48.71	15.90	74.38	74.38	51.30	42.76	71.17	71.17	67.69	57.99	37.04	21.53	22.63
Movement LOS	E	E	D	B	E	E	D	D	E	E	E	E	D	C	C
d_A, Approach Delay [s/veh]	44.54				52.77				68.02				31.16		
Approach LOS	D				D				E				C		
d_I, Intersection Delay [s/veh]	49.07														
Intersection LOS	D														
Intersection V/C	0.843														

Emissions

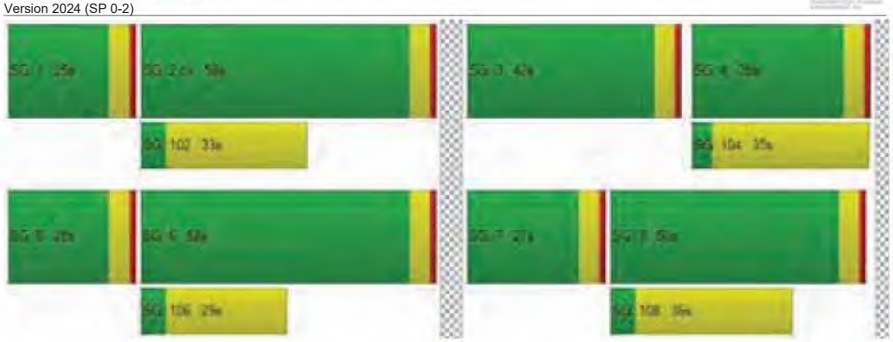
Vehicle Miles Traveled [mph]	68.89	696.45	177.99	62.51	388.65	77.91	106.57	151.99	28.45	71.53	30.01	15.43
Stops [stops/h]	162.26	1430.57	193.66	257.53	1498.05	253.01	398.20	565.91	93.08	393.97	101.86	55.33
Fuel consumption [US gal/h]	6.42	53.91	9.84	9.58	50.12	8.85	12.77	17.77	3.03	10.22	3.04	1.61
CO [g/h]	448.90	3768.35	688.04	669.81	3503.62	618.84	892.66	1242.23	211.84	714.58	212.65	112.75
NOx [g/h]	87.34	733.18	133.87	130.32	681.68	120.40	173.68	241.69	41.22	139.03	41.37	21.94
VOC [g/h]	104.04	873.35	159.46	155.23	812.00	143.42	206.88	287.90	49.10	165.61	49.28	26.13

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	72.20	71.25	71.25	71.25
l_p,int, Pedestrian LOS Score for Intersectio	3.748	3.909	2.985	3.078
Crosswalk LOS	D	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	663	663	375	563
d_b, Bicycle Delay [s]	35.78	35.78	52.81	41.33
l_b,int, Bicycle LOS Score for Intersection	2.608	2.787	2.196	2.521
Bicycle LOS	B	C	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	25.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.862

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0	0	1	1	0	1	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	300.0	200.0	100.0	100.0	100.0	320.00	100.00	320.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	18	1787	36	0	34	1740	490	751	10	41	2	8	19
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-185	0	0	0	160	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	11	0	0	0	147	0	0	12	0	0	6
Total Hourly Volume [veh/h]	1	18	1602	25	0	34	1900	343	751	10	29	2	8	13
Peak Hour Factor	1.000	0.890	0.890	0.870	1.000	0.870	0.890	0.890	0.8900	0.8700	0.8900	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	5	450	7	0	10	534	96	211	3	8	1	2	4
Total Analysis Volume [veh/h]	1	20	1800	29	0	39	2135	385	844	11	33	2	9	15
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	16	34	0	0	15	34	0	0	36	0	0	16	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	11	0	0	0	18	0	0	24	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	245.0	0.0	0.0	0.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	20	40	0	0	20	40	0	0	40	0	0	20	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	C
C, Cycle Length [s]	78	78	78	78	78	78	78	78	78	78
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	34	34	2	34	34	22	22	22	2
g / C, Green / Cycle	0.02	0.43	0.43	0.03	0.43	0.43	0.28	0.28	0.28	0.03
(v / s)_i Volume / Saturation Flow Rate	0.01	0.34	0.34	0.02	0.42	0.24	0.24	0.24	0.02	0.02
s, saturation flow rate [veh/h]	1781	3560	1855	1781	5094	1589	1781	1783	1589	1691
c, Capacity [veh/h]	42	1530	797	49	2209	689	508	508	453	47
d1, Uniform Delay [s]	37.81	19.25	19.25	37.90	21.65	16.60	26.37	26.36	20.46	37.62
k, delay calibration	0.04	0.15	0.29	0.04	0.15	0.15	0.11	0.11	0.11	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.31	1.31	4.60	10.18	5.35	1.01	3.86	3.84	0.07	3.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.79	0.79	0.79	0.97	0.56	0.84	0.84	0.07	0.55
d, Delay for Lane Group [s/veh]	41.12	20.56	23.85	48.08	27.01	17.61	30.23	30.20	20.53	41.29
Lane Group LOS	D	C	C	D	C	B	C	C	C	D
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.43	8.91	10.02	0.82	11.25	4.41	7.68	7.67	0.44	0.53
50th-Percentile Queue Length [ft/ln]	10.73	222.76	250.52	20.56	281.34	110.16	191.89	191.85	10.89	13.26
95th-Percentile Queue Length [veh/ln]	0.77	13.81	15.21	1.48	16.76	7.85	12.22	12.22	0.78	0.95
95th-Percentile Queue Length [ft/ln]	19.31	345.15	380.31	37.01	418.88	196.23	305.48	305.43	19.61	23.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.12	41.12	21.65	23.85	48.08	48.08	27.01	17.61	30.22	30.20	20.53	41.29	41.29	41.29
Movement LOS	D	D	C	C	D	D	C	B	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	21.91				25.91				29.86			41.29		
Approach LOS	C				C				C			D		
d_I, Intersection Delay [s/veh]	25.25													
Intersection LOS	C													
Intersection V/C	0.862													

Emissions

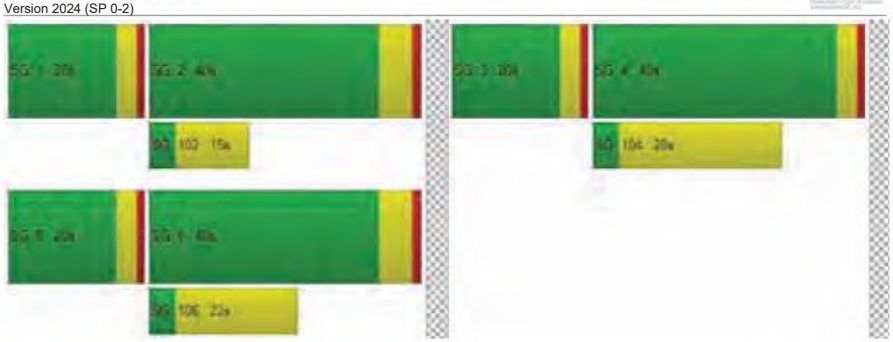
Vehicle Miles Traveled [mph]	7.43	425.31	221.70	15.53	850.15	153.31	102.89	102.93	7.94	0.49
Stops [stops/h]	19.72	819.09	460.57	37.80	1551.70	202.53	352.79	352.72	20.03	24.39
Fuel consumption [US gal/h]	0.59	27.06	14.71	1.60	68.99	10.27	8.81	8.81	0.58	0.37
CO [g/h]	41.28	1891.77	1028.47	112.06	4822.74	717.87	616.09	616.08	40.23	26.11
NOx [g/h]	8.03	368.07	200.10	21.80	938.33	139.67	119.87	119.87	7.83	5.08
VOC [g/h]	9.57	438.44	238.36	25.97	1117.72	166.37	142.79	142.78	9.32	6.05

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.57	0.00	31.57	31.57
l_p,int, Pedestrian LOS Score for Intersectio	3.168	0.000	2.500	1.779
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	868	868	919	409
d_b, Bicycle Delay [s]	12.54	12.54	11.44	24.80
l_b,int, Bicycle LOS Score for Intersection	2.583	3.026	3.045	1.612
Bicycle LOS	B	C	C	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Latrobe Rd/Suncast Ln

Control Type:	Signalized	Delay (sec / veh):	68.3
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.064

Intersection Setup

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Approach	Northbound			Southbound		Eastbound	
Lane Configuration							
Turning Movement	U-turn	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			No		Yes	

Volumes

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Base Volume Input [veh/h]	0	131	1454	1541	243	388	219
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	69	0	0	0	0
Site-Generated Trips [veh/h]	0	3	-185	160	0	0	10
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	73	0	69
Total Hourly Volume [veh/h]	0	134	1338	1701	170	388	160
Peak Hour Factor	1.0000	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	38	376	478	48	109	45
Total Analysis Volume [veh/h]	0	151	1503	1911	191	436	180
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permissive	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	5	2	6	0	3	0
Auxiliary Signal Groups							
Maximum Green [s]	0	12	40	40	0	20	0
Amber [s]	0.0	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No	No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	46	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-
Minimum Green [s]	0	5	5	5	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall		No	No	No		No	
Maximum Recall		No	No	No		No	
Pedestrian Recall		No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	L	R
C, Cycle Length [s]	83	83	83	83	83	83
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	9	53	40	40	20	20
g / C, Green / Cycle	0.10	0.64	0.48	0.48	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.08	0.42	0.56	0.58	0.24	0.11
s, saturation flow rate [veh/h]	1781	3560	1870	1812	1781	1589
c, Capacity [veh/h]	187	2269	905	877	431	384
d1, Uniform Delay [s]	36.18	9.42	21.34	21.34	31.34	26.80
k, delay calibration	0.04	0.15	0.50	0.50	0.44	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.17	0.48	85.05	100.60	43.62	0.89
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.66	1.16	1.20	1.01	0.47
d, Delay for Lane Group [s/veh]	39.35	9.90	106.39	121.94	74.97	27.68
Lane Group LOS	D	A	F	F	F	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.08	7.24	37.08	39.71	13.47	3.04
50th-Percentile Queue Length [ft/ln]	77.01	180.93	927.01	992.86	336.77	76.06
95th-Percentile Queue Length [veh/ln]	5.54	11.65	52.52	56.98	19.63	5.48
95th-Percentile Queue Length [ft/ln]	138.62	291.23	1312.96	1424.62	490.66	136.90

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.35	39.35	9.90	113.39	121.94	74.97	27.68
Movement LOS	D	D	A	F	F	F	C
d_A, Approach Delay [s/veh]	12.59			114.16		61.15	
Approach LOS	B			F		E	
d_I, Intersection Delay [s/veh]	68.27						
Intersection LOS	E						
Intersection V/C	1.064						

Emissions

Vehicle Miles Traveled [mph]	105.03	1045.41	371.79	371.79	147.10	60.73
Stops [stops/h]	134.16	630.40	1614.98	1729.69	586.69	132.50
Fuel consumption [US gal/h]	6.27	49.55	46.98	50.94	15.95	4.25
CO [g/h]	438.56	3463.27	3283.83	3560.55	1114.76	296.81
NOx [g/h]	85.33	673.83	638.91	692.75	216.89	57.75
VOC [g/h]	101.64	802.65	761.06	825.19	258.36	68.79

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	33.72	0.00	33.72
l_p,int, Pedestrian LOS Score for Intersectio	3.042	0.000	2.394
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	968	968	484
d_b, Bicycle Delay [s]	11.01	11.01	23.75
l_b,int, Bicycle LOS Score for Intersection	2.924	3.354	1.560
Bicycle LOS	C	C	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	207.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.231

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	114	590	31	419	446	895	817	306	63	76	201	178
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	147	17	0	85	0	0	0	6	0	0	0
Site-Generated Trips [veh/h]	11	53	2	0	292	-123	-236	-40	79	30	-21	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	15	0	0	232	0	0	44	0	0	53
Total Hourly Volume [veh/h]	125	790	35	419	823	540	581	266	104	106	180	125
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	217	10	115	226	148	160	73	29	29	49	34
Total Analysis Volume [veh/h]	137	868	38	460	904	593	638	292	114	116	198	137
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Cycle Length [s]	84	84	84	84	84	84	84	84	84	84
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	8	22	22	12	26	26	15	15	16	16
g / C, Green / Cycle	0.10	0.26	0.26	0.14	0.31	0.31	0.18	0.18	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.08	0.24	0.24	0.26	0.40	0.46	0.29	0.29	0.17	0.09
s, saturation flow rate [veh/h]	1781	1870	1843	1781	1870	1641	1781	1782	1836	1589
c, Capacity [veh/h]	172	496	488	253	581	510	316	316	354	307
d1, Uniform Delay [s]	37.37	30.19	30.19	36.25	29.13	29.13	34.75	34.75	33.19	30.11
k, delay calibration	0.04	0.25	0.25	0.50	0.50	0.50	0.50	0.50	0.16	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.19	14.92	15.10	383.70	142.61	221.63	306.86	306.62	10.38	0.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.92	0.92	1.82	1.29	1.47	1.65	1.65	0.89	0.45
d, Delay for Lane Group [s/veh]	40.56	45.11	45.29	419.96	171.74	250.76	341.62	341.37	43.57	30.49
Lane Group LOS	D	D	D	F	F	F	F	F	D	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.87	10.71	10.58	31.69	33.22	40.33	33.24	33.23	7.10	2.44
50th-Percentile Queue Length [ft/ln]	71.69	267.87	264.57	792.33	830.51	1008.23	831.03	830.76	177.39	60.91
95th-Percentile Queue Length [veh/ln]	5.16	16.08	15.92	49.99	49.37	62.02	51.95	51.93	11.46	4.39
95th-Percentile Queue Length [ft/ln]	129.05	402.08	397.95	1249.75	1234.27	1550.53	1298.65	1298.18	286.61	109.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.56	45.20	45.29	419.96	185.33	250.76	341.57	341.37	341.37	43.57	43.57	30.49
Movement LOS	D	D	D	F	F	F	F	F	F	D	D	C
d_A, Approach Delay [s/veh]	44.59			260.31			341.49			39.60		
Approach LOS	D			F			F			D		
d_I, Intersection Delay [s/veh]	206.96											
Intersection LOS	F											
Intersection V/C	1.231											

Emissions

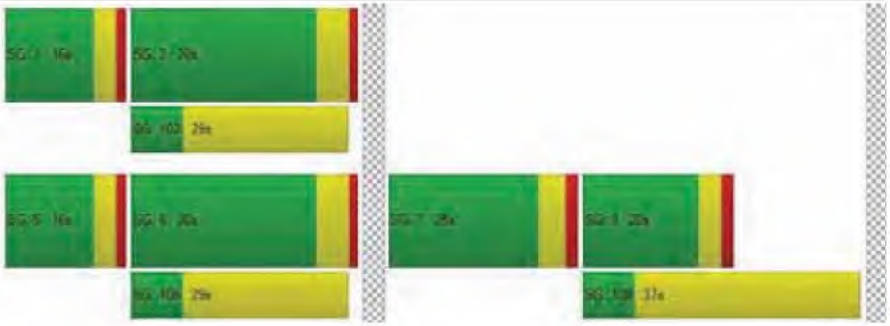
Vehicle Miles Traveled [mph]	79.12	263.54	259.69	319.95	520.62	520.62	39.27	39.27	34.73	15.15
Stops [stops/h]	122.40	457.31	451.68	1352.67	1417.85	1721.26	1418.74	1418.29	302.85	103.98
Fuel consumption [US gal/h]	5.06	17.56	17.33	75.13	69.91	87.58	45.74	45.71	5.89	2.05
CO [g/h]	353.98	1227.76	1211.39	5251.74	4886.45	6121.54	3196.97	3194.98	411.50	143.17
NOx [g/h]	68.87	238.88	235.69	1021.80	950.73	1191.03	622.01	621.63	80.06	27.86
VOC [g/h]	82.04	284.55	280.75	1217.14	1132.48	1418.73	740.93	740.47	95.37	33.18

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.89	0.00	31.89	31.89
l_p,int, Pedestrian LOS Score for Intersectio	2.753	0.000	2.730	2.437
Crosswalk LOS	C	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	586	586	368	474
d_b, Bicycle Delay [s]	21.09	21.09	28.10	24.55
l_b,int, Bicycle LOS Score for Intersection	2.432	3.366	3.355	2.391
Bicycle LOS	B	C	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	83.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.069

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	171	325	456	129	410	157
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	47	209	0
Site-Generated Trips [veh/h]	-15	305	526	-125	-239	-29
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	15	0	38
Total Hourly Volume [veh/h]	156	630	982	36	380	90
Peak Hour Factor	0.9000	0.9000	0.9000	0.7900	0.7900	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	175	273	11	120	25
Total Analysis Volume [veh/h]	173	700	1091	46	481	100
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	164
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	50	50	50	0	50	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	54	56	56	0	54	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	108	108	108	108	108	108
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	12	66	50	50	32	32
g / C, Green / Cycle	0.11	0.61	0.46	0.46	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.10	0.37	0.58	0.03	0.27	0.06
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1589
c, Capacity [veh/h]	205	1146	862	732	525	469
d1, Uniform Delay [s]	47.04	12.99	29.25	16.24	36.95	28.78
k, delay calibration	0.04	0.33	0.50	0.15	0.16	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.61	1.60	128.94	0.05	9.41	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.61	1.27	0.06	0.92	0.21
d, Delay for Lane Group [s/veh]	50.65	14.60	158.19	16.29	46.36	29.00
Lane Group LOS	D	B	F	B	D	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.54	9.05	50.37	0.59	13.47	1.99
50th-Percentile Queue Length [ft/ln]	113.54	226.15	1259.17	14.71	336.74	49.70
95th-Percentile Queue Length [veh/ln]	8.04	13.98	72.88	1.06	19.49	3.58
95th-Percentile Queue Length [ft/ln]	200.91	349.46	1822.05	26.47	487.21	89.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.65	14.60	158.19	16.29	46.36	29.00
Movement LOS	D	B	F	B	D	C
d_A, Approach Delay [s/veh]	21.74		152.45		43.37	
Approach LOS	C		F		D	
d_I, Intersection Delay [s/veh]	83.95					
Intersection LOS	F					
Intersection V/C	1.069					

Emissions

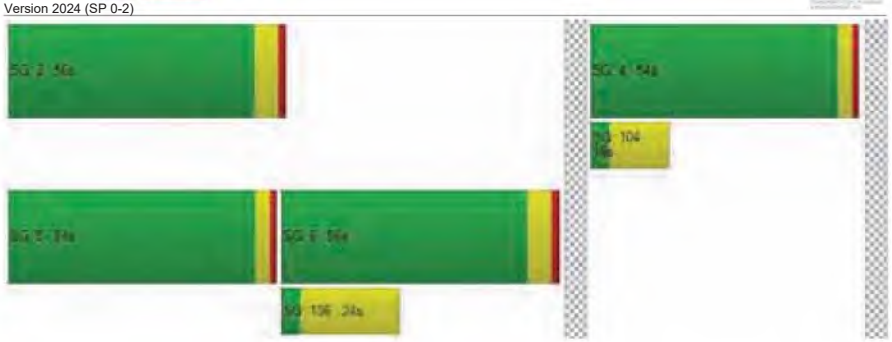
Vehicle Miles Traveled [mph]	21.35	86.37	630.08	26.57	112.97	23.49
Stops [stops/h]	150.82	300.42	1672.69	19.54	447.32	66.02
Fuel consumption [US gal/h]	5.30	10.55	87.26	1.40	11.66	1.92
CO [g/h]	370.36	737.36	6099.51	98.15	815.01	134.33
NOx [g/h]	72.06	143.46	1186.74	19.10	158.57	26.14
VOC [g/h]	85.83	170.89	1413.62	22.75	188.89	31.13

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0		0.0		8.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	46.50		0.00		46.50	
l_p,int, Pedestrian LOS Score for Intersectio	3.204		0.000		2.283	
Crosswalk LOS	C		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	923		923		923	
d_b, Bicycle Delay [s]	15.73		15.73		15.73	
l_b,int, Bicycle LOS Score for Intersection	3.000		3.460		1.560	
Bicycle LOS	C		C		A	

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	311.1
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.961

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	438	0	25	588	0	0	0	0	2	0	58
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	10	6	0	0	0	0	0
Site-Generated Trips [veh/h]	5	267	0	0	455	42	23	0	3	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	705	0	25	1043	52	29	0	3	2	0	58
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	192	0	6	283	14	8	0	1	1	0	15
Total Analysis Volume [veh/h]	5	766	0	25	1134	57	32	0	3	2	0	58
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free		Free		Stop		Stop	
Flared Lane					Yes		Yes	
Storage Area [veh]	0		0		1		1	
Two-Stage Gap Acceptance					No		No	
Number of Storage Spaces in Median	0		0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.03	0.01	0.00	0.96	0.00	0.01	0.05	0.00	0.14
d_M, Delay for Movement [s/veh]	11.15	0.00	0.00	9.28	0.00	0.00	311.14	268.95	218.24	96.20	75.29	15.58
Movement LOS	B	A	A	A	A	A	F	F	F	F	F	C
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.04	0.04	0.04	3.53	3.53	3.53	0.53	0.53	0.53
95th-Percentile Queue Length [ft/ln]	0.21	0.21	0.21	1.07	1.07	1.07	88.37	88.37	88.37	13.31	13.31	13.31
d_A, Approach Delay [s/veh]	0.07			0.19			303.18			18.26		
Approach LOS	A			A			F			C		
d_I, Intersection Delay [s/veh]	5.76											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Two-way stop	Delay (sec / veh):	2,977.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	7.067

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	334	21	144	446	0	0	0	0	59	0	104
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	53	2	0	0	-4	434	270	0	31	0	5	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	37	0	0	0	0	0	37	0	55	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	336	21	144	442	434	307	0	86	59	5	104
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	90	6	39	119	117	83	0	23	16	1	28
Total Analysis Volume [veh/h]	97	361	23	155	475	467	330	0	92	63	5	112
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free			Free			Stop			Stop		
Flared Lane							No			No		
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance							No			No		
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.00	0.00	0.13	0.00	0.00	7.07	0.00	0.21	1.31	0.09	0.17
d_M, Delay for Movement [s/veh]	10.70	0.00	0.00	8.53	0.00	0.00	2977.69	2945.52	2908.89	399.30	386.21	329.98
Movement LOS	B	A	A	A	A	A	F	F	F	F	F	F
95th-Percentile Queue Length [veh/ln]	0.46	0.00	0.00	0.45	0.00	0.00	48.75	48.75	48.75	13.18	13.18	13.18
95th-Percentile Queue Length [ft/ln]	11.46	0.00	0.00	11.36	0.00	0.00	1218.72	1218.72	1218.72	329.56	329.56	329.56
d_A, Approach Delay [s/veh]	2.16			1.21			2962.69			355.81		
Approach LOS	A			A			F			F		
d_I, Intersection Delay [s/veh]	603.97											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	55.000

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	127	1017	168	55	1	1019	190
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-83	-276	79	-43	0	-144	11
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	59	0	0	36	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	103	741	247	48	1	875	201
Peak Hour Factor	1.0000	0.8800	0.8800	0.8800	0.8800	1.0000	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	29	211	70	14	0	249	57
Total Analysis Volume [veh/h]	0	117	842	281	55	1	994	228
Pedestrian Volume [ped/h]	0			0		0		

Intersection Settings

Priority Scheme	Stop		Free		Free		
Flared Lane	No						
Storage Area [veh]	0		0		0		
Two-Stage Gap Acceptance	No						
Number of Storage Spaces in Median	0		0		0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	55.00	1.15	0.00	0.00	0.00	0.81	0.00
d_M, Delay for Movement [s/veh]	10000.00	10000.00	10000.00	0.00	0.00	10000.00	15.93	0.00
Movement LOS	F	F	F	A	A	F	C	A
95th-Percentile Queue Length [veh/ln]	120.72	120.72	120.72	0.00	0.00	7.84	7.84	7.84
95th-Percentile Queue Length [ft/ln]	3017.98	3017.98	3017.98	0.00	0.00	195.96	195.96	195.96
d_A, Approach Delay [s/veh]	10000.00			0.00		21.13		
Approach LOS	F			A		C		
d_I, Intersection Delay [s/veh]	3818.84							
Intersection LOS	F							

Intersection Level Of Service Report
Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Control Type:	All-way stop	Delay (sec / veh):	36.5
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.952

Intersection Setup

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Base Volume Input [veh/h]	60	657	105	0	40	585	40	56	49	40	225	17	79
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-293	-225	0	13	-176	-18	-79	-56	0	-135	-13	8
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	364	0	0	53	409	22	0	0	40	90	4	87
Peak Hour Factor	0.8300	0.8300	0.8300	1.000	0.790	0.830	0.830	0.8300	0.8300	0.8300	0.8300	0.8300	0.7900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	110	0	0	17	123	7	0	0	12	27	1	28
Total Analysis Volume [veh/h]	72	439	0	0	67	493	27	0	0	48	108	5	110
Pedestrian Volume [ped/h]	0			0				0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	601	617	495	521
Degree of Utilization, x	0.85	0.95	0.10	0.43

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	9.30	13.11	0.32	2.12
95th-Percentile Queue Length [ft]	232.52	327.73	8.01	53.03
Approach Delay [s/veh]	33.75	49.25	11.06	14.96
Approach LOS	D	E	B	B
Intersection Delay [s/veh]	36.54			
Intersection LOS	E			

Intersection Level Of Service Report
Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	25.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.526

Intersection Setup

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00			30.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	No		No			No		

Volumes

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Base Volume Input [veh/h]	159	80	0	143	294	2	132	196
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	40	0	-4	0	0	-64	-8
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	159	120	0	139	294	2	68	188
Peak Hour Factor	0.8400	0.8400	1.0000	0.8400	0.8400	1.0000	0.8400	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	36	0	41	88	1	20	56
Total Analysis Volume [veh/h]	189	143	0	165	350	2	81	224
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.53	0.20	0.00	0.00	0.00	0.00	0.08	0.00
d_M, Delay for Movement [s/veh]	25.58	11.43	9.36	0.00	0.00	13.82	8.74	0.00
Movement LOS	D	B	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	2.92	0.76	0.00	0.00	0.00	0.27	0.27	0.00
95th-Percentile Queue Length [ft/ln]	73.07	18.97	0.00	0.00	0.00	6.67	6.67	0.00
d_A, Approach Delay [s/veh]	19.49		0.00			2.40		
Approach LOS	C		A			A		
d_I, Intersection Delay [s/veh]	6.24							
Intersection LOS	D							

Intersection Level Of Service Report
Intersection 16: Carson Crossing Rd/Calypso Cir.

Control Type:	Two-way stop	Delay (sec / veh):	170.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.999

Intersection Setup

Name			Carson Crossing Rd		Carson Crossing Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	190.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			Carson Crossing Rd		Carson Crossing Rd	
Base Volume Input [veh/h]	205	208	87	201	294	187
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	40	0	0	-64
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	205	208	127	201	294	123
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	57	35	55	80	33
Total Analysis Volume [veh/h]	223	226	138	218	320	134
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	1.00	0.25	0.00	0.00	0.27	0.00
d_M, Delay for Movement [s/veh]	170.24	158.06	0.00	0.00	9.07	0.00
Movement LOS	F	F	A	A	A	A
95th-Percentile Queue Length [veh/ln]	19.69	19.69	0.00	0.00	1.08	0.00
95th-Percentile Queue Length [ft/ln]	492.27	492.27	0.00	0.00	26.93	0.00
d_A, Approach Delay [s/veh]	164.11		0.00		6.40	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	60.83					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 17: Carson Crossing Rd/Four Seasons Dr

Control Type:	All-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.197

Intersection Setup

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	500.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	500.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Base Volume Input [veh/h]	310	12	28	203	0	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-64	0	0	40	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	246	12	28	243	0	3
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	67	3	8	66	0	1
Total Analysis Volume [veh/h]	267	13	30	264	0	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	711	720	684	756	756	704
Degree of Utilization, x	0.20	0.19	0.04	0.17	0.17	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.73	0.72	0.14	0.63	0.63	0.01
95th-Percentile Queue Length [ft]	18.21	17.92	3.43	15.74	15.74	0.32
Approach Delay [s/veh]	8.95		8.44			8.14
Approach LOS	A		A			A
Intersection Delay [s/veh]	8.69					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Signalized	Delay (sec / veh):	16.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.546

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	200.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	253	10	50	7	1	21	5	697	138	90	634	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-64	0	0	0	0	0	0	0	40	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	15	0	0	6	0	0	53	0	0	3
Total Hourly Volume [veh/h]	189	10	35	7	1	15	5	697	125	90	634	8
Peak Hour Factor	0.9700	1.0000	0.9300	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9300	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	3	9	2	0	4	1	180	32	24	163	2
Total Analysis Volume [veh/h]	195	10	38	7	1	15	5	719	129	97	654	8
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	25	0	0	25	0	15	35	0	15	35	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	21	0	0	11	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	30	0	0	30	0	20	40	0	20	40	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	9	0	0	9	0	9	9	0	9	9	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	C	L	C	R	L	C	R
C, Cycle Length [s]	53	53	53	53	53	53	53	53	53	53
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	9	9	9	3	1	14	14	7	21	21
g / C, Green / Cycle	0.17	0.17	0.17	0.05	0.01	0.27	0.27	0.13	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.11	0.01	0.02	0.01	0.00	0.20	0.08	0.05	0.18	0.01
s, saturation flow rate [veh/h]	1781	1870	1589	1654	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	296	311	265	82	22	974	435	232	1395	623
d1, Uniform Delay [s]	20.53	18.38	18.73	24.11	25.75	17.40	15.11	21.05	11.93	9.79
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.48	0.04	0.25	1.84	5.19	1.11	0.38	1.20	0.25	0.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.66	0.03	0.14	0.28	0.23	0.74	0.30	0.42	0.47	0.01
d, Delay for Lane Group [s/veh]	23.01	18.42	18.98	25.96	30.94	18.51	15.49	22.24	12.17	9.79
Lane Group LOS	C	B	B	C	C	B	B	C	B	A
Critical Lane Group	Yes	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.24	0.10	0.38	0.30	0.09	3.63	1.13	1.08	2.45	0.05
50th-Percentile Queue Length [ft/ln]	55.90	2.42	9.48	7.46	2.23	90.73	28.24	27.09	61.27	1.24
95th-Percentile Queue Length [veh/ln]	4.02	0.17	0.68	0.54	0.16	6.53	2.03	1.95	4.41	0.09
95th-Percentile Queue Length [ft/ln]	100.61	4.36	17.07	13.42	4.02	163.31	50.83	48.75	110.29	2.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.01	18.42	18.98	25.96	25.96	25.96	30.94	18.51	15.49	22.24	12.17	9.79
Movement LOS	C	B	B	C	C	C	C	B	B	C	B	A
d_A, Approach Delay [s/veh]	22.19			25.96			18.13			13.44		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	16.85											
Intersection LOS	B											
Intersection V/C	0.546											

Emissions

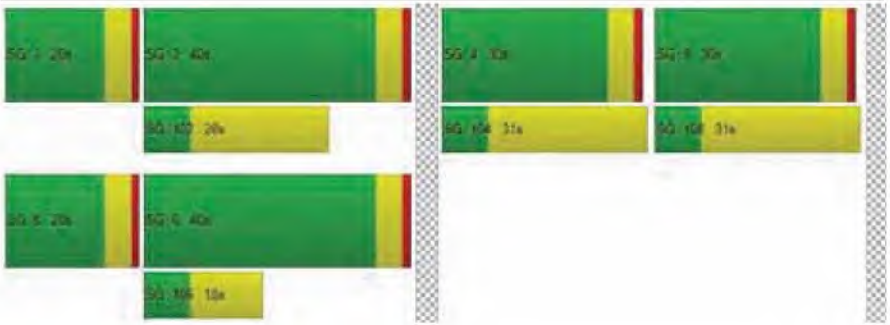
Vehicle Miles Traveled [mph]	57.89	2.97	11.28	0.51	0.72	102.95	18.47	81.63	550.36	6.73
Stops [stops/h]	153.21	6.64	25.99	20.44	6.12	497.37	77.40	74.24	335.89	3.40
Fuel consumption [US gal/h]	4.14	0.20	0.75	0.26	0.09	9.69	1.59	4.21	26.13	0.31
CO [g/h]	289.58	13.73	52.76	17.86	6.63	677.65	111.46	294.25	1826.64	21.80
NOx [g/h]	56.34	2.67	10.26	3.48	1.29	131.85	21.69	57.25	355.40	4.24
VOC [g/h]	67.11	3.18	12.23	4.14	1.54	157.05	25.83	68.20	423.34	5.05

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	16.42	16.42	16.42	16.42
l_p,int, Pedestrian LOS Score for Intersectio	2.396	1.720	2.786	2.677
Crosswalk LOS	B	A	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	952	952	1332	1332
d_b, Bicycle Delay [s]	7.22	7.22	2.93	2.93
l_b,int, Bicycle LOS Score for Intersection	1.985	1.607	2.307	2.188
Bicycle LOS	A	A	B	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 19: White Rock Rd/Windfield Way

Control Type:	Signalized	Delay (sec / veh):	34.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.640

Intersection Setup

Name	Windfield Way						White Rock Rd			White Rock Rd			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00			
Grade [%]	0.00			0.00			0.00			0.00			
Curb Present	No			No			No			No			
Crosswalk	Yes			Yes			Yes			No			

Volumes

Name	Windfield Way						White Rock Rd			White Rock Rd			
Base Volume Input [veh/h]	305	5	361	5	5	5	5	754	92	14	260	607	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	108	0	0	0	0	0	28	0	0	0	0
Total Hourly Volume [veh/h]	305	5	253	5	5	5	5	754	64	14	260	607	5
Peak Hour Factor	0.9400	1.0000	0.9400	1.0000	1.0000	1.0000	1.0000	0.9400	0.9400	1.000	0.940	0.940	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	81	1	67	1	1	1	1	201	17	4	69	161	1
Total Analysis Volume [veh/h]	324	5	269	5	5	5	5	802	68	14	277	646	5
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	73.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi
Signal Group	3	8	0	7	4	0	5	2	0	0	1	6	0
Auxiliary Signal Groups													
Maximum Green [s]	25	25	0	10	10	0	9	19	0	0	44	54	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	2.0	1.0	0.0	0.0	2.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	26	0	0	13	0	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	245.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	15	15	0	15	25	0	0	50	60	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	3	3	0	5	3	0	5	7	0	0	3	7	0
Vehicle Extension [s]	1.0	1.0	0.0	3.0	1.0	0.0	3.0	3.6	0.0	0.0	1.0	3.6	0.0
Minimum Recall	No	No		No	No		No	Yes			No	Yes	
Maximum Recall	No	No		No	No		No	No			No	No	
Pedestrian Recall	No	No		No	No		No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	23	24	1	1	1	52	52	21	73	73
g / C, Green / Cycle	0.20	0.20	0.01	0.01	0.01	0.44	0.44	0.18	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.18	0.17	0.00	0.01	0.00	0.23	0.04	0.16	0.17	0.17
s, saturation flow rate [veh/h]	1781	1594	1781	1718	1781	3560	1589	1781	1870	1865
c, Capacity [veh/h]	349	313	12	13	12	1548	691	318	1134	1131
d1, Uniform Delay [s]	47.44	46.78	59.33	59.43	59.34	24.73	20.02	48.42	11.26	11.26
k, delay calibration	0.30	0.09	0.11	0.04	0.11	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	23.29	6.61	19.50	27.26	19.95	1.24	0.28	4.44	0.64	0.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.93	0.88	0.40	0.76	0.40	0.52	0.10	0.92	0.29	0.29
d, Delay for Lane Group [s/veh]	70.72	53.39	78.83	86.69	79.29	25.97	20.30	52.87	11.90	11.91
Lane Group LOS	E	D	E	F	E	C	C	D	B	B
Critical Lane Group	Yes	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	11.73	8.48	0.22	0.40	0.22	8.52	1.19	8.92	4.24	4.23
50th-Percentile Queue Length [ft/ln]	293.26	212.08	5.48	10.09	5.50	212.88	29.66	222.95	105.90	105.63
95th-Percentile Queue Length [veh/ln]	17.35	13.26	0.39	0.73	0.40	13.30	2.14	13.82	7.61	7.60
95th-Percentile Queue Length [ft/ln]	433.68	331.49	9.86	18.17	9.90	332.52	53.40	345.39	190.28	189.90

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	70.72	53.39	53.39	78.83	86.69	86.69	79.29	25.97	20.30	52.87	52.87	11.90	11.91
Movement LOS	E	D	D	E	F	F	E	C	C	D	D	B	B
d_A, Approach Delay [s/veh]	62.78			84.07			25.84			24.56			
Approach LOS	E			F			C			C			
d_I, Intersection Delay [s/veh]	34.79												
Intersection LOS	C												
Intersection V/C	0.640												

Emissions

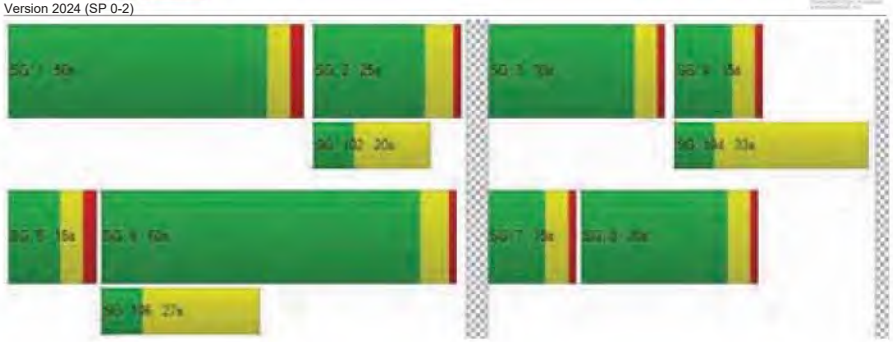
Vehicle Miles Traveled [mph]	124.84	105.58	0.23	0.46	4.21	674.90	57.22	72.63	81.35	81.13
Stops [stops/h]	351.91	254.49	6.57	12.11	6.60	510.92	35.60	267.54	127.08	126.75
Fuel consumption [US gal/h]	11.75	8.73	0.13	0.26	0.29	34.84	2.83	7.60	4.84	4.83
CO [g/h]	821.04	610.15	8.80	18.32	20.29	2435.66	198.05	531.12	338.35	337.45
NOx [g/h]	159.75	118.71	1.71	3.56	3.95	473.89	38.53	103.34	65.83	65.65
VOC [g/h]	190.29	141.41	2.04	4.25	4.70	564.49	45.90	123.09	78.41	78.21

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.460	1.964	2.812	0.000
Crosswalk LOS	B	A	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	417	167	317	900
d_b, Bicycle Delay [s]	37.60	50.42	42.50	18.15
l_b,int, Bicycle LOS Score for Intersection	2.725	1.584	2.305	2.108
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 20: White Rock Rd/Post St

Control Type:	Signalized	Delay (sec / veh):	43.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.672

Intersection Setup

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Approach	Northbound			Southbound			Eastbound				Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	300.0	100.0	100.0	100.0	200.00	100.00	400.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00				30.00		
Grade [%]	0.00			0.00			0.00				0.00		
Curb Present	No			No			No				No		
Crosswalk	Yes			Yes			No				No		

Volumes

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	71	16	42	191	15	246	3	227	1167	57	86	738	181
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	-10	0	-18	-17	0	0	40	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	13	0	0	71	0	0	0	17	0	0	54
Total Hourly Volume [veh/h]	71	16	29	191	15	165	3	209	1150	40	86	778	127
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	1.000	0.910	0.860	0.910	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	4	8	52	4	45	1	57	334	11	24	214	35
Total Analysis Volume [veh/h]	78	18	32	210	16	181	3	230	1337	44	95	855	140
Presence of On-Street Parking	No		No	No		No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0				0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0				0		
v_co, Outbound Pedestrian Volume crossing	0			0			0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0				0		
Bicycle Volume [bicycles/h]	0			0			0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	160
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	55.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups													
Maximum Green [s]	7	24	0	7	26	0	0	24	75	0	15	67	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	24	0	0	0	21	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	100.0	0.0	100.0	100.0	0.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	13	29	0	47	31	0	0	28	80	0	20	72	0
Lead / Lag	Lead	-	-	Lead	-	-	-	Lead	-	-	Lag	-	-
Minimum Green [s]	3	9	0	3	9	0	0	9	9	0	9	9	0
Vehicle Extension [s]	1.0	1.5	0.0	1.0	1.5	0.0	0.0	1.0	1.5	0.0	1.0	1.5	0.0
Minimum Recall		No			No			No	No		No	No	
Maximum Recall		No			No			No	No		No	No	
Pedestrian Recall		No			No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	160	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	11	11	22	22	67	98	98	10	40	40
g / C, Green / Cycle	0.07	0.07	0.14	0.14	0.42	0.61	0.61	0.06	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.05	0.02	0.12	0.12	0.13	0.38	0.03	0.05	0.24	0.09
s, saturation flow rate [veh/h]	1797	1589	1781	1609	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	118	105	241	218	750	2170	969	115	901	402
d1, Uniform Delay [s]	73.74	71.24	67.82	68.17	30.86	19.55	12.55	73.96	58.76	48.96
k, delay calibration	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.92	0.60	3.82	5.59	1.08	1.32	0.09	5.60	2.69	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.31	0.87	0.91	0.31	0.62	0.05	0.83	0.95	0.35
d, Delay for Lane Group [s/veh]	78.66	71.84	71.64	73.77	31.94	20.87	12.64	79.56	61.44	49.15
Lane Group LOS	E	E	E	E	C	C	B	E	E	D
Critical Lane Group	Yes	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.08	1.28	8.72	8.32	6.35	15.88	0.68	4.06	17.39	4.68
50th-Percentile Queue Length [ft/ln]	102.02	31.99	217.98	207.97	158.67	396.97	16.96	101.55	434.87	116.91
95th-Percentile Queue Length [veh/ln]	7.35	2.30	13.56	13.05	10.48	22.41	1.22	7.31	24.23	8.22
95th-Percentile Queue Length [ft/ln]	183.64	57.58	339.05	326.22	261.96	560.35	30.52	182.79	605.87	205.57

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	78.66	78.66	71.84	71.70	73.77	73.77	31.94	31.94	20.87	12.64	79.56	61.44	49.15
Movement LOS	E	E	E	E	E	E	C	C	C	B	E	E	D
d_A, Approach Delay [s/veh]	76.96			72.67			22.24				61.44		
Approach LOS	E			E			C				E		
d_I, Intersection Delay [s/veh]	43.93												
Intersection LOS	D												
Intersection V/C	0.672												

Emissions

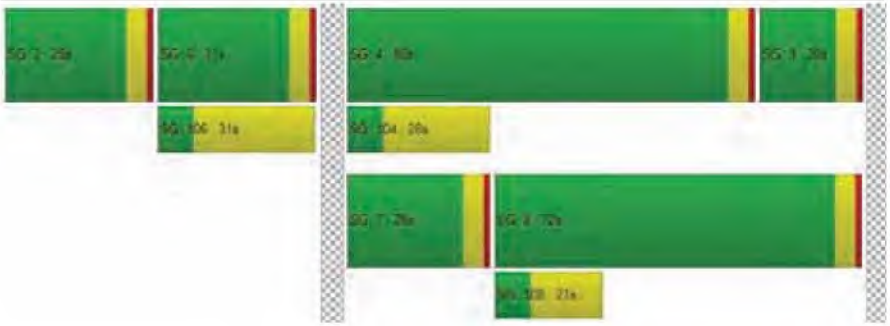
Vehicle Miles Traveled [mph]	4.80	1.60	9.76	9.16	24.62	141.26	4.65	33.15	298.38	48.86
Stops [stops/h]	91.82	28.79	196.18	187.17	142.80	714.55	15.26	91.40	782.77	105.22
Fuel consumption [US gal/h]	2.24	0.69	4.55	4.37	3.32	15.44	0.39	3.41	27.30	3.99
CO [g/h]	156.69	48.42	317.83	305.32	231.85	1079.33	27.18	238.19	1908.08	279.10
NOx [g/h]	30.49	9.42	61.84	59.40	45.11	210.00	5.29	46.34	371.24	54.30
VOC [g/h]	36.31	11.22	73.66	70.76	53.73	250.15	6.30	55.20	442.22	64.68

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	69.38	69.38	69.38	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.088	2.368	2.962	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	300	325	938	838
d_b, Bicycle Delay [s]	57.80	56.11	22.58	27.03
l_b,int, Bicycle LOS Score for Intersection	1.792	2.348	2.715	2.503
Bicycle LOS	A	B	B	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	33.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.894

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	2	2	0	1	2	0	1	2	0	1
Entry Pocket Length [ft]	300.00	100.00	300.00	200.00	100.00	200.00	300.00	100.00	200.00	500.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	300.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	117	83	587	373	142	63	67	1081	264	432	840	207
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-9	-6	0	-5	22	12	-29	0	22	19	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	174	0	0	26	0	0	79	0	0	62
Total Hourly Volume [veh/h]	117	74	407	373	137	59	79	1052	185	454	859	145
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	19	105	96	35	15	20	271	48	117	221	37
Total Analysis Volume [veh/h]	121	76	420	385	141	61	81	1085	191	468	886	149
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	153
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	1	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups			1,4									
Maximum Green [s]	0	35	25	0	40	0	25	45	0	25	44	0
Amber [s]	0.0	3.2	3.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.5	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	28	0	0	24	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	1.5	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	150.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	29	0	45	0	29	50	0	29	50	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	5	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	2.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No	No		No		No	No		No	No	
Maximum Recall		No	No		No		No	No		No	No	
Pedestrian Recall		No	No		No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	113	113	113	113	113	113	113	113	113	113	113	113
L, Total Lost Time per Cycle [s]	4.20	4.20	3.50	4.20	4.20	4.20	3.50	5.30	5.30	3.50	6.00	6.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.20	2.20	0.00	2.20	2.20	2.20	1.50	3.30	3.30	1.50	4.00	4.00
g_i, Effective Green Time [s]	12	12	66	28	28	28	5	38	38	18	51	51
g / C, Green / Cycle	0.10	0.10	0.58	0.25	0.25	0.25	0.04	0.34	0.34	0.16	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.07	0.04	0.15	0.21	0.08	0.04	0.02	0.30	0.12	0.14	0.25	0.09
s, saturation flow rate [veh/h]	1781	1870	2813	1877	1870	1589	3459	3560	1589	3459	3560	1589
c, Capacity [veh/h]	183	192	1643	497	464	394	141	1205	538	551	1606	717
d1, Uniform Delay [s]	49.07	47.67	11.55	42.27	34.73	33.39	53.52	35.73	28.24	46.41	22.78	18.88
k, delay calibration	0.13	0.13	0.04	0.13	0.13	0.13	0.04	0.11	0.11	0.04	0.14	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.05	1.65	0.03	3.27	0.46	0.23	1.39	2.74	0.40	1.44	0.38	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.66	0.40	0.26	0.78	0.30	0.15	0.58	0.90	0.35	0.85	0.55	0.21
d, Delay for Lane Group [s/veh]	54.12	49.32	11.58	45.54	35.18	33.61	54.90	38.48	28.64	47.85	23.16	19.06
Lane Group LOS	D	D	B	D	D	C	D	D	C	D	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.55	2.10	2.53	5.40	3.23	1.34	1.16	14.47	3.96	6.50	8.59	2.41
50th-Percentile Queue Length [ft/ln]	88.82	52.49	63.27	134.91	80.79	33.61	29.02	361.78	98.94	162.44	214.67	60.16
95th-Percentile Queue Length [veh/ln]	6.39	3.78	4.56	9.21	5.82	2.42	2.09	20.71	7.12	10.68	13.39	4.33
95th-Percentile Queue Length [ft/ln]	159.87	94.48	113.89	230.15	145.43	60.50	52.24	517.74	178.10	266.95	334.81	108.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.12	49.32	11.58	45.54	35.18	33.61	54.90	38.48	28.64	47.85	23.16	19.06
Movement LOS	D	D	B	D	D	C	D	D	C	D	C	B
d_A, Approach Delay [s/veh]	24.57			41.82			38.07			30.44		
Approach LOS	C			D			D			C		
d_I, Intersection Delay [s/veh]	33.74											
Intersection LOS	C											
Intersection V/C	0.894											

Emissions

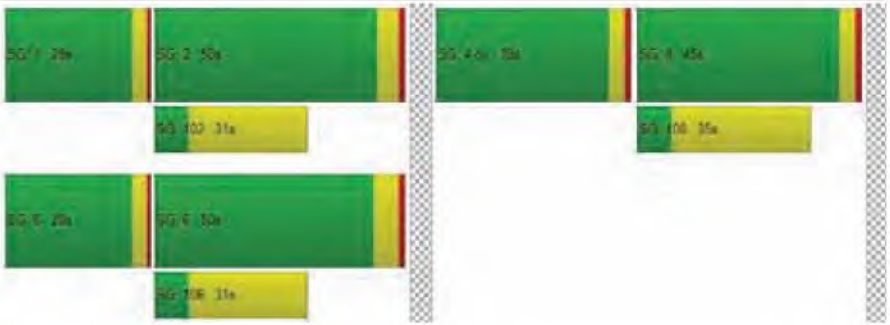
Vehicle Miles Traveled [mph]	206.98	130.00	718.44	78.05	28.59	12.37	28.27	378.64	66.66	211.18	399.79	67.23
Stops [stops/h]	112.76	66.64	160.65	342.56	102.57	42.67	73.69	918.61	125.62	412.47	545.08	76.38
Fuel consumption [US gal/h]	10.48	6.48	31.45	8.67	2.75	1.16	2.48	29.16	4.55	15.53	23.65	3.77
CO [g/h]	732.27	453.14	2198.59	606.29	192.43	81.23	173.05	2038.10	318.11	1085.45	1652.79	263.36
NOx [g/h]	142.47	88.17	427.76	117.96	37.44	15.80	33.67	396.54	61.89	211.19	321.57	51.24
VOC [g/h]	169.71	105.02	509.54	140.51	44.60	18.83	40.11	472.35	73.73	251.56	383.05	61.04

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	46.24	46.24	46.24	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.983	2.660	3.070	0.000
Crosswalk LOS	C	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	614	719	788	776
d_b, Bicycle Delay [s]	27.25	23.25	20.82	21.25
l_b,int, Bicycle LOS Score for Intersection	2.865	2.571	2.744	2.851
Bicycle LOS	C	B	B	C

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 22: White Rock Rd/Clarksville Crossing

Control Type:	Signalized	Delay (sec / veh):	55.7
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.001

Intersection Setup

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	180.00	460.00	100.00	100.00	290.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	0	0	2	80	0	334	8	2032	1	0	1145	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	-34	0	0	41	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	2	80	0	334	8	1998	1	0	1186	2
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.9600	0.7800	0.7800	0.9600	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	26	0	107	3	520	0	0	309	1
Total Analysis Volume [veh/h]	0	0	3	103	0	428	10	2081	1	0	1235	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	20	0	0	20	0	20	50	0	20	50	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	5.0	0.0	4.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	5.0	0.0	3.0	5.0	0.0
Detector Location [ft]	0.0	20.0	0.0	0.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	R
C, Cycle Length [s]	93	93	93	93	93	93	93	93	93	93
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	7.00	7.00	5.00	7.00	7.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	5.00	5.00	3.00	5.00	5.00
g_i, Effective Green Time [s]	0	0	20	20	1	50	50	0	49	49
g / C, Green / Cycle	0.00	0.00	0.22	0.22	0.01	0.54	0.54	0.00	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.06	0.27	0.01	0.56	0.56	0.00	0.35	0.00
s, saturation flow rate [veh/h]	1870	1589	1781	1589	1781	1870	1870	1781	3560	1589
c, Capacity [veh/h]	11	9	384	343	25	1009	1009	3	1877	838
d1, Uniform Delay [s]	0.00	45.90	30.25	36.34	45.31	21.34	21.34	0.00	15.87	10.38
k, delay calibration	0.11	0.11	0.11	0.50	0.11	0.45	0.45	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	19.59	0.37	133.62	9.98	35.48	35.54	0.00	0.40	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.33	0.27	1.25	0.40	1.03	1.03	0.00	0.66	0.00
d, Delay for Lane Group [s/veh]	0.00	65.49	30.62	169.96	55.29	56.82	56.88	0.00	16.27	10.39
Lane Group LOS	A	E	C	F	E	F	F	A	B	B
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.00	0.12	1.93	20.28	0.30	29.50	29.51	0.00	8.85	0.03
50th-Percentile Queue Length [ft/ln]	0.00	2.95	48.17	506.99	7.39	737.50	737.78	0.00	221.14	0.70
95th-Percentile Queue Length [veh/ln]	0.00	0.21	3.47	30.90	0.53	39.42	39.43	0.00	13.72	0.05
95th-Percentile Queue Length [ft/ln]	0.00	5.30	86.70	772.40	13.29	985.39	985.85	0.00	343.08	1.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	65.49	30.62	30.62	169.96	55.29	56.85	56.88	0.00	16.27	10.39
Movement LOS	A	A	E	C	C	F	E	F	E	A	B	B
d_A, Approach Delay [s/veh]		65.49			142.93			56.85			16.25	
Approach LOS		E			F			E			B	
d_I, Intersection Delay [s/veh]	55.68											
Intersection LOS	E											
Intersection V/C	1.001											

Emissions

Vehicle Miles Traveled [mph]	0.00	0.15	48.86	203.03	4.51	469.73	469.73	0.00	215.44	0.52
Stops [stops/h]	0.00	4.59	74.96	789.00	11.49	1147.74	1148.17	0.00	688.31	1.10
Fuel consumption [US gal/h]	0.00	0.07	3.07	27.52	0.36	37.72	37.73	0.00	16.76	0.03
CO [g/h]	0.00	5.00	214.41	1923.50	25.29	2636.29	2637.31	0.00	1171.54	2.37
NOx [g/h]	0.00	0.97	41.72	374.24	4.92	512.93	513.12	0.00	227.94	0.46
VOC [g/h]	0.00	1.16	49.69	445.79	5.86	610.99	611.22	0.00	271.52	0.55

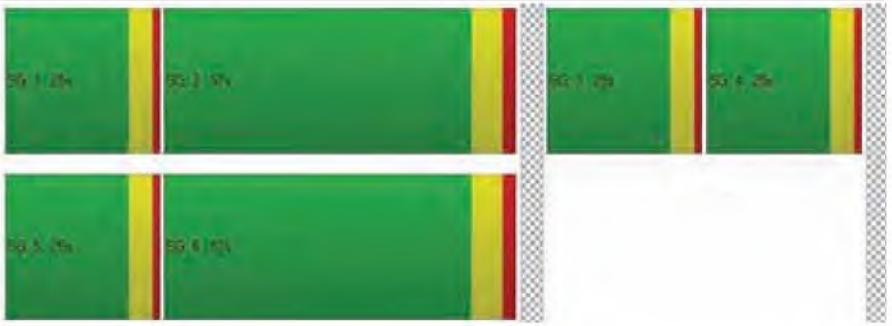
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	432	432	1081	1081
d_b, Bicycle Delay [s]	28.43	28.43	9.77	9.77
l_b,int, Bicycle LOS Score for Intersection	1.565	2.436	3.286	2.581
Bicycle LOS	A	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 23: White Rock Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	36.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.059

Intersection Setup

Name	White Rock Rd			White Rock Rd			US 50 EB					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			No		

Volumes

Name	White Rock Rd			White Rock Rd			US 50 EB					
Base Volume Input [veh/h]	0	855	1259	0	1056	301	512	0	91	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-9	-5	-20	0	41	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	12	0	0	0
Total Hourly Volume [veh/h]	0	850	1239	0	1097	301	512	0	79	0	0	0
Peak Hour Factor	0.8300	0.9100	1.0000	1.0000	0.9100	0.8300	0.8300	1.0000	0.8300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	234	310	0	301	91	154	0	24	0	0	0
Total Analysis Volume [veh/h]	0	934	1239	0	1205	363	617	0	95	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	4	0	0	0	0	0
Auxiliary Signal Groups												
Maximum Green [s]	0	73	0	0	73	0	34	0	0	0	0	0
Amber [s]	0.0	5.0	0.0	0.0	5.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	5.0	0.0	0.0	5.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	0.0	245.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	80	0	0	80	0	40	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	9	0	0	9	0	8	0	0	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	1.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		Yes			Yes		No					
Maximum Recall		No			No		No					
Pedestrian Recall		No			No		No					

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	R	
C, Cycle Length [s]	120	120	120	120	120	120	120	
L, Total Lost Time per Cycle [s]	7.00	7.00	7.00	7.00	6.00	6.00	6.00	
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	5.00	5.00	5.00	5.00	4.00	4.00	4.00	
g_i, Effective Green Time [s]	84	84	84	84	23	23	23	
g / C, Green / Cycle	0.70	0.70	0.70	0.70	0.19	0.19	0.19	
(v / s)_i Volume / Saturation Flow Rate	0.26	0.78	0.34	0.23	0.17	0.17	0.06	
s, saturation flow rate [veh/h]	3560	1589	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	2485	1109	2485	1109	345	345	308	
d1, Uniform Delay [s]	7.43	18.13	8.28	7.10	47.16	47.16	41.47	
k, delay calibration	0.50	0.50	0.50	0.50	0.08	0.08	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.44	65.19	0.68	0.79	6.43	6.43	0.21	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.38	1.12	0.49	0.33	0.89	0.89	0.31	
d, Delay for Lane Group [s/veh]	7.86	83.32	8.96	7.89	53.60	53.60	41.68	
Lane Group LOS	A	F	A	A	D	D	D	
Critical Lane Group	No	Yes	No	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	4.69	46.41	6.77	3.62	9.57	9.57	2.44	
50th-Percentile Queue Length [ft/ln]	117.25	1160.14	169.14	90.40	239.36	239.36	61.08	
95th-Percentile Queue Length [veh/ln]	8.24	63.39	11.03	6.51	14.65	14.65	4.40	
95th-Percentile Queue Length [ft/ln]	206.04	1584.77	275.78	162.72	366.22	366.22	109.95	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	7.86	83.32	0.00	8.96	7.89	53.60	0.00	41.68	0.00	0.00	0.00
Movement LOS		A	F		A	A	D		D			
d_A, Approach Delay [s/veh]		50.89			8.71			52.01			0.00	
Approach LOS		D			A			D			A	
d_I, Intersection Delay [s/veh]							36.22					
Intersection LOS							D					
Intersection V/C							1.059					

Emissions

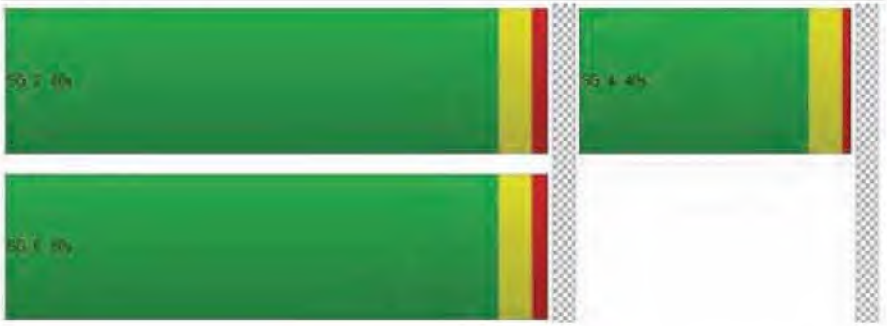
Vehicle Miles Traveled [mph]	162.93	216.13	213.54	64.33	18.68	18.68	5.75	
Stops [stops/h]	281.40	1392.17	405.93	108.48	287.23	287.23	73.30	
Fuel consumption [US gal/h]	9.76	37.59	13.23	3.83	5.72	5.72	1.45	
CO [g/h]	681.99	2627.87	924.86	267.73	399.85	399.85	101.18	
NOx [g/h]	132.69	511.29	179.94	52.09	77.80	77.80	19.69	
VOC [g/h]	158.06	609.03	214.34	62.05	92.67	92.67	23.45	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1217	1217	567	0
d_b, Bicycle Delay [s]	9.20	9.20	30.82	60.00
l_b,int, Bicycle LOS Score for Intersection	3.352	2.853	2.754	4.132
Bicycle LOS	C	C	C	D

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 24: Silva Valley Pkwy/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	28.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.757

Intersection Setup

Name	White Rock Rd			Silva Valley Pkwy			US 50 WB			US 50 WB		
Approach	Northbound			Southbound			Westbound			Northeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No			No				
Crosswalk		No			No			No			No	

Volumes

Name	White Rock Rd			Silva Valley Pkwy			US 50 WB			US 50 WB		
Base Volume Input [veh/h]	0	1215	152	0	686	254	671	1	310	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-5	0	0	6	0	35	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	47	0	0	30	0	0	0
Total Hourly Volume [veh/h]	0	1210	152	0	692	207	706	1	280	0	0	0
Peak Hour Factor	0.7900	0.7900	1.0000	1.0000	0.7900	0.7900	0.7900	0.7900	0.7900	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	383	38	0	219	66	223	0	89	0	0	0
Total Analysis Volume [veh/h]	0	1532	152	0	876	262	894	1	354	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Maximum Green [s]	0	73	0	0	73	0	0	34	0	0	0	0
Amber [s]	0.0	4.8	0.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	4.8	0.0	0.0	4.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	80	0	0	80	0	0	40	0	0	0	0
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	8	0	0	8	0	0	8	0	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		Yes			Yes			No				
Maximum Recall		No			No			No				
Pedestrian Recall		No			No			No				

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	R	
C, Cycle Length [s]	120	120	120	120	120	120	120	
L, Total Lost Time per Cycle [s]	6.80	6.80	6.80	6.80	5.80	5.80	5.80	
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	4.80	4.80	4.80	4.80	3.80	3.80	3.80	
g_i, Effective Green Time [s]	75	75	75	75	32	32	32	
g / C, Green / Cycle	0.63	0.63	0.63	0.63	0.27	0.27	0.27	
(v / s)_i Volume / Saturation Flow Rate	0.43	0.10	0.25	0.16	0.25	0.25	0.22	
s, saturation flow rate [veh/h]	3560	1589	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	2238	999	2238	999	474	475	423	
d1, Uniform Delay [s]	14.53	9.15	10.98	9.91	43.12	43.12	41.54	
k, delay calibration	0.50	0.50	0.50	0.50	0.31	0.31	0.23	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.72	0.32	0.52	0.64	21.30	21.28	8.79	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.68	0.15	0.39	0.26	0.94	0.94	0.84	
d, Delay for Lane Group [s/veh]	16.25	9.48	11.49	10.55	64.42	64.40	50.33	
Lane Group LOS	B	A	B	B	E	E	D	
Critical Lane Group	Yes	No	No	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	13.28	1.68	5.67	3.15	15.71	15.71	10.86	
50th-Percentile Queue Length [ft/ln]	332.03	42.07	141.68	78.78	392.71	392.64	271.62	
95th-Percentile Queue Length [veh/ln]	19.26	3.03	9.57	5.67	22.21	22.20	16.27	
95th-Percentile Queue Length [ft/ln]	481.44	75.73	239.29	141.80	555.21	555.12	406.76	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	16.25	9.48	0.00	11.49	10.55	64.41	64.40	50.33	0.00	0.00	0.00
Movement LOS		B	A		B	B	E	E	D			
d_A, Approach Delay [s/veh]		15.64			11.28			60.42			0.00	
Approach LOS		B			B			E			A	
d_I, Intersection Delay [s/veh]	28.16											
Intersection LOS	C											
Intersection V/C	0.757											

Emissions

Vehicle Miles Traveled [mph]	271.48	26.94	119.78	35.83	15.50	15.50	12.26	
Stops [stops/h]	796.86	50.49	340.04	94.53	471.25	471.16	325.94	
Fuel consumption [US gal/h]	20.65	1.68	8.86	2.56	9.11	9.11	5.93	
CO [g/h]	1443.13	117.49	619.23	178.92	636.64	636.46	414.58	
NOx [g/h]	280.78	22.86	120.48	34.81	123.87	123.83	80.66	
VOC [g/h]	334.46	27.23	143.51	41.47	147.55	147.51	96.08	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1220	1220	570	0
d_b, Bicycle Delay [s]	9.13	9.13	30.67	60.00
l_b,int, Bicycle LOS Score for Intersection	2.949	2.537	3.670	4.132
Bicycle LOS	C	B	D	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 25: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Base Volume Input [veh/h]	0	438	590	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	272	430	28	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	55	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	710	1020	83	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	178	255	21	0	0
Total Analysis Volume [veh/h]	0	710	1020	83	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	18.25
Movement LOS		A	A	A		C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		18.25	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 26: Latrobe/Wetsl-Oviatt

Control Type:	Two-way stop	Delay (sec / veh):	18.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.130

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Base Volume Input [veh/h]	0	328	485	20	27	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	41	2	25	14	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	369	487	45	41	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	92	122	11	10	1
Total Analysis Volume [veh/h]	3	369	487	45	41	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					Yes	
Storage Area [veh]	0		0		1	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.13	0.00
d_M, Delay for Movement [s/veh]	8.48	0.00	0.00	0.00	18.08	13.02
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.44	0.44
95th-Percentile Queue Length [ft/ln]	0.13	0.13	0.00	0.00	11.11	11.11
d_A, Approach Delay [s/veh]	0.07		0.00		17.84	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.84					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 27: Latrobe/S. Shingle

Control Type:	Two-way stop	Delay (sec / veh):	23.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.136

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Base Volume Input [veh/h]	0	185	67	47	288	46	10	41	2	49	25	87
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-4	0	14	-24	14	24	0	0	0	0	24
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	181	67	61	264	60	34	41	2	49	25	111
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	47	17	16	68	15	9	11	1	13	6	29
Total Analysis Volume [veh/h]	0	187	69	63	272	62	35	42	2	51	26	114
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free		Free		Stop		Stop	
Flared Lane					No		No	
Storage Area [veh]	0		0		0		0	
Two-Stage Gap Acceptance					No		No	
Number of Storage Spaces in Median	0		0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.05	0.00	0.00	0.14	0.12	0.00	0.17	0.07	0.14
d_M, Delay for Movement [s/veh]	7.94	0.00	0.00	7.83	0.00	0.00	23.02	19.40	13.96	21.05	19.60	13.72
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.11	0.11	0.11	1.01	1.01	1.01	1.76	1.76	1.76
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.82	2.82	2.82	25.29	25.29	25.29	43.96	43.96	43.96
d_A, Approach Delay [s/veh]	0.00			1.24			20.87			16.48		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	5.73											
Intersection LOS	C											

Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	710	1120	60	32
2	689	1086	58	31
3	675	1064	57	30
4	632	997	53	28
5	561	885	47	25
6	554	874	47	25
7	547	862	46	25
8	497	784	42	22
9	490	773	41	22
10	483	762	41	22
11	419	661	35	19
12	391	616	33	18
13	383	605	32	17
14	284	448	24	13
15	284	448	24	13
16	199	314	17	9
17	114	179	10	5
18	114	179	10	5
19	64	101	5	3
20	36	56	3	2
21	21	34	2	1
22	7	11	1	0
23	7	11	1	0
24	7	11	1	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1830	1	60	No	No	No	No	No	Yes	Yes	Yes	No	No
2	1	1775	1	58	No	No	No	No	No	No	Yes	Yes	No	No
3	1	1739	1	57	No	No	No	No	No	No	Yes	Yes	No	No
4	1	1629	1	53	No	No	No	No	No	No	Yes	Yes	No	No
5	1	1446	1	47	No	No	No	No	No	No	No	Yes	No	No
6	1	1428	1	47	No	No	No	No	No	No	No	Yes	No	No
7	1	1409	1	46	No	No	No	No	No	No	No	Yes	No	No
8	1	1281	1	42	No	No	No	No	No	No	No	Yes	No	No
9	1	1263	1	41	No	No	No	No	No	No	No	No	No	No
10	1	1245	1	41	No	No	No	No	No	No	No	No	No	No
11	1	1080	1	35	No	No	No	No	No	No	No	No	No	No
12	1	1007	1	33	No	No	No	No	No	No	No	No	No	No
13	1	988	1	32	No	No	No	No	No	No	No	No	No	No
14	1	732	1	24	No	No	No	No	No	No	No	No	No	No
15	1	732	1	24	No	No	No	No	No	No	No	No	No	No
16	1	513	1	17	No	No	No	No	No	No	No	No	No	No
17	1	293	1	10	No	No	No	No	No	No	No	No	No	No
18	1	293	1	10	No	No	No	No	No	No	No	No	No	No
19	1	165	1	5	No	No	No	No	No	No	No	No	No	No
20	1	92	1	3	No	No	No	No	No	No	No	No	No	No
21	1	55	1	2	No	No	No	No	No	No	No	No	No	No
22	1	18	1	1	No	No	No	No	No	No	No	No	No	No
23	1	18	1	1	No	No	No	No	No	No	No	No	No	No
24	1	18	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	1	4	8	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	18.3	303.2
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:18	2:41
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	60	32
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1922	1922
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 12: Latrobe Rd/Royal Oaks Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	447	1020	168	393
2	434	989	163	381
3	425	969	160	373
4	398	908	150	350
5	353	806	133	310
6	349	796	131	307
7	344	785	129	303
8	313	714	118	275
9	308	704	116	271
10	304	694	114	267
11	264	602	99	232
12	246	561	92	216
13	241	551	91	212
14	179	408	67	157
15	179	408	67	157
16	125	286	47	110
17	72	163	27	63
18	72	163	27	63
19	40	92	15	35
20	22	51	8	20
21	13	31	5	12
22	4	10	2	4
23	4	10	2	4
24	4	10	2	4

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1467	1	393	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	2	1423	1	381	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	2	1394	1	373	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	2	1306	1	350	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	2	1159	1	310	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	2	1145	1	307	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	2	1129	1	303	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	2	1027	1	275	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	2	1012	1	271	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	2	998	1	267	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	2	866	1	232	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
12	2	807	1	216	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
13	2	792	1	212	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
14	2	587	1	157	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
15	2	587	1	157	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
16	2	411	1	110	No	No	No	Yes	No	No	No	No	No	No
17	2	235	1	63	No	No	No	No	No	No	No	No	No	No
18	2	235	1	63	No	No	No	No	No	No	No	No	No	No
19	2	132	1	35	No	No	No	No	No	No	No	No	No	No
20	2	73	1	20	No	No	No	No	No	No	No	No	No	No
21	2	44	1	12	No	No	No	No	No	No	No	No	No	No
22	2	14	1	4	No	No	No	No	No	No	No	No	No	No
23	2	14	1	4	No	No	No	No	No	No	No	No	No	No
24	2	14	1	4	No	No	No	No	No	No	No	No	No	No
Hours Met					13	15	15	16	10	13	13	15	15	13

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	355.8	2962.7
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	16:36	323:25
Delay Condition Met	Yes	Yes
Volume on Minor Street Approach During Same Hour	168	393
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	2028	2028
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	Yes	Yes
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 13: Golden Foothill/Robert J Mathews

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	1077	295	844
2	1045	286	819
3	1023	280	802
4	959	263	751
5	851	233	667
6	840	230	658
7	829	227	650
8	754	207	591
9	743	204	582
10	732	201	574
11	635	174	498
12	592	162	464
13	582	159	456
14	431	118	338
15	431	118	338
16	302	83	236
17	172	47	135
18	172	47	135
19	97	27	76
20	54	15	42
21	32	9	25
22	11	3	8
23	11	3	8
24	11	3	8

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1372	1	844	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1331	1	819	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1303	1	802	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1222	1	751	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	1084	1	667	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	1070	1	658	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1	1056	1	650	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	1	961	1	591	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	1	947	1	582	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	1	933	1	574	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	1	809	1	498	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	1	754	1	464	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	1	741	1	456	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
14	1	549	1	338	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
15	1	549	1	338	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
16	1	385	1	236	No	No	Yes	Yes	No	No	No	No	No	No
17	1	219	1	135	No	No	No	No	No	No	No	No	No	No
18	1	219	1	135	No	No	No	No	No	No	No	No	No	No
19	1	124	1	76	No	No	No	No	No	No	No	No	No	No
20	1	69	1	42	No	No	No	No	No	No	No	No	No	No
21	1	41	1	25	No	No	No	No	No	No	No	No	No	No
22	1	14	1	8	No	No	No	No	No	No	No	No	No	No
23	1	14	1	8	No	No	No	No	No	No	No	No	No	No
24	1	14	1	8	No	No	No	No	No	No	No	No	No	No
Hours Met					15	15	16	16	12	13	15	15	15	13

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	10000
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2344:26
Delay Condition Met	Yes
Volume on Minor Street Approach During Same Hour	844
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	2216
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	Yes
Warrant Met for Intersection	**Yes**

Signal Warrants Report For Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	80%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	424	484	181	40
2	411	469	176	39
3	403	460	172	38
4	377	431	161	36
5	335	382	143	32
6	331	378	141	31
7	326	373	139	31
8	297	339	127	28
9	293	334	125	28
10	288	329	123	27
11	250	286	107	24
12	233	266	100	22
13	229	261	98	22
14	170	194	72	16
15	170	194	72	16
16	119	136	51	11
17	68	77	29	6
18	68	77	29	6
19	38	44	16	4
20	21	24	9	2
21	13	15	5	1
22	4	5	2	0
23	4	5	2	0
24	4	5	2	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	908	1	181	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
2	1	880	1	176	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
3	1	863	1	172	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
4	1	808	1	161	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
5	1	717	1	143	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
6	1	709	1	141	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
7	1	699	1	139	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
8	1	636	1	127	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
9	1	627	1	125	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
10	1	617	1	123	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
11	1	536	1	107	No	No	Yes	Yes	No	No	Yes	Yes	No	No
12	1	499	1	100	No	No	No	Yes	No	No	No	Yes	No	No
13	1	490	1	98	No	No	No	Yes	No	No	No	Yes	No	No
14	1	364	1	72	No	No	No	No	No	No	No	No	No	No
15	1	364	1	72	No	No	No	No	No	No	No	No	No	No
16	1	255	1	51	No	No	No	No	No	No	No	No	No	No
17	1	145	1	29	No	No	No	No	No	No	No	No	No	No
18	1	145	1	29	No	No	No	No	No	No	No	No	No	No
19	1	82	1	16	No	No	No	No	No	No	No	No	No	No
20	1	45	1	9	No	No	No	No	No	No	No	No	No	No
21	1	28	1	5	No	No	No	No	No	No	No	No	No	No
22	1	9	1	2	No	No	No	No	No	No	No	No	No	No
23	1	9	1	2	No	No	No	No	No	No	No	No	No	No
24	1	9	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					4	10	11	13	4	10	11	13	4	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	15	11.1
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:45	0:07
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	181	40
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1129	1129
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	258	433	279
2	250	420	271
3	245	411	265
4	230	385	248
5	204	342	220
6	201	338	218
7	199	333	215
8	181	303	195
9	178	299	193
10	175	294	190
11	152	255	165
12	142	238	153
13	139	234	151
14	103	173	112
15	103	173	112
16	72	121	78
17	41	69	45
18	41	69	45
19	23	39	25
20	13	22	14
21	8	13	8
22	3	4	3
23	3	4	3
24	3	4	3

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	691	2	279	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
2	2	670	2	271	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
3	2	656	2	265	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
4	2	615	2	248	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
5	2	546	2	220	No	Yes	Yes	Yes	No	No	No	Yes	No	No
6	2	539	2	218	No	Yes	Yes	Yes	No	No	No	Yes	No	No
7	2	532	2	215	No	Yes	Yes	Yes	No	No	No	Yes	No	No
8	2	484	2	195	No	Yes	Yes	Yes	No	No	No	No	No	No
9	2	477	2	193	No	No	Yes	Yes	No	No	No	No	No	No
10	2	469	2	190	No	No	Yes	Yes	No	No	No	No	No	No
11	2	407	2	165	No	No	No	Yes	No	No	No	No	No	No
12	2	380	2	153	No	No	No	Yes	No	No	No	No	No	No
13	2	373	2	151	No	No	No	Yes	No	No	No	No	No	No
14	2	276	2	112	No	No	No	No	No	No	No	No	No	No
15	2	276	2	112	No	No	No	No	No	No	No	No	No	No
16	2	193	2	78	No	No	No	No	No	No	No	No	No	No
17	2	110	2	45	No	No	No	No	No	No	No	No	No	No
18	2	110	2	45	No	No	No	No	No	No	No	No	No	No
19	2	62	2	25	No	No	No	No	No	No	No	No	No	No
20	2	35	2	14	No	No	No	No	No	No	No	No	No	No
21	2	21	2	8	No	No	No	No	No	No	No	No	No	No
22	2	7	2	3	No	No	No	No	No	No	No	No	No	No
23	2	7	2	3	No	No	No	No	No	No	No	No	No	No
24	2	7	2	3	No	No	No	No	No	No	No	No	No	No
Hours Met					4	8	10	13	0	0	3	7	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	19.5
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:30
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	279
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	970
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 16: Carson Crossing Rd/Calypso Cir.

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	417	328	413
2	404	318	401
3	396	312	392
4	371	292	368
5	329	259	326
6	325	256	322
7	321	253	318
8	292	230	289
9	288	226	285
10	284	223	281
11	246	194	244
12	229	180	227
13	225	177	223
14	167	131	165
15	167	131	165
16	117	92	116
17	67	52	66
18	67	52	66
19	38	30	37
20	21	16	21
21	13	10	12
22	4	3	4
23	4	3	4
24	4	3	4

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	745	1	413	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
2	2	722	1	401	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
3	2	708	1	392	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
4	2	663	1	368	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
5	2	588	1	326	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
6	2	581	1	322	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
7	2	574	1	318	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
8	2	522	1	289	No	Yes	Yes	Yes	No	No	No	Yes	No	No
9	2	514	1	285	No	Yes	Yes	Yes	No	No	No	Yes	No	No
10	2	507	1	281	No	Yes	Yes	Yes	No	No	No	Yes	No	No
11	2	440	1	244	No	No	Yes	Yes	No	No	No	No	No	No
12	2	409	1	227	No	No	No	Yes	No	No	No	No	No	No
13	2	402	1	223	No	No	No	Yes	No	No	No	No	No	No
14	2	298	1	165	No	No	No	No	No	No	No	No	No	No
15	2	298	1	165	No	No	No	No	No	No	No	No	No	No
16	2	209	1	116	No	No	No	No	No	No	No	No	No	No
17	2	119	1	66	No	No	No	No	No	No	No	No	No	No
18	2	119	1	66	No	No	No	No	No	No	No	No	No	No
19	2	68	1	37	No	No	No	No	No	No	No	No	No	No
20	2	37	1	21	No	No	No	No	No	No	No	No	No	No
21	2	23	1	12	No	No	No	No	No	No	No	No	No	No
22	2	7	1	4	No	No	No	No	No	No	No	No	No	No
23	2	7	1	4	No	No	No	No	No	No	No	No	No	No
24	2	7	1	4	No	No	No	No	No	No	No	No	No	No
Hours Met					4	10	11	13	0	2	4	10	7	1

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	164.1
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	18:49
Delay Condition Met	Yes
Volume on Minor Street Approach During Same Hour	413
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1158
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	Yes
Warrant Met for Intersection	**Yes**

Signal Warrants Report For Intersection 17: Carson Crossing Rd/Four Seasons Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	258	271	3
2	250	263	3
3	245	257	3
4	230	241	3
5	204	214	2
6	201	211	2
7	199	209	2
8	181	190	2
9	178	187	2
10	175	184	2
11	152	160	2
12	142	149	2
13	139	146	2
14	103	108	1
15	103	108	1
16	72	76	1
17	41	43	0
18	41	43	0
19	23	24	0
20	13	14	0
21	8	8	0
22	3	3	0
23	3	3	0
24	3	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	529	1	3	No	No	No	No	No	No	No	No	No	No
2	3	513	1	3	No	No	No	No	No	No	No	No	No	No
3	3	502	1	3	No	No	No	No	No	No	No	No	No	No
4	3	471	1	3	No	No	No	No	No	No	No	No	No	No
5	3	418	1	2	No	No	No	No	No	No	No	No	No	No
6	3	412	1	2	No	No	No	No	No	No	No	No	No	No
7	3	408	1	2	No	No	No	No	No	No	No	No	No	No
8	3	371	1	2	No	No	No	No	No	No	No	No	No	No
9	3	365	1	2	No	No	No	No	No	No	No	No	No	No
10	3	359	1	2	No	No	No	No	No	No	No	No	No	No
11	3	312	1	2	No	No	No	No	No	No	No	No	No	No
12	3	291	1	2	No	No	No	No	No	No	No	No	No	No
13	3	285	1	2	No	No	No	No	No	No	No	No	No	No
14	3	211	1	1	No	No	No	No	No	No	No	No	No	No
15	3	211	1	1	No	No	No	No	No	No	No	No	No	No
16	3	148	1	1	No	No	No	No	No	No	No	No	No	No
17	3	84	1	0	No	No	No	No	No	No	No	No	No	No
18	3	84	1	0	No	No	No	No	No	No	No	No	No	No
19	3	47	1	0	No	No	No	No	No	No	No	No	No	No
20	3	27	1	0	No	No	No	No	No	No	No	No	No	No
21	3	16	1	0	No	No	No	No	No	No	No	No	No	No
22	3	6	1	0	No	No	No	No	No	No	No	No	No	No
23	3	6	1	0	No	No	No	No	No	No	No	No	No	No
24	3	6	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	8.1
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	3
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	532
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 25: New Intersection

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	710	1103	0
2	689	1070	0
3	675	1048	0
4	632	982	0
5	561	871	0
6	554	860	0
7	547	849	0
8	497	772	0
9	490	761	0
10	483	750	0
11	419	651	0
12	391	607	0
13	383	596	0
14	284	441	0
15	284	441	0
16	199	309	0
17	114	176	0
18	114	176	0
19	64	99	0
20	36	55	0
21	21	33	0
22	7	11	0
23	7	11	0
24	7	11	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1813	1	0	No	No	No	No	No	No	No	No	No	No
2	1	1759	1	0	No	No	No	No	No	No	No	No	No	No
3	1	1723	1	0	No	No	No	No	No	No	No	No	No	No
4	1	1614	1	0	No	No	No	No	No	No	No	No	No	No
5	1	1432	1	0	No	No	No	No	No	No	No	No	No	No
6	1	1414	1	0	No	No	No	No	No	No	No	No	No	No
7	1	1396	1	0	No	No	No	No	No	No	No	No	No	No
8	1	1269	1	0	No	No	No	No	No	No	No	No	No	No
9	1	1251	1	0	No	No	No	No	No	No	No	No	No	No
10	1	1233	1	0	No	No	No	No	No	No	No	No	No	No
11	1	1070	1	0	No	No	No	No	No	No	No	No	No	No
12	1	998	1	0	No	No	No	No	No	No	No	No	No	No
13	1	979	1	0	No	No	No	No	No	No	No	No	No	No
14	1	725	1	0	No	No	No	No	No	No	No	No	No	No
15	1	725	1	0	No	No	No	No	No	No	No	No	No	No
16	1	508	1	0	No	No	No	No	No	No	No	No	No	No
17	1	290	1	0	No	No	No	No	No	No	No	No	No	No
18	1	290	1	0	No	No	No	No	No	No	No	No	No	No
19	1	163	1	0	No	No	No	No	No	No	No	No	No	No
20	1	91	1	0	No	No	No	No	No	No	No	No	No	No
21	1	54	1	0	No	No	No	No	No	No	No	No	No	No
22	1	18	1	0	No	No	No	No	No	No	No	No	No	No
23	1	18	1	0	No	No	No	No	No	No	No	No	No	No
24	1	18	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	18.2
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1813
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 26: Latrobe/Wetsl-Oviatt

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	372	532	43
2	361	516	42
3	353	505	41
4	331	473	38
5	294	420	34
6	290	415	34
7	286	410	33
8	260	372	30
9	257	367	30
10	253	362	29
11	219	314	25
12	205	293	24
13	201	287	23
14	149	213	17
15	149	213	17
16	104	149	12
17	60	85	7
18	60	85	7
19	33	48	4
20	19	27	2
21	11	16	1
22	4	5	0
23	4	5	0
24	4	5	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	904	1	43	No	No	No	No	No	No	No	Yes	No	No
2	1	877	1	42	No	No	No	No	No	No	No	Yes	No	No
3	1	858	1	41	No	No	No	No	No	No	No	No	No	No
4	1	804	1	38	No	No	No	No	No	No	No	No	No	No
5	1	714	1	34	No	No	No	No	No	No	No	No	No	No
6	1	705	1	34	No	No	No	No	No	No	No	No	No	No
7	1	696	1	33	No	No	No	No	No	No	No	No	No	No
8	1	632	1	30	No	No	No	No	No	No	No	No	No	No
9	1	624	1	30	No	No	No	No	No	No	No	No	No	No
10	1	615	1	29	No	No	No	No	No	No	No	No	No	No
11	1	533	1	25	No	No	No	No	No	No	No	No	No	No
12	1	498	1	24	No	No	No	No	No	No	No	No	No	No
13	1	488	1	23	No	No	No	No	No	No	No	No	No	No
14	1	362	1	17	No	No	No	No	No	No	No	No	No	No
15	1	362	1	17	No	No	No	No	No	No	No	No	No	No
16	1	253	1	12	No	No	No	No	No	No	No	No	No	No
17	1	145	1	7	No	No	No	No	No	No	No	No	No	No
18	1	145	1	7	No	No	No	No	No	No	No	No	No	No
19	1	81	1	4	No	No	No	No	No	No	No	No	No	No
20	1	46	1	2	No	No	No	No	No	No	No	No	No	No
21	1	27	1	1	No	No	No	No	No	No	No	No	No	No
22	1	9	1	0	No	No	No	No	No	No	No	No	No	No
23	1	9	1	0	No	No	No	No	No	No	No	No	No	No
24	1	9	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	2	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	17.8
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:12
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	43
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	947
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 27: Latrobe/S. Shingle

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

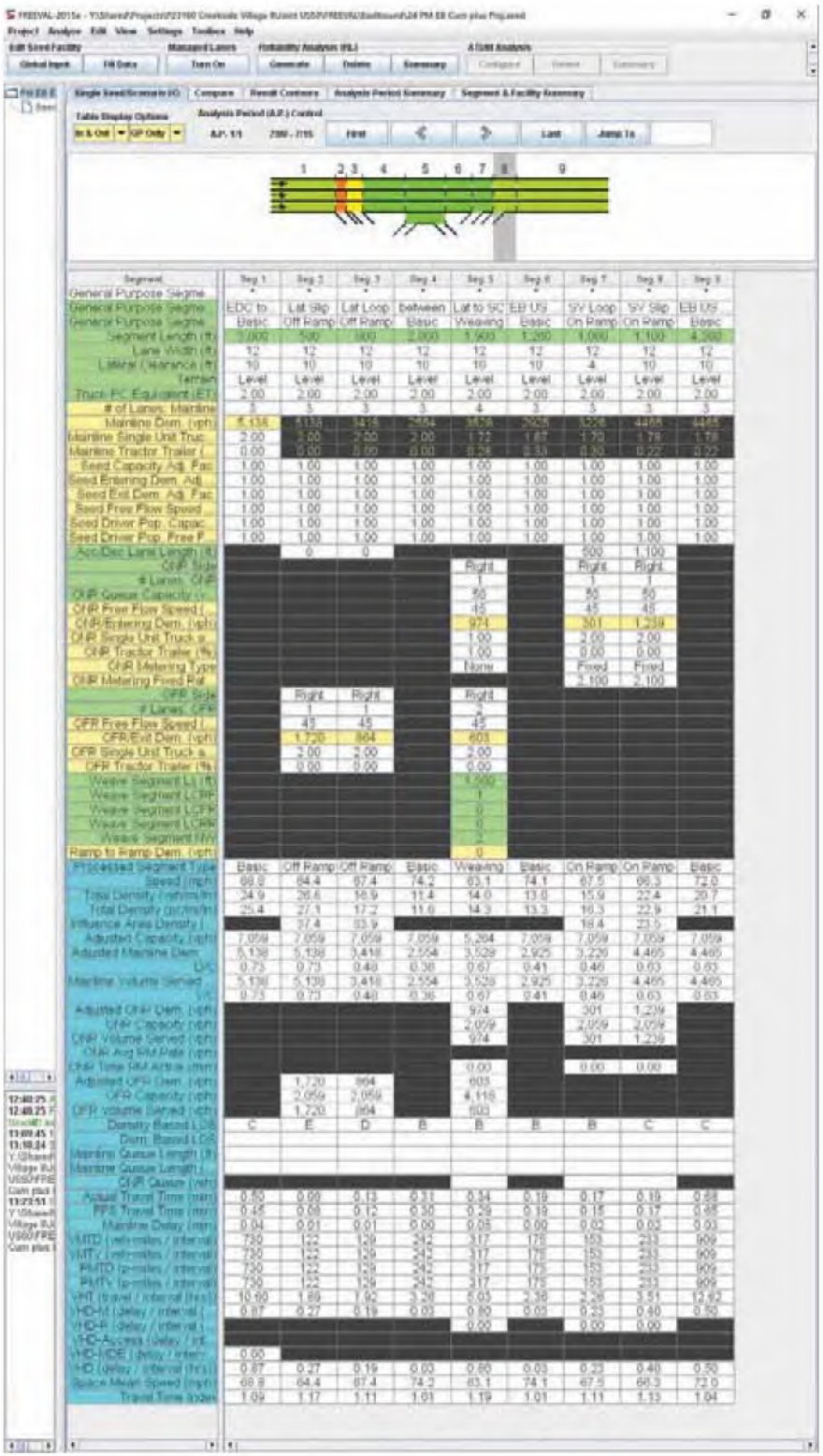
Hour	Major Streets		Minor Streets	
	S	N	E	W
1	248	385	185	77
2	241	373	179	75
3	236	366	176	73
4	221	343	165	69
5	196	304	146	61
6	193	300	144	60
7	191	296	142	59
8	174	270	130	54
9	171	266	128	53
10	169	262	126	52
11	146	227	109	45
12	136	212	102	42
13	134	208	100	42
14	99	154	74	31
15	99	154	74	31
16	69	108	52	22
17	40	62	30	12
18	40	62	30	12
19	22	35	17	7
20	12	19	9	4
21	7	12	6	2
22	2	4	2	1
23	2	4	2	1
24	2	4	2	1

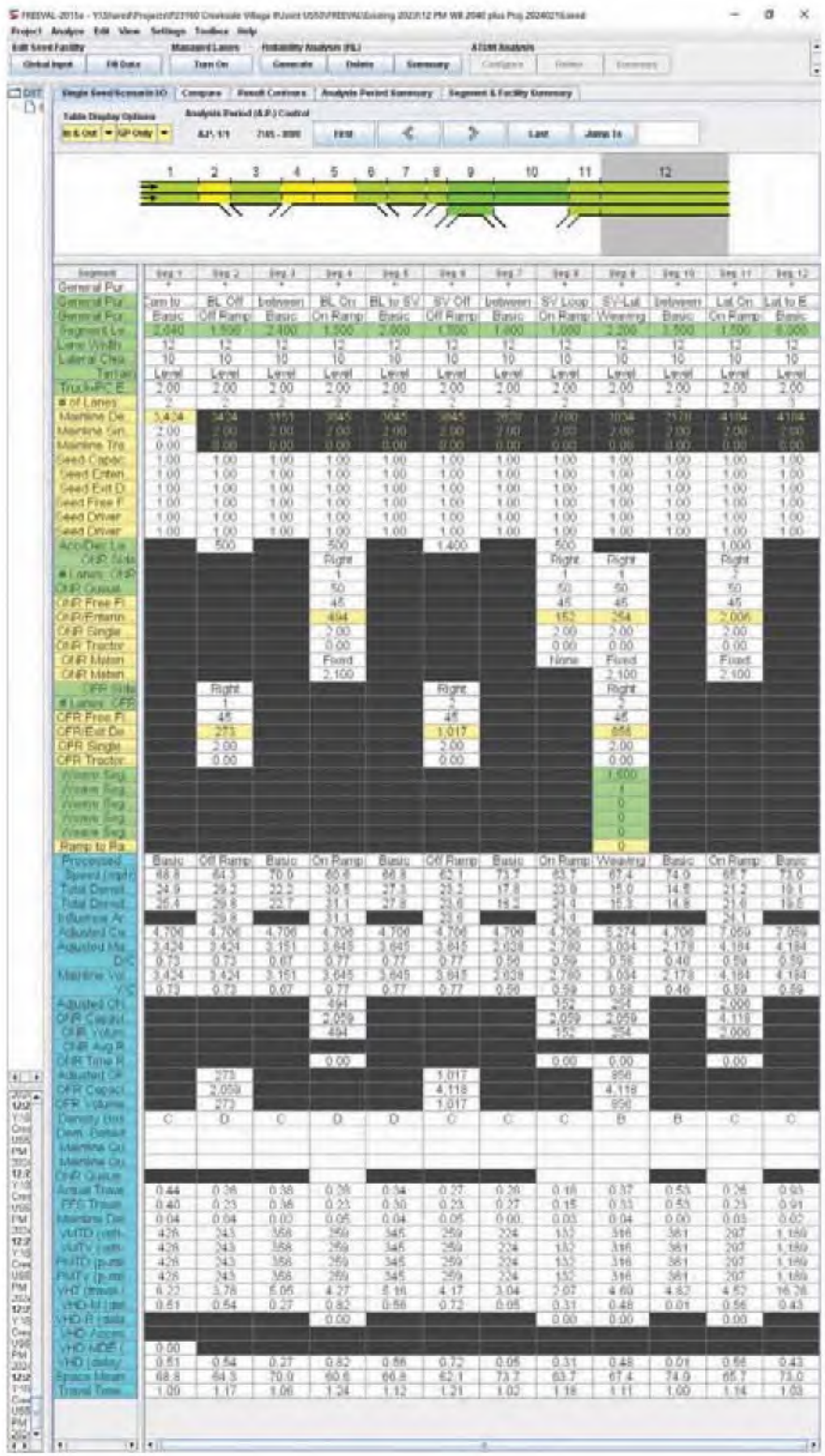
Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	633	1	185	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
2	1	614	1	179	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
3	1	602	1	176	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
4	1	564	1	165	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
5	1	500	1	146	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
6	1	493	1	144	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
7	1	487	1	142	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
8	1	444	1	130	No	Yes	Yes	Yes	No	No	No	Yes	No	No
9	1	437	1	128	No	Yes	Yes	Yes	No	No	No	Yes	No	No
10	1	431	1	126	No	Yes	Yes	Yes	No	No	No	Yes	No	No
11	1	373	1	109	No	No	Yes	Yes	No	No	No	No	No	No
12	1	348	1	102	No	No	No	Yes	No	No	No	No	No	No
13	1	342	1	100	No	No	No	Yes	No	No	No	No	No	No
14	1	253	1	74	No	No	No	No	No	No	No	No	No	No
15	1	253	1	74	No	No	No	No	No	No	No	No	No	No
16	1	177	1	52	No	No	No	No	No	No	No	No	No	No
17	1	102	1	30	No	No	No	No	No	No	No	No	No	No
18	1	102	1	30	No	No	No	No	No	No	No	No	No	No
19	1	57	1	17	No	No	No	No	No	No	No	No	No	No
20	1	31	1	9	No	No	No	No	No	No	No	No	No	No
21	1	19	1	6	No	No	No	No	No	No	No	No	No	No
22	1	6	1	2	No	No	No	No	No	No	No	No	No	No
23	1	6	1	2	No	No	No	No	No	No	No	No	No	No
24	1	6	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					4	10	11	13	0	3	4	10	7	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.5	20.9
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:50	0:26
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	185	77
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	895	895
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	





Cumulative AM plus abated Project

Vistro File: C:\...\AM 918 DU 20240212 - ABATED.vistro
Report File: C:\...\17 2040 AM plus abated Proj.pdf

Scenario 6 Abated 2040 AM with CCSP, + Project
2/14/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	NB Left	1.188	115.8	F
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	SB Left	0.963	37.5	D
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	WB Thru	1.030	61.7	E
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	NB Left	0.980	13.7	B
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	EB Left	0.380	47.7	E
12	Latrobe Rd/Royal Oaks Dr	Signalized	HCM 6th Edition	SB Left	0.776	28.4	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Option 1: Copy of Latrobe Rd/US 50 EB

Number	4												
Intersection	Latrobe Rd/US 50 EB												
Control Type	Signalized												
Analysis Method	HCM 7th Edition												
Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	0	2400	463	0	529	1886	0	0	0	1410	0	0	529
Total Analysis Volume [veh/h]	0	3020	402	0	630	2124	0	0	0	1115	0	0	440

Intersection Settings

Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	50	0	0	39	50	0	0	0	45	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Minimum Recall		No			No	No				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

g / C, Green / Cycle	0.47	0.47	0.38	0.55	0.29	
(v / s)_i Volume / Saturation Flow Rate	0.44	0.25	0.35	0.31	0.26	
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	
Arrival type	3		3		3	3
s, saturation flow rate [veh/h]	6702	1589	1781	6702	4220	

s, saturation flow rate [veh/h]	6792	1589	1781	6792	4220	
c, Capacity [veh/h]	3164	741	668	3733	1231	
X, volume / capacity	0.95	0.54	0.94	0.57	0.91	
d, Delay for Lane Group [s/veh]	25.89	15.83	29.99	10.67	24.29	
Lane Group LOS	C	B	C	B	C	
Critical Lane Group	Yes	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	10.72	4.09	9.79	3.97	5.44	
50th-Percentile Queue Length [ft/ln]	267.89	102.34	244.70	99.24	135.92	
95th-Percentile Queue Length [veh/ln]	16.08	7.37	14.92	7.15	9.26	
95th-Percentile Queue Length [ft/ln]	402.11	184.21	372.97	178.63	231.51	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	25.89	15.83	29.99	29.99	10.67	0.00	0.00	0.00	24.29	0.00	0.00	0.00
Movement LOS		C	B	C	C	B				C			
Critical Movement		No	No	No	Yes	No				No			No
d_A, Approach Delay [s/veh]	24.71			15.09			24.29			0.00			
Approach LOS	C			B			C			A			
d_I, Intersection Delay [s/veh]	21.01												
Intersection LOS	C												
Intersection V/C	1.044												

Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	115.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.188

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1588	1190	150	3	70	1406	1107	260	92	837	171	104	106
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	65	59	13	0	0	-59	0	0	0	-31	-12	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	49	0	0	0	332	0	0	242	0	0	32
Total Hourly Volume [veh/h]	1	1653	1249	114	3	70	1347	775	260	92	564	159	104	74
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	413	312	29	1	18	337	194	65	23	141	40	26	19
Total Analysis Volume [veh/h]	1	1653	1249	114	3	70	1347	775	260	92	564	159	104	74
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	134
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	37	62	0	0	14	39	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	45	68	0	0	19	42	28	0	28	0	0	20	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Cycle Length [s]	135	135	135	135	135	135	135	135	135	135	135
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	40	69	69	8	36	69	27	27	11	11	11
g / C, Green / Cycle	0.30	0.51	0.51	0.06	0.27	0.51	0.20	0.20	0.08	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.48	0.25	0.26	0.04	0.26	0.49	0.10	0.10	0.06	0.06	0.07
s, saturation flow rate [veh/h]	3459	3560	1793	1781	5094	1589	1781	1826	1781	1833	1670
c, Capacity [veh/h]	1035	1826	919	99	1372	809	359	368	144	148	135
d1, Uniform Delay [s]	33.83	5.40	5.45	62.75	49.00	31.78	47.66	47.65	60.90	60.85	61.01
k, delay calibration	0.27	0.50	0.50	0.04	0.50	0.50	0.08	0.08	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	271.62	0.94	2.02	3.89	20.37	22.97	0.75	0.73	3.56	3.28	4.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.60	0.49	0.51	0.73	0.98	0.96	0.48	0.48	0.79	0.78	0.81
d, Delay for Lane Group [s/veh]	305.45	6.34	7.47	66.63	69.36	54.75	48.41	48.38	64.46	64.14	65.28
Lane Group LOS	F	A	A	E	E	D	D	D	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	53.49	2.47	2.86	2.53	17.15	27.62	5.29	5.41	3.96	4.01	3.84
50th-Percentile Queue Length [ft/ln]	1337.22	61.66	71.62	63.29	428.72	690.49	132.14	135.15	98.94	100.30	95.97
95th-Percentile Queue Length [veh/ln]	82.41	4.44	5.16	4.56	23.94	36.24	9.06	9.22	7.12	7.22	6.91
95th-Percentile Queue Length [ft/ln]	2060.36	110.99	128.92	113.93	598.51	905.97	226.41	230.48	178.09	180.55	172.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	305.4	305.4	6.66	7.47	66.63	66.63	69.36	54.75	48.40	48.38	0.00	64.37	64.52	65.28
Movement LOS	F	F	A	A	E	E	E	D	D	D		E	E	E
d_A, Approach Delay [s/veh]	170.50				64.11				18.60			64.62		
Approach LOS	F				E				B			E		
d_I, Intersection Delay [s/veh]	115.82													
Intersection LOS	F													
Intersection V/C	1.188													

Emissions

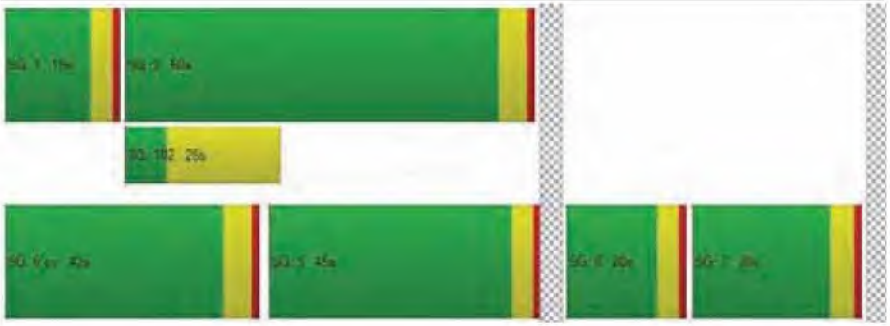
Vehicle Miles Traveled [mph]	283.02	152.91	80.31	13.75	253.63	145.92	8.05	8.23	3.60	3.66	3.46
Stops [stops/h]	2852.73	131.54	76.40	67.51	1371.90	736.53	140.95	144.16	105.53	106.99	102.37
Fuel consumption [US gal/h]	130.20	8.17	4.44	2.30	44.76	22.79	2.82	2.89	2.21	2.24	2.15
CO [g/h]	9100.93	571.43	310.48	160.79	3128.91	1593.23	197.39	201.89	154.80	156.77	150.58
NOx [g/h]	1770.71	111.18	60.41	31.28	608.77	309.98	38.40	39.28	30.12	30.50	29.30
VOC [g/h]	2109.23	132.43	71.96	37.27	725.16	369.25	45.75	46.79	35.88	36.33	34.90

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	56.95
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.365
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	921	536	339	228
d_b, Bicycle Delay [s]	19.63	36.15	46.54	52.98
l_b,int, Bicycle LOS Score for Intersection	3.245	2.911	2.140	1.864
Bicycle LOS	C	C	B	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	37.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.963

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	160.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

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Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	73	2071	262	4	570	2319	403	184	10	32	1	74	33	604
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	157	16	0	0	-174	0	0	0	-3	0	-9	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	83	0	0	0	121	0	0	9	0	0	0	181
Total Hourly Volume [veh/h]	1	77	2228	195	4	570	2145	282	184	10	20	1	65	33	423
Peak Hour Factor	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.9800	0.9800	0.9800	0.980	0.980	0.980	0.980
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	20	568	50	1	145	547	72	47	3	5	0	17	8	108
Total Analysis Volume [veh/h]	1	79	2273	199	4	582	2189	288	188	10	20	1	66	34	432
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	123
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	5	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	50	0	15	15	50	0	15	20	0	0	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	3.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.5	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	1.5	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	245.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	19	19	56	0	19	24	0	0	19	19	0
Lead / Lag	-	Lead	-	-	Lead	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	4	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	No			No	No			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	104	104	104	104	104	104	104	104	104	104	104	104
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	4	50	50	15	61	61	8	8	8	15	15	15
g / C, Green / Cycle	0.04	0.48	0.48	0.14	0.59	0.59	0.08	0.08	0.08	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.02	0.45	0.13	0.17	0.43	0.18	0.05	0.01	0.01	0.04	0.14	0.14
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	1870	1589	1781	1625	1589
c, Capacity [veh/h]	138	2450	764	499	2981	930	266	144	122	257	234	229
d1, Uniform Delay [s]	49.09	25.31	16.02	44.52	15.69	10.93	46.87	44.56	44.88	39.59	44.52	44.52
k, delay calibration	0.04	0.04	0.04	0.07	0.04	0.04	0.08	0.08	0.08	0.08	0.43	0.43
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.44	0.74	0.07	82.11	0.13	0.07	2.56	0.15	0.46	0.40	55.78	56.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.58	0.93	0.26	1.18	0.73	0.31	0.71	0.07	0.16	0.26	1.01	1.01
d, Delay for Lane Group [s/veh]	50.53	26.05	16.09	126.63	15.82	11.00	49.43	44.71	45.35	39.98	100.29	100.94
Lane Group LOS	D	C	B	F	B	B	D	D	D	D	F	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.05	16.73	2.77	12.05	11.64	3.21	2.46	0.25	0.50	1.55	9.60	9.44
50th-Percentile Queue Length [ft/ln]	26.14	418.13	69.17	301.16	290.96	80.18	61.47	6.13	12.44	38.69	240.09	235.93
95th-Percentile Queue Length [veh/ln]	1.88	23.43	4.98	19.01	17.23	5.77	4.43	0.44	0.90	2.79	14.72	14.51
95th-Percentile Queue Length [ft/ln]	47.05	585.81	124.51	475.19	430.83	144.32	110.65	11.03	22.38	69.65	368.07	362.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.53	50.53	26.05	16.09	126.6	126.6	15.82	11.00	49.43	44.71	45.35	39.98	39.98	100.2	100.6
Movement LOS	D	D	C	B	F	F	B	B	D	D	D	D	D	F	F
d_A, Approach Delay [s/veh]	26.04				36.57				48.84			92.99			
Approach LOS	C				D				D			F			
d_I, Intersection Delay [s/veh]	37.49														
Intersection LOS	D														
Intersection V/C	0.963														

Emissions

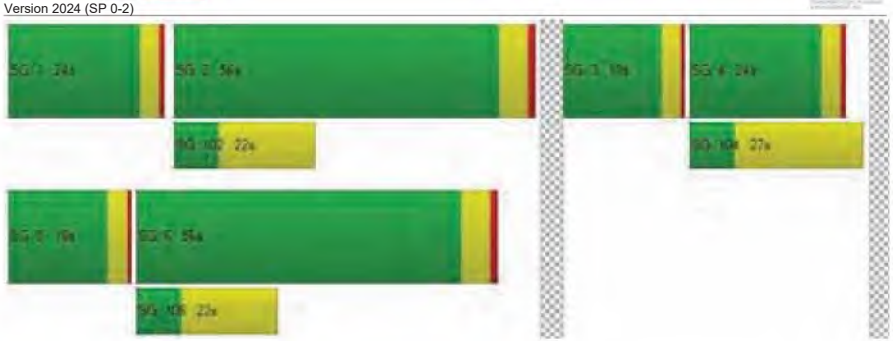
Vehicle Miles Traveled [mph]	17.87	507.85	44.46	84.79	316.74	41.67	23.98	1.28	2.55	23.51	82.66	80.89
Stops [stops/h]	72.41	1737.61	95.82	834.33	1209.12	111.06	170.31	8.49	17.23	53.60	332.58	326.81
Fuel consumption [US gal/h]	1.96	42.56	3.01	23.20	26.77	2.97	3.82	0.19	0.38	1.81	10.05	9.87
CO [g/h]	136.90	2974.79	210.49	1621.55	1871.13	207.86	266.95	13.31	26.89	126.47	702.26	689.85
NOx [g/h]	26.64	578.79	40.95	315.49	364.05	40.44	51.94	2.59	5.23	24.61	136.63	134.22
VOC [g/h]	31.73	689.44	48.78	375.81	433.65	48.17	61.87	3.08	6.23	29.31	162.76	159.88

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.56	0.00	41.56	41.56
l_p,int, Pedestrian LOS Score for Intersectio	3.507	0.000	2.594	2.874
Crosswalk LOS	D	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	972	972	394	298
d_b, Bicycle Delay [s]	13.74	13.74	33.50	37.63
l_b,int, Bicycle LOS Score for Intersection	3.008	2.991	1.747	2.629
Bicycle LOS	C	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	61.7
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.030

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	24.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	220.00	100.00	200.00	530.00	100.00	300.00	100.00	100.00	200.00	250.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	60	778	21	276	401	877	613	90	86	136	351	604
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	20	8	0	148	0	0	0	11	28	0	0
Site-Generated Trips [veh/h]	84	308	34	0	1	-235	-72	-12	-3	-9	-41	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	19	0	0	193	0	0	28	0	0	181
Total Hourly Volume [veh/h]	144	1106	44	276	550	449	541	78	66	155	310	423
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	311	12	78	154	126	152	22	19	44	87	119
Total Analysis Volume [veh/h]	162	1243	49	310	618	504	608	88	74	174	348	475
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	5	2	0	1	6	3	3	8	0	7	4	1
Auxiliary Signal Groups						3,6						1,4
Maximum Green [s]	30	45	0	25	40	25	25	31	0	20	25	25
Amber [s]	3.0	4.3	0.0	3.0	4.3	3.0	3.0	3.0	0.0	3.5	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.5	0.0	1.5	1.0	1.0
Walk [s]	0	5	0	0	5	0	0	5	0	5	5	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	31	0	31	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	2.0	2.0	2.5	0.0	3.0	2.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	20.0	20.0	20.0	0.0	20.0	20.0	20.0
Advanced Detector Location [ft]	245.0	245.0	0.0	245.0	245.0	245.0	245.0	245.0	0.0	245.0	245.0	245.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	6.0	6.0	6.0	0.0	6.0	6.0	6.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	9	9	0	0	0	9	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lag	-	-
Minimum Green [s]	5	5	0	5	5	5	5	5	0	5	5	5
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0
Minimum Recall	No	No		No	No	No	No	No		No	No	No
Maximum Recall	No	No		No	No	No	No	No		No	No	No
Pedestrian Recall	No	No		No	No	No	No	No		No	No	No

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Cycle Length [s]	137	137	137	137	137	137	137	137	137	137	137
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	4.00	4.00	4.50	5.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	0.00	2.00	2.50	3.00	2.00	0.00
g_i, Effective Green Time [s]	15	45	45	25	55	86	25	33	15	25	54
g / C, Green / Cycle	0.11	0.33	0.33	0.18	0.40	0.62	0.18	0.24	0.11	0.18	0.39
(v / s)_i Volume / Saturation Flow Rate	0.09	0.35	0.03	0.17	0.17	0.32	0.18	0.09	0.10	0.19	0.30
s, saturation flow rate [veh/h]	1781	3560	1653	1781	3560	1589	3459	1730	1781	1870	1589
c, Capacity [veh/h]	191	1167	542	324	1433	990	630	417	200	341	625
d1, Uniform Delay [s]	60.20	46.17	31.99	55.63	29.67	14.29	55.74	43.62	59.98	56.15	36.03
k, delay calibration	0.11	0.11	0.11	0.41	0.11	0.50	0.11	0.11	0.17	0.46	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.91	34.15	0.07	35.51	0.21	1.87	10.40	0.59	16.38	52.04	8.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.85	1.07	0.09	0.96	0.43	0.51	0.97	0.39	0.87	1.02	0.76
d, Delay for Lane Group [s/veh]	70.11	80.32	32.06	91.14	29.88	16.16	66.14	44.21	76.36	108.19	44.46
Lane Group LOS	E	F	C	F	C	B	E	D	E	F	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	6.08	25.28	1.16	13.40	7.05	8.14	11.35	4.73	6.89	16.73	15.19
50th-Percentile Queue Length [ft/ln]	152.10	631.98	29.00	334.97	176.29	203.50	283.83	118.14	172.13	418.30	379.66
95th-Percentile Queue Length [veh/ln]	10.13	34.98	2.09	19.40	11.41	12.82	16.88	8.29	11.19	23.70	21.58
95th-Percentile Queue Length [ft/ln]	253.24	874.39	52.20	485.05	285.16	320.48	421.98	207.26	279.71	592.56	539.43

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	70.11	80.32	32.06	91.14	29.88	16.16	66.14	44.21	44.21	76.36	108.19	44.46
Movement LOS	E	F	C	F	C	B	E	D	D	E	F	D
d_A, Approach Delay [s/veh]	77.56			38.31			61.53			72.27		
Approach LOS	E			D			E			E		
d_I, Intersection Delay [s/veh]	61.69											
Intersection LOS	E											
Intersection V/C	1.030											

Emissions

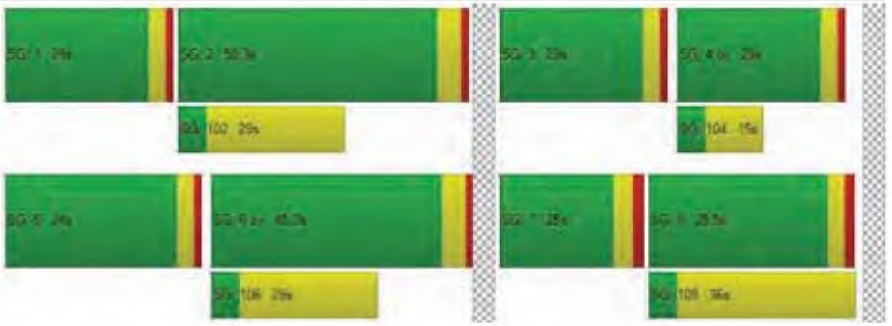
Vehicle Miles Traveled [mph]	93.56	717.86	28.30	216.35	431.30	351.74	45.74	12.19	19.24	38.49	52.53
Stops [stops/h]	159.50	1325.45	30.41	351.26	369.73	213.40	595.28	123.88	180.50	438.65	398.13
Fuel consumption [US gal/h]	7.04	57.19	1.65	19.51	25.05	17.39	13.35	2.64	4.49	11.67	8.66
CO [g/h]	492.36	3997.49	115.52	1363.76	1751.19	1215.37	933.48	184.79	314.06	815.62	605.30
NOx [g/h]	95.79	777.77	22.48	265.34	340.72	236.47	181.62	35.95	61.11	158.69	117.77
VOC [g/h]	114.11	926.46	26.77	316.06	405.85	281.67	216.34	42.83	72.79	189.03	140.28

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	59.95	59.95	59.95	59.95
l_p,int, Pedestrian LOS Score for Intersectio	2.886	3.980	2.681	2.811
Crosswalk LOS	C	D	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	655	583	452	364
d_b, Bicycle Delay [s]	31.03	34.49	41.16	45.94
l_b,int, Bicycle LOS Score for Intersection	2.775	2.900	2.876	3.503
Bicycle LOS	C	C	C	D

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	13.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.980

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

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Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	122	582	265	358	277	109
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	44	0	0	155	21	0
Site-Generated Trips [veh/h]	-31	498	229	-240	-72	-10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	82	0	30
Total Hourly Volume [veh/h]	135	1080	494	191	226	69
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	300	137	53	63	19
Total Analysis Volume [veh/h]	150	1200	549	212	251	77
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	16	54	34	0	56	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	20	60	40	0	60	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C
C, Cycle Length [s]	48	48	48	48	48	48
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	5	32	23	23	6	6
g / C, Green / Cycle	0.11	0.66	0.47	0.47	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.08	0.64	0.29	0.13	0.09	0.09
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1683
c, Capacity [veh/h]	193	1233	876	745	238	225
d1, Uniform Delay [s]	21.00	7.83	9.68	7.89	20.04	20.05
k, delay calibration	0.04	0.07	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.55	5.32	0.28	0.08	1.43	1.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.97	0.63	0.28	0.71	0.71
d, Delay for Lane Group [s/veh]	23.55	13.15	9.95	7.96	21.47	21.59
Lane Group LOS	C	B	A	A	C	C
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.44	3.67	2.48	0.78	1.72	1.64
50th-Percentile Queue Length [ft/ln]	35.92	91.63	62.11	19.42	42.91	40.96
95th-Percentile Queue Length [veh/ln]	2.59	6.60	4.47	1.40	3.09	2.95
95th-Percentile Queue Length [ft/ln]	64.65	164.93	111.81	34.96	77.23	73.73

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.55	13.15	9.95	7.96	21.51	21.59
Movement LOS	C	B	A	A	C	C
d_A, Approach Delay [s/veh]	14.31		9.40		21.53	
Approach LOS	B		A		C	
d_I, Intersection Delay [s/veh]	13.75					
Intersection LOS	B					
Intersection V/C	0.980					

Emissions

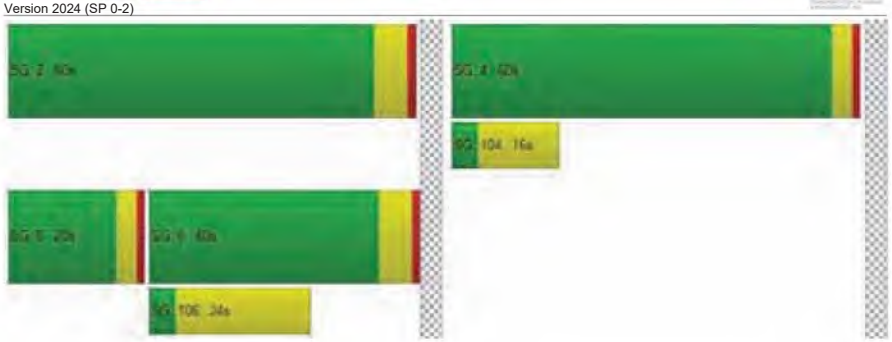
Vehicle Miles Traveled [mph]	18.51	148.06	317.06	122.44	39.50	37.54
Stops [stops/h]	107.15	273.33	185.29	57.94	127.99	122.20
Fuel consumption [US gal/h]	3.33	13.24	15.16	5.52	3.07	2.92
CO [g/h]	232.64	925.57	1059.66	385.53	214.44	204.30
NOx [g/h]	45.26	180.08	206.17	75.01	41.72	39.75
VOC [g/h]	53.92	214.51	245.59	89.35	49.70	47.35

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	16.80	0.00	16.80
l_p,int, Pedestrian LOS Score for Intersectio	3.106	0.000	2.214
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	2237	1409	2320
d_b, Bicycle Delay [s]	0.34	2.11	0.62
l_b,int, Bicycle LOS Score for Intersection	3.787	2.951	2.150
Bicycle LOS	D	C	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	47.7
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.380

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	658	0	14	360	0	0	0	0	0	0	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	13	0	0	0	4	11	0	0	0	0	0
Site-Generated Trips [veh/h]	2	433	0	0	208	12	34	0	5	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	1104	0	14	568	16	45	0	5	0	0	39
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	300	0	4	154	4	12	0	1	0	0	10
Total Analysis Volume [veh/h]	2	1200	0	14	617	17	49	0	5	0	0	39
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			Yes	Yes
Storage Area [veh]	0	0	1	1
Two-Stage Gap Acceptance			Yes	No
Number of Storage Spaces in Median	0	0	1	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.02	0.01	0.00	0.38	0.00	0.01	0.00	0.00	0.17
d_M, Delay for Movement [s/veh]	8.80	0.00	0.00	11.34	0.00	0.00	47.69	40.57	27.20	74.91	59.23	24.27
Movement LOS	A	A	A	B	A	A	E	E	D	F	F	C
95th-Percentile Queue Length [veh/ln]	0.01	0.00	0.00	0.07	0.00	0.00	1.61	1.61	1.61	0.61	0.61	0.61
95th-Percentile Queue Length [ft/ln]	0.16	0.00	0.00	1.85	0.00	0.00	40.15	40.15	40.15	15.28	15.28	15.28
d_A, Approach Delay [s/veh]	0.01			0.25			45.79			24.27		
Approach LOS	A			A			E			C		
d_I, Intersection Delay [s/veh]	1.85											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Signalized	Delay (sec / veh):	28.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.776

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	200.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	422	48	74	286	0	0	0	0	12	0	250
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	22	-10	0	0	4	141	446	6	51	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	37	0	0	0	0	0	37	0	18	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	59	412	48	74	290	141	483	6	69	12	2	250
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	111	13	20	78	38	130	2	19	3	1	67
Total Analysis Volume [veh/h]	63	443	52	80	312	152	519	6	74	13	2	269
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	11	0	0	18	0	0	14	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	0.0	245.0	245.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	9	9	0	9	9	0	0	9	0	0	9	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	C
C, Cycle Length [s]	68	68	68	68	68	68	68	68	68
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	21	4	21	21	13	13	13	14
g / C, Green / Cycle	0.05	0.30	0.06	0.31	0.31	0.19	0.19	0.19	0.21
(v / s)_i Volume / Saturation Flow Rate	0.04	0.27	0.04	0.17	0.10	0.15	0.15	0.05	0.18
s, saturation flow rate [veh/h]	1781	1836	1781	1870	1589	1781	1783	1589	1599
c, Capacity [veh/h]	91	558	106	584	497	340	340	303	339
d1, Uniform Delay [s]	31.93	22.71	31.68	19.42	17.89	26.28	26.28	23.50	25.85
k, delay calibration	0.11	0.17	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.90	7.45	10.13	0.76	0.35	3.74	3.74	0.41	5.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.69	0.89	0.75	0.53	0.31	0.77	0.77	0.24	0.84
d, Delay for Lane Group [s/veh]	40.83	30.15	41.80	20.18	18.24	30.02	30.02	23.92	31.40
Lane Group LOS	D	C	D	C	B	C	C	C	C
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.14	7.37	1.46	3.50	1.56	4.19	4.19	1.00	4.69
50th-Percentile Queue Length [ft/ln]	28.44	184.36	36.39	87.53	39.09	104.65	104.74	25.04	117.15
95th-Percentile Queue Length [veh/ln]	2.05	11.83	2.62	6.30	2.81	7.53	7.54	1.80	8.24
95th-Percentile Queue Length [ft/ln]	51.19	295.70	65.50	157.56	70.37	188.36	188.54	45.07	205.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.83	30.15	30.15	41.80	20.18	18.24	30.02	30.02	23.92	31.40	31.40	31.40
Movement LOS	D	C	C	D	C	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	31.36			22.82			29.27			31.40		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	28.39											
Intersection LOS	C											
Intersection V/C	0.776											

Emissions

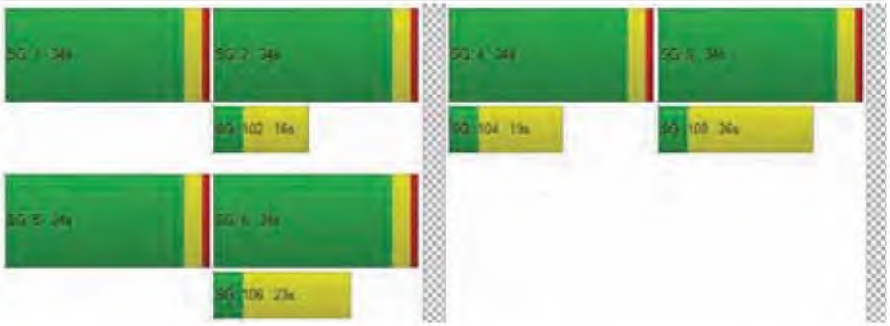
Vehicle Miles Traveled [mph]	21.37	167.93	8.11	31.63	15.41	14.27	14.29	4.03	239.75
Stops [stops/h]	60.02	389.06	76.80	184.73	82.50	220.84	221.04	52.84	247.24
Fuel consumption [US gal/h]	2.35	15.88	2.38	5.77	2.61	3.41	3.41	0.82	13.05
CO [g/h]	164.49	1110.11	166.24	403.37	182.58	238.40	238.62	57.17	912.22
NOx [g/h]	32.00	215.99	32.35	78.48	35.52	46.38	46.43	11.12	177.48
VOC [g/h]	38.12	257.28	38.53	93.49	42.31	55.25	55.30	13.25	211.42

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	25.71	25.71	25.71	25.71
l_p,int, Pedestrian LOS Score for Intersectio	2.498	2.922	2.317	1.908
Crosswalk LOS	B	C	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	879	879	879	879
d_b, Bicycle Delay [s]	10.71	10.71	10.71	10.71
l_b,int, Bicycle LOS Score for Intersection	2.480	2.457	2.548	2.028
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	1106	598	39	50
2	1073	580	38	49
3	1051	568	37	48
4	984	532	35	45
5	874	472	31	40
6	863	466	30	39
7	852	460	30	39
8	774	419	27	35
9	763	413	27	35
10	752	407	27	34
11	653	353	23	30
12	608	329	21	28
13	597	323	21	27
14	442	239	16	20
15	442	239	16	20
16	310	167	11	14
17	177	96	6	8
18	177	96	6	8
19	100	54	4	5
20	55	30	2	3
21	33	18	1	2
22	11	6	0	1
23	11	6	0	1
24	11	6	0	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1704	1	50	No	No	No	No	No	No	No	Yes	No	No
2	2	1653	1	49	No	No	No	No	No	No	No	Yes	No	No
3	2	1619	1	48	No	No	No	No	No	No	No	Yes	No	No
4	2	1516	1	45	No	No	No	No	No	No	No	Yes	No	No
5	2	1346	1	40	No	No	No	No	No	No	No	No	No	No
6	2	1329	1	39	No	No	No	No	No	No	No	No	No	No
7	2	1312	1	39	No	No	No	No	No	No	No	No	No	No
8	2	1193	1	35	No	No	No	No	No	No	No	No	No	No
9	2	1176	1	35	No	No	No	No	No	No	No	No	No	No
10	2	1159	1	34	No	No	No	No	No	No	No	No	No	No
11	2	1006	1	30	No	No	No	No	No	No	No	No	No	No
12	2	937	1	28	No	No	No	No	No	No	No	No	No	No
13	2	920	1	27	No	No	No	No	No	No	No	No	No	No
14	2	681	1	20	No	No	No	No	No	No	No	No	No	No
15	2	681	1	20	No	No	No	No	No	No	No	No	No	No
16	2	477	1	14	No	No	No	No	No	No	No	No	No	No
17	2	273	1	8	No	No	No	No	No	No	No	No	No	No
18	2	273	1	8	No	No	No	No	No	No	No	No	No	No
19	2	154	1	5	No	No	No	No	No	No	No	No	No	No
20	2	85	1	3	No	No	No	No	No	No	No	No	No	No
21	2	51	1	2	No	No	No	No	No	No	No	No	No	No
22	2	17	1	1	No	No	No	No	No	No	No	No	No	No
23	2	17	1	1	No	No	No	No	No	No	No	No	No	No
24	2	17	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	4	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	24.3	45.8
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:15	0:38
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	39	50
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1793	1793
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Cumulative PM plus abated Project

Vistro File: C:\...\PM 918 DU 20240212 - ABATED.vistro
Report File: C:\...\18 2040 PM plus abated Proj.pdf

Scenario 6 Abated 2040 PM with CCSP, + Project
2/14/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	NB Left	1.074	70.7	E
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	NB Thru	1.038	58.9	E
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	SB Left	0.923	50.1	D
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	SB Thru	1.022	61.4	E
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	WB Left	0.046	90.3	F
12	Latrobe Rd/Royal Oaks Dr	Signalized	HCM 6th Edition	NB Left	0.701	21.9	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Option 1: Copy of Latrobe Rd/US 50 EB

Number	4												
Intersection	Latrobe Rd/US 50 EB												
Control Type	Signalized												
Analysis Method	HCM 7th Edition												
Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	0	2691	613	1	388	1576	0	0	0	1667	0	0	864
Total Analysis Volume [veh/h]	0	2713	488	1	462	1723	0	0	0	1433	0	0	720

Intersection Settings

Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	30	0	0	26	34	0	0	0	22	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Minimum Recall		No			No	No				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

g / C, Green / Cycle	0.55	0.55	0.29	0.51	0.33	
(v / s)_i Volume / Saturation Flow Rate	0.40	0.31	0.26	0.25	0.34	
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	
Arrival type	3		3		3	3
s, saturation flow rate [veh/h]	6702	1580	1781	6702	4220	

s, saturation flow rate [veh/h]	6792	1589	1781	6792	4220	
c, Capacity [veh/h]	3745	876	516	3476	1390	
X, volume / capacity	0.72	0.56	0.90	0.50	1.03	
d, Delay for Lane Group [s/veh]	12.65	12.42	31.97	11.37	39.54	
Lane Group LOS	B	B	C	B	F	
Critical Lane Group	Yes	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	5.85	4.07	7.43	3.39	8.91	
50th-Percentile Queue Length [ft/ln]	146.31	101.66	185.84	84.69	222.87	
95th-Percentile Queue Length [veh/ln]	9.82	7.32	11.90	6.10	14.06	
95th-Percentile Queue Length [ft/ln]	245.49	182.99	297.62	152.45	351.53	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	12.65	12.42	31.97	31.97	11.37	0.00	0.00	0.00	39.54	0.00	0.00	0.00
Movement LOS		B	B	C	C	B				F			
Critical Movement		No	No	No	No	No				Yes			No
d_A, Approach Delay [s/veh]		12.61			15.73			39.54			0.00		
Approach LOS		B			B			D			A		
d_I, Intersection Delay [s/veh]	19.27												
Intersection LOS	B												
Intersection V/C	0.862												

Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	70.7
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.074

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1441	1689	425	0	37	1298	534	306	130	409	257	92	251
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-61	-43	-10	0	0	41	0	0	0	11	9	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	125	0	0	0	160	0	0	126	0	0	75
Total Hourly Volume [veh/h]	1	1380	1646	290	0	37	1339	374	306	130	294	266	92	176
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	345	412	73	0	9	335	94	77	33	74	67	23	44
Total Analysis Volume [veh/h]	1	1380	1646	290	0	37	1339	374	306	130	294	266	92	176
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	136
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	5	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	45	62	0	0	14	29	22	0	22	45	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	3.6	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	2.6	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	50	68	0	0	19	35	28	0	28	50	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	10	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	2.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	45	74	74	6	34	59	19	19	17	17	17
g / C, Green / Cycle	0.33	0.54	0.54	0.04	0.25	0.43	0.14	0.14	0.13	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.40	0.36	0.39	0.02	0.26	0.24	0.12	0.12	0.10	0.10	0.11
s, saturation flow rate [veh/h]	3459	3532	1723	1781	5053	1589	1781	1832	1781	1825	1589
c, Capacity [veh/h]	1155	1913	933	81	1277	684	250	257	223	228	199
d1, Uniform Delay [s]	45.28	22.30	23.31	63.30	50.81	28.83	57.16	57.15	57.81	57.78	58.54
k, delay calibration	0.10	0.50	0.50	0.04	0.50	0.50	0.16	0.16	0.17	0.17	0.24
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	89.77	1.83	4.66	1.51	38.81	3.12	12.10	11.78	9.80	9.25	23.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.20	0.66	0.71	0.46	1.05	0.55	0.86	0.86	0.80	0.79	0.89
d, Delay for Lane Group [s/veh]	135.05	24.14	27.97	64.81	89.61	31.95	69.26	68.94	67.61	67.03	81.62
Lane Group LOS	F	C	C	E	F	C	E	E	E	E	F
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	33.73	14.76	16.88	1.26	18.64	9.37	8.08	8.28	6.54	6.64	7.25
50th-Percentile Queue Length [ft/ln]	843.24	369.06	421.93	31.57	465.98	234.19	201.88	207.06	163.60	165.98	181.14
95th-Percentile Queue Length [veh/ln]	48.39	21.06	23.61	2.27	26.45	14.39	12.74	13.00	10.74	10.86	11.66
95th-Percentile Queue Length [ft/ln]	1209.64	526.59	590.37	56.82	661.37	359.68	318.39	325.05	268.49	271.62	291.50

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	135.0	135.0	25.01	27.97	64.81	64.81	89.61	31.95	69.17	68.94	0.00	67.41	67.03	81.62
Movement LOS	F	F	C	C	E	E	F	C	E	E		E	E	F
d_A, Approach Delay [s/veh]	71.08				76.77				41.27			72.03		
Approach LOS	E				E				D			E		
d_I, Intersection Delay [s/veh]	70.66													
Intersection LOS	E													
Intersection V/C	1.074													

Emissions

Vehicle Miles Traveled [mph]	236.52	217.40	114.18	6.96	251.99	70.39	9.94	10.23	5.63	5.75	5.60
Stops [stops/h]	1785.68	781.53	446.75	33.42	1480.17	247.97	213.75	219.24	173.23	175.74	191.79
Fuel consumption [US gal/h]	57.55	19.50	10.96	1.14	51.46	7.93	4.62	4.73	3.63	3.67	4.21
CO [g/h]	4022.70	1363.19	766.28	79.84	3596.79	554.12	322.89	330.84	253.53	256.72	294.49
NOx [g/h]	782.67	265.23	149.09	15.53	699.81	107.81	62.82	64.37	49.33	49.95	57.30
VOC [g/h]	932.30	315.93	177.59	18.50	833.59	128.42	74.83	76.68	58.76	59.50	68.25

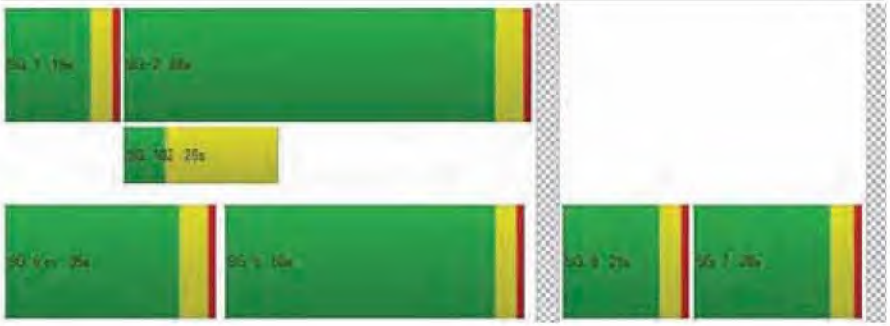
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	57.44
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.548
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	915	429	337	241
d_b, Bicycle Delay [s]	20.02	41.93	47.03	52.59
l_b,int, Bicycle LOS Score for Intersection	3.452	2.590	2.279	2.062
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Version 2024 (SP 0-2)



Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	58.9
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.038

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	160.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	24	2098	245	3	606	2038	596	508	40	83	1	94	6	695
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-3	-141	-6	0	0	114	0	0	0	3	0	12	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	72	0	0	0	179	0	0	26	0	0	0	209
Total Hourly Volume [veh/h]	1	21	1957	167	3	606	2152	417	508	40	60	1	106	6	486
Peak Hour Factor	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.9600	0.9600	0.9600	0.960	0.960	0.960	0.960
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	5	510	43	1	158	560	109	132	10	16	0	28	2	127
Total Analysis Volume [veh/h]	1	22	2039	174	3	631	2242	434	529	42	63	1	110	6	506
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	138
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	0	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	40	0	0	20	60	0	20	20	0	0	20	20	0
Amber [s]	0.0	3.0	4.5	0.0	0.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.0	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	0.0	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	46	0	0	24	66	0	24	24	0	0	24	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	0	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	Yes			No	Yes			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	118	118	118	118	118	118	118	118	118	118	118	118
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	2	42	42	20	60	60	20	20	20	20	20	20
g / C, Green / Cycle	0.02	0.36	0.36	0.17	0.51	0.51	0.17	0.17	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.01	0.40	0.11	0.18	0.44	0.27	0.15	0.02	0.04	0.06	0.16	0.16
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	1870	1589	1781	1595	1589
c, Capacity [veh/h]	67	1818	567	587	2583	806	582	315	268	302	270	270
d1, Uniform Delay [s]	57.10	37.93	27.39	48.97	25.58	19.70	48.15	41.72	42.47	43.37	48.45	48.46
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.05	0.08	0.08	0.08	0.08	0.40	0.40
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.14	55.55	0.11	39.65	0.36	0.24	4.44	0.14	0.33	0.55	37.41	37.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.35	1.12	0.31	1.08	0.87	0.54	0.91	0.13	0.24	0.37	0.95	0.95
d, Delay for Lane Group [s/veh]	58.24	93.48	27.51	88.62	25.95	19.95	52.59	41.86	42.80	43.92	85.86	86.00
Lane Group LOS	E	F	C	F	C	B	D	D	D	D	F	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.35	26.47	3.57	11.81	17.75	7.95	7.96	1.06	1.62	2.92	10.23	10.21
50th-Percentile Queue Length [ft/ln]	8.72	661.76	89.23	295.16	443.69	198.82	198.97	26.45	40.53	73.04	255.78	255.19
95th-Percentile Queue Length [veh/ln]	0.63	37.66	6.42	18.11	24.66	12.58	12.59	1.90	2.92	5.26	15.48	15.45
95th-Percentile Queue Length [ft/ln]	15.70	941.50	160.62	452.65	616.42	314.45	314.63	47.61	72.95	131.47	386.92	386.18

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	58.24	58.24	93.48	27.51	88.62	88.62	25.95	19.95	52.59	41.86	42.80	43.92	43.92	85.86	85.93
Movement LOS	E	E	F	C	F	F	C	B	D	D	D	D	D	F	F
d_A, Approach Delay [s/veh]	87.98				37.17				50.91			78.45			
Approach LOS	F				D				D			E			
d_I, Intersection Delay [s/veh]	58.93														
Intersection LOS	E														
Intersection V/C	1.038														

Emissions

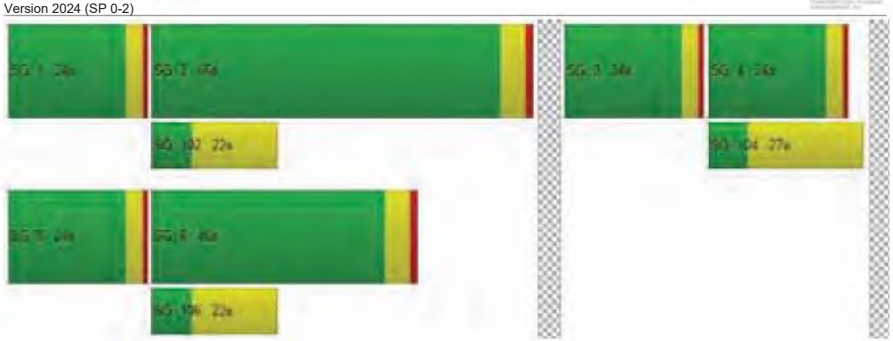
Vehicle Miles Traveled [mph]	5.13	455.18	38.84	91.74	324.41	62.80	67.47	5.36	8.04	38.96	90.00	89.70
Stops [stops/h]	21.33	2426.52	109.06	721.53	1626.93	243.01	486.38	32.33	49.54	89.27	312.63	311.90
Fuel consumption [US gal/h]	0.60	70.93	3.18	19.19	34.18	5.69	11.13	0.76	1.15	3.09	9.91	9.89
CO [g/h]	42.06	4957.78	221.97	1341.70	2389.35	397.69	777.68	52.91	80.60	215.92	692.83	691.18
NOx [g/h]	8.18	964.60	43.19	261.05	464.88	77.38	151.31	10.29	15.68	42.01	134.80	134.48
VOC [g/h]	9.75	1149.01	51.44	310.95	553.75	92.17	180.23	12.26	18.68	50.04	160.57	160.19

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	48.42	0.00	48.42	48.42
l_p,int, Pedestrian LOS Score for Intersectio	3.479	0.000	2.714	2.951
Crosswalk LOS	C	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	688	1027	348	348
d_b, Bicycle Delay [s]	25.37	13.94	40.19	40.19
l_b,int, Bicycle LOS Score for Intersection	2.828	3.132	2.104	2.751
Bicycle LOS	C	C	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	50.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.923

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	24.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	260.00	100.00	200.00	530.00	100.00	300.00	100.00	100.00	200.00	250.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	114	590	31	419	446	895	817	306	63	76	201	178
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	147	17	0	85	0	0	0	6	0	0	0
Site-Generated Trips [veh/h]	11	53	2	0	292	-123	-236	-40	79	30	-21	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	15	0	0	232	0	0	44	0	0	53
Total Hourly Volume [veh/h]	125	790	35	419	823	540	581	266	104	106	180	125
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	217	10	115	226	148	160	73	29	29	49	34
Total Analysis Volume [veh/h]	137	868	38	460	904	593	638	292	114	116	198	137
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	5	2	0	1	6	3	3	8	0	7	4	1
Auxiliary Signal Groups						3,6						1,4
Maximum Green [s]	30	45	0	25	40	25	25	31	0	20	25	25
Amber [s]	3.0	4.0	0.0	3.0	4.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	2.0	0.0	1.0	2.0	1.0	1.0	2.0	0.0	1.0	2.0	1.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	31	0	0	31	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
l2, Clearance Lost Time [s]	2.0	4.0	0.0	2.0	4.0	2.0	2.0	3.0	0.0	2.0	3.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	20.0	20.0	20.0	0.0	20.0	20.0	20.0
Advanced Detector Location [ft]	245.0	245.0	0.0	245.0	245.0	245.0	245.0	245.0	0.0	245.0	245.0	245.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	6.0	6.0	6.0	0.0	6.0	6.0	6.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	9	9	0	0	0	9	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lag	-	-
Minimum Green [s]	5	5	0	5	5	5	5	5	0	5	5	5
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0
Minimum Recall	No	No		No	No	No	No	No		No	No	No
Maximum Recall	No	No		No	No	No	No	No		No	No	No
Pedestrian Recall	No	No		No	No	No	No	No		No	No	No

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Cycle Length [s]	116	116	116	116	116	116	116	116	116	116	116
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	4.00	4.00	5.00	4.00	5.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	0.00	2.00	3.00	2.00	3.00	0.00
g_i, Effective Green Time [s]	11	32	32	25	46	77	25	30	9	15	45
g / C, Green / Cycle	0.09	0.28	0.28	0.22	0.40	0.67	0.22	0.26	0.08	0.13	0.39
(v / s)_i Volume / Saturation Flow Rate	0.08	0.24	0.02	0.26	0.25	0.37	0.18	0.23	0.07	0.11	0.09
s, saturation flow rate [veh/h]	1781	3560	1653	1781	3560	1589	3459	1782	1781	1870	1589
c, Capacity [veh/h]	169	984	457	385	1415	1058	747	467	145	238	615
d1, Uniform Delay [s]	51.37	40.08	31.02	45.36	28.15	10.33	43.61	40.79	52.24	49.27	23.82
k, delay calibration	0.11	0.11	0.11	0.50	0.11	0.50	0.11	0.32	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.99	2.82	0.08	110.75	0.48	2.15	2.91	13.49	9.75	7.30	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.88	0.08	1.20	0.64	0.56	0.85	0.87	0.80	0.83	0.22
d, Delay for Lane Group [s/veh]	60.35	42.89	31.10	156.11	28.63	12.48	46.52	54.29	61.98	56.57	24.00
Lane Group LOS	E	D	C	F	C	B	D	D	E	E	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.31	12.08	0.80	22.22	9.38	6.98	9.02	12.69	3.70	6.05	2.55
50th-Percentile Queue Length [ft/ln]	107.73	301.88	20.05	555.42	234.47	174.53	225.52	317.30	92.40	151.31	63.79
95th-Percentile Queue Length [veh/ln]	7.71	17.77	1.44	32.88	14.40	11.31	13.95	18.53	6.65	10.09	4.59
95th-Percentile Queue Length [ft/ln]	192.85	444.35	36.09	821.97	360.03	282.85	348.66	463.37	166.33	252.17	114.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	60.35	42.89	31.10	156.11	28.63	12.48	46.52	54.29	54.29	61.98	56.57	24.00
Movement LOS	E	D	C	F	C	B	D	D	D	E	E	C
d_A, Approach Delay [s/veh]	44.76			53.70			49.54			48.07		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	50.09											
Intersection LOS	D											
Intersection V/C	0.923											

Emissions

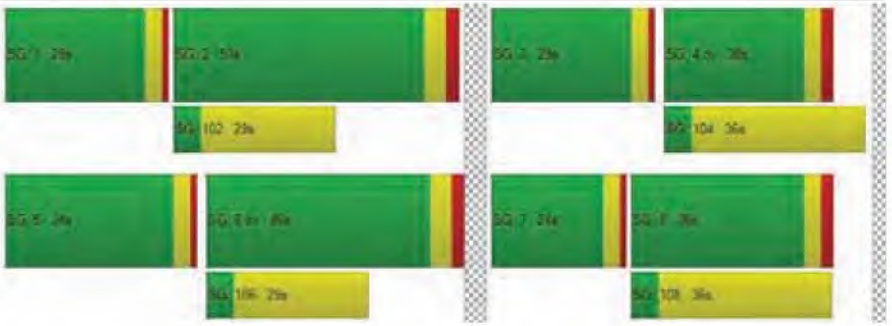
Vehicle Miles Traveled [mph]	79.12	501.29	21.95	319.95	628.78	412.46	48.00	30.54	12.83	21.90	15.15
Stops [stops/h]	134.18	751.93	24.97	691.74	584.03	217.36	561.73	395.18	115.08	188.44	79.45
Fuel consumption [US gal/h]	5.68	32.37	1.28	38.16	37.15	19.34	11.12	7.93	2.63	4.22	1.73
CO [g/h]	397.09	2262.43	89.60	2667.55	2596.69	1351.93	777.17	553.99	183.63	295.10	121.05
NOx [g/h]	77.26	440.19	17.43	519.01	505.22	263.04	151.21	107.79	35.73	57.42	23.55
VOC [g/h]	92.03	524.34	20.77	618.23	601.81	313.32	180.12	128.39	42.56	68.39	28.05

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.16	49.16	49.16	49.16
l_p,int, Pedestrian LOS Score for Intersectio	2.851	3.954	2.755	2.539
Crosswalk LOS	C	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	778	692	536	432
d_b, Bicycle Delay [s]	21.57	24.73	30.97	35.51
l_b,int, Bicycle LOS Score for Intersection	2.432	3.366	3.355	2.391
Bicycle LOS	B	C	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	61.4
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.022

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	180.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	171	325	456	129	410	157
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	47	209	0
Site-Generated Trips [veh/h]	-15	305	526	-125	-239	-29
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	15	0	38
Total Hourly Volume [veh/h]	156	630	982	36	380	90
Peak Hour Factor	0.9000	0.9000	0.9000	0.7900	0.7900	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	175	273	11	120	25
Total Analysis Volume [veh/h]	173	700	1091	46	481	100
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	16	54	34	0	56	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	20	60	40	0	60	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	1.0	1.0	1.0	0.0	1.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	R	L	C
C, Cycle Length [s]	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	8	46	34	34	14	14
g / C, Green / Cycle	0.12	0.66	0.49	0.49	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.10	0.37	0.58	0.03	0.17	0.17
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1709
c, Capacity [veh/h]	215	1239	906	770	347	333
d1, Uniform Delay [s]	30.02	6.38	18.07	9.59	27.28	27.29
k, delay calibration	0.04	0.04	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.65	0.15	102.20	0.01	2.35	2.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.56	1.20	0.06	0.85	0.86
d, Delay for Lane Group [s/veh]	32.67	6.53	120.27	9.60	29.63	29.75
Lane Group LOS	C	A	F	A	C	C
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.67	2.88	36.25	0.29	4.77	4.60
50th-Percentile Queue Length [ft/ln]	66.65	72.05	906.24	7.15	119.30	114.92
95th-Percentile Queue Length [veh/ln]	4.80	5.19	52.58	0.51	8.35	8.11
95th-Percentile Queue Length [ft/ln]	119.96	129.70	1314.54	12.86	208.86	202.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.67	6.53	120.27	9.60	29.67	29.75
Movement LOS	C	A	F	A	C	C
d_A, Approach Delay [s/veh]	11.71		115.79		29.69	
Approach LOS	B		F		C	
d_I, Intersection Delay [s/veh]	61.42					
Intersection LOS	E					
Intersection V/C	1.022					

Emissions

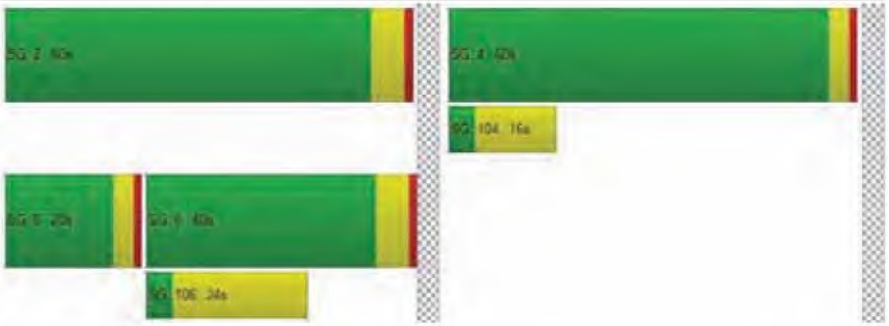
Vehicle Miles Traveled [mph]	21.35	86.37	630.08	26.57	69.59	66.87
Stops [stops/h]	137.09	148.21	1864.10	14.70	245.39	236.39
Fuel consumption [US gal/h]	4.41	6.57	82.40	1.25	6.01	5.78
CO [g/h]	308.30	459.42	5759.83	87.49	419.89	404.19
NOx [g/h]	59.98	89.39	1120.65	17.02	81.70	78.64
VOC [g/h]	71.45	106.47	1334.90	20.28	97.31	93.67

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0		0.0		8.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	27.46		0.00		27.46	
l_p,int, Pedestrian LOS Score for Intersectio	3.183		0.000		2.262	
Crosswalk LOS	C		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	1543		971		1600	
d_b, Bicycle Delay [s]	1.83		9.26		1.40	
l_b,int, Bicycle LOS Score for Intersection	3.000		3.460		2.581	
Bicycle LOS	C		C		B	

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	90.3
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.046

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	438	0	25	588	0	0	0	0	2	0	58
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	10	6	0	0	0	0	0
Site-Generated Trips [veh/h]	5	267	0	0	455	42	23	0	3	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	705	0	25	1043	52	29	0	3	2	0	58
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	192	0	6	283	14	8	0	1	1	0	15
Total Analysis Volume [veh/h]	5	766	0	25	1134	57	32	0	3	2	0	58
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free		Free		Stop		Stop	
Flared Lane					Yes		Yes	
Storage Area [veh]	0		0		1		1	
Two-Stage Gap Acceptance					Yes		No	
Number of Storage Spaces in Median	0		0		1		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.03	0.01	0.00	0.24	0.00	0.01	0.05	0.00	0.14
d_M, Delay for Movement [s/veh]	11.19	0.00	0.00	9.38	0.00	0.00	40.14	35.11	28.01	90.31	70.77	15.55
Movement LOS	B	A	A	A	A	A	E	E	D	F	F	C
95th-Percentile Queue Length [veh/ln]	0.03	0.00	0.00	0.09	0.00	0.00	0.90	0.90	0.90	0.53	0.53	0.53
95th-Percentile Queue Length [ft/ln]	0.65	0.00	0.00	2.28	0.00	0.00	22.58	22.58	22.58	13.21	13.21	13.21
d_A, Approach Delay [s/veh]	0.07			0.19			39.10			18.04		
Approach LOS	A			A			E			C		
d_I, Intersection Delay [s/veh]	1.32											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Signalized	Delay (sec / veh):	21.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.701

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	200.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	334	21	144	446	0	0	0	0	59	0	104
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	53	2	0	0	-4	434	270	0	31	0	5	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	37	0	0	0	0	0	37	0	55	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	336	21	144	442	434	307	0	86	59	5	104
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	90	6	39	119	117	83	0	23	16	1	28
Total Analysis Volume [veh/h]	97	361	23	155	475	467	330	0	92	63	5	112
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	11	0	0	18	0	0	14	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	9	9	0	9	9	0	0	9	0	0	9	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	C
C, Cycle Length [s]	55	55	55	55	55	55	55	55	55
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	17	6	20	20	8	8	8	8
g / C, Green / Cycle	0.07	0.31	0.12	0.35	0.35	0.14	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.05	0.21	0.09	0.25	0.29	0.09	0.09	0.06	0.11
s, saturation flow rate [veh/h]	1781	1850	1781	1870	1589	1781	1781	1589	1659
c, Capacity [veh/h]	130	573	207	660	561	258	258	231	235
d1, Uniform Delay [s]	25.30	16.74	23.82	15.63	16.51	22.44	22.44	21.61	23.02
k, delay calibration	0.11	0.11	0.11	0.11	0.12	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.10	1.36	5.33	1.49	3.56	2.62	2.62	1.12	5.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.67	0.75	0.72	0.83	0.64	0.64	0.40	0.77
d, Delay for Lane Group [s/veh]	33.40	18.10	29.16	17.12	20.07	25.06	25.06	22.73	28.21
Lane Group LOS	C	B	C	B	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.35	3.43	1.94	4.07	4.49	2.06	2.06	1.08	2.43
50th-Percentile Queue Length [ft/ln]	33.67	85.64	48.44	101.70	112.37	51.51	51.51	26.92	60.72
95th-Percentile Queue Length [veh/ln]	2.42	6.17	3.49	7.32	7.97	3.71	3.71	1.94	4.37
95th-Percentile Queue Length [ft/ln]	60.61	154.16	87.20	183.06	199.30	92.72	92.72	48.46	109.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.40	18.10	18.10	29.16	17.12	20.07	25.06	25.06	22.73	28.21	28.21	28.21
Movement LOS	C	B	B	C	B	C	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	21.19			20.08			24.55			28.21		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	21.86											
Intersection LOS	C											
Intersection V/C	0.701											

Emissions

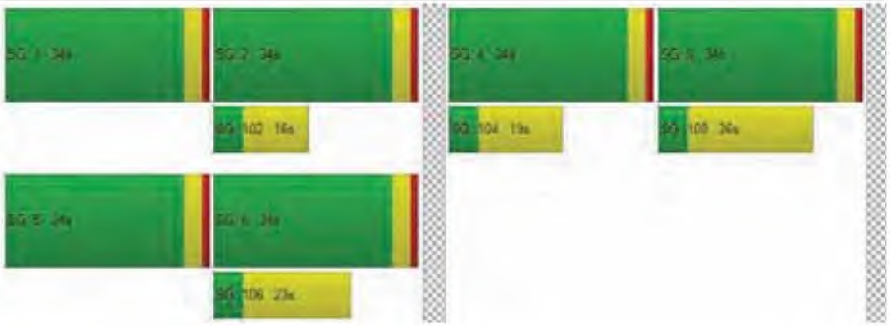
Vehicle Miles Traveled [mph]	32.89	130.22	15.73	48.19	47.38	8.98	8.98	5.00	151.96
Stops [stops/h]	87.38	222.24	125.70	263.90	291.60	133.67	133.67	69.86	157.56
Fuel consumption [US gal/h]	3.38	9.90	3.78	8.17	8.91	1.95	1.95	1.02	8.16
CO [g/h]	236.45	691.90	264.27	571.04	622.72	136.26	136.26	71.12	570.34
NOx [g/h]	46.00	134.62	51.42	111.10	121.16	26.51	26.51	13.84	110.97
VOC [g/h]	54.80	160.36	61.25	132.34	144.32	31.58	31.58	16.48	132.18

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	19.48	19.48	19.48	19.48
l_p,int, Pedestrian LOS Score for Intersectio	2.579	2.955	2.349	1.866
Crosswalk LOS	B	C	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1081	1081	1081	1081
d_b, Bicycle Delay [s]	5.86	5.86	5.86	5.86
l_b,int, Bicycle LOS Score for Intersection	2.353	3.370	2.256	1.857
Bicycle LOS	B	C	B	A

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	710	1120	60	32
2	689	1086	58	31
3	675	1064	57	30
4	632	997	53	28
5	561	885	47	25
6	554	874	47	25
7	547	862	46	25
8	497	784	42	22
9	490	773	41	22
10	483	762	41	22
11	419	661	35	19
12	391	616	33	18
13	383	605	32	17
14	284	448	24	13
15	284	448	24	13
16	199	314	17	9
17	114	179	10	5
18	114	179	10	5
19	64	101	5	3
20	36	56	3	2
21	21	34	2	1
22	7	11	1	0
23	7	11	1	0
24	7	11	1	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1830	1	60	No	No	No	No	No	Yes	Yes	Yes	No	No
2	2	1775	1	58	No	No	No	No	No	No	Yes	Yes	No	No
3	2	1739	1	57	No	No	No	No	No	No	Yes	Yes	No	No
4	2	1629	1	53	No	No	No	No	No	No	Yes	Yes	No	No
5	2	1446	1	47	No	No	No	No	No	No	No	Yes	No	No
6	2	1428	1	47	No	No	No	No	No	No	No	Yes	No	No
7	2	1409	1	46	No	No	No	No	No	No	No	Yes	No	No
8	2	1281	1	42	No	No	No	No	No	No	No	Yes	No	No
9	2	1263	1	41	No	No	No	No	No	No	No	No	No	No
10	2	1245	1	41	No	No	No	No	No	No	No	No	No	No
11	2	1080	1	35	No	No	No	No	No	No	No	No	No	No
12	2	1007	1	33	No	No	No	No	No	No	No	No	No	No
13	2	988	1	32	No	No	No	No	No	No	No	No	No	No
14	2	732	1	24	No	No	No	No	No	No	No	No	No	No
15	2	732	1	24	No	No	No	No	No	No	No	No	No	No
16	2	513	1	17	No	No	No	No	No	No	No	No	No	No
17	2	293	1	10	No	No	No	No	No	No	No	No	No	No
18	2	293	1	10	No	No	No	No	No	No	No	No	No	No
19	2	165	1	5	No	No	No	No	No	No	No	No	No	No
20	2	92	1	3	No	No	No	No	No	No	No	No	No	No
21	2	55	1	2	No	No	No	No	No	No	No	No	No	No
22	2	18	1	1	No	No	No	No	No	No	No	No	No	No
23	2	18	1	1	No	No	No	No	No	No	No	No	No	No
24	2	18	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	1	4	8	0	0

Warrant 3 Condition A

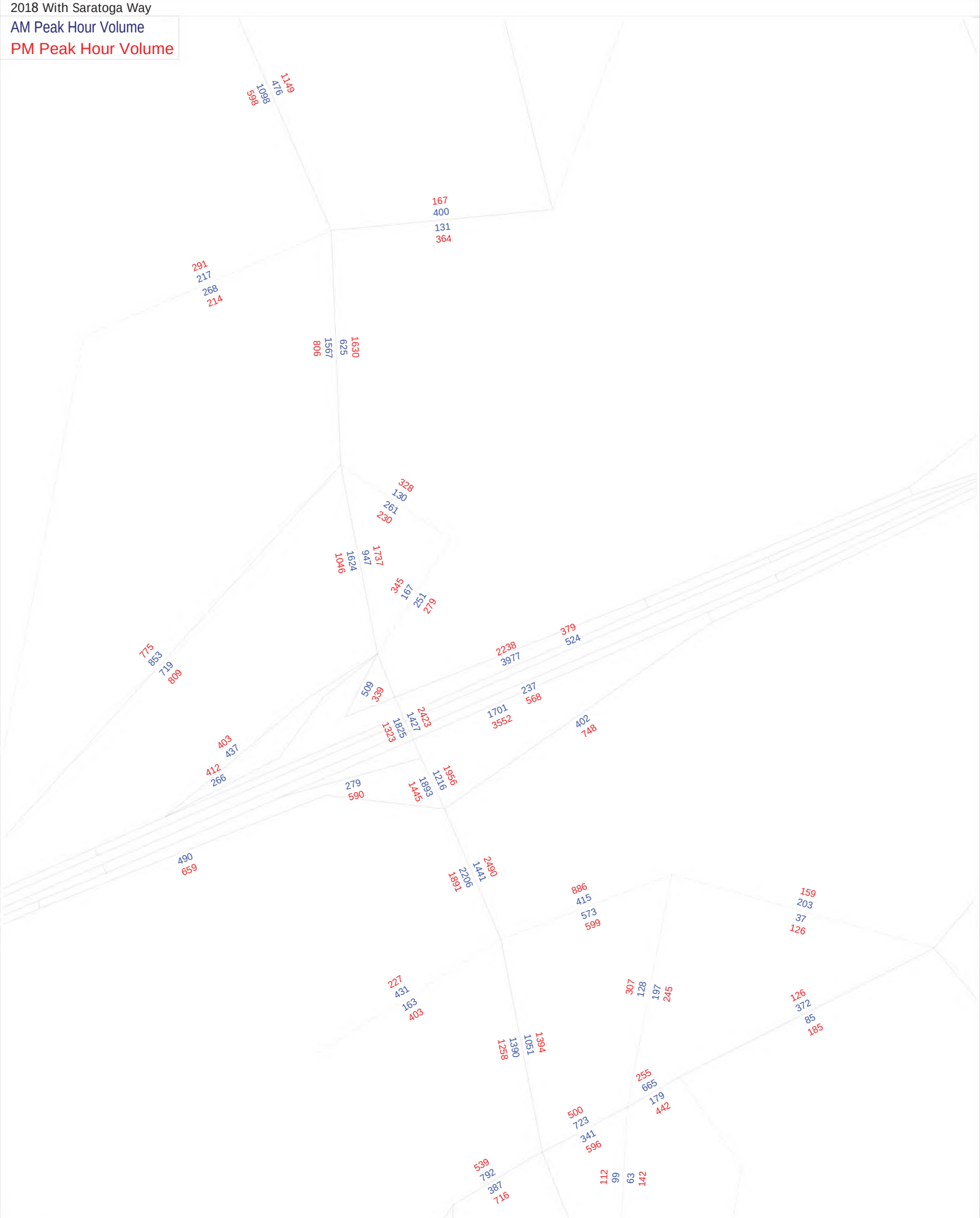
Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	18	39.1
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:18	0:20
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	60	32
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1922	1922
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Appendix C: Travel Demand Model Plots

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AM Peak Hour Volume

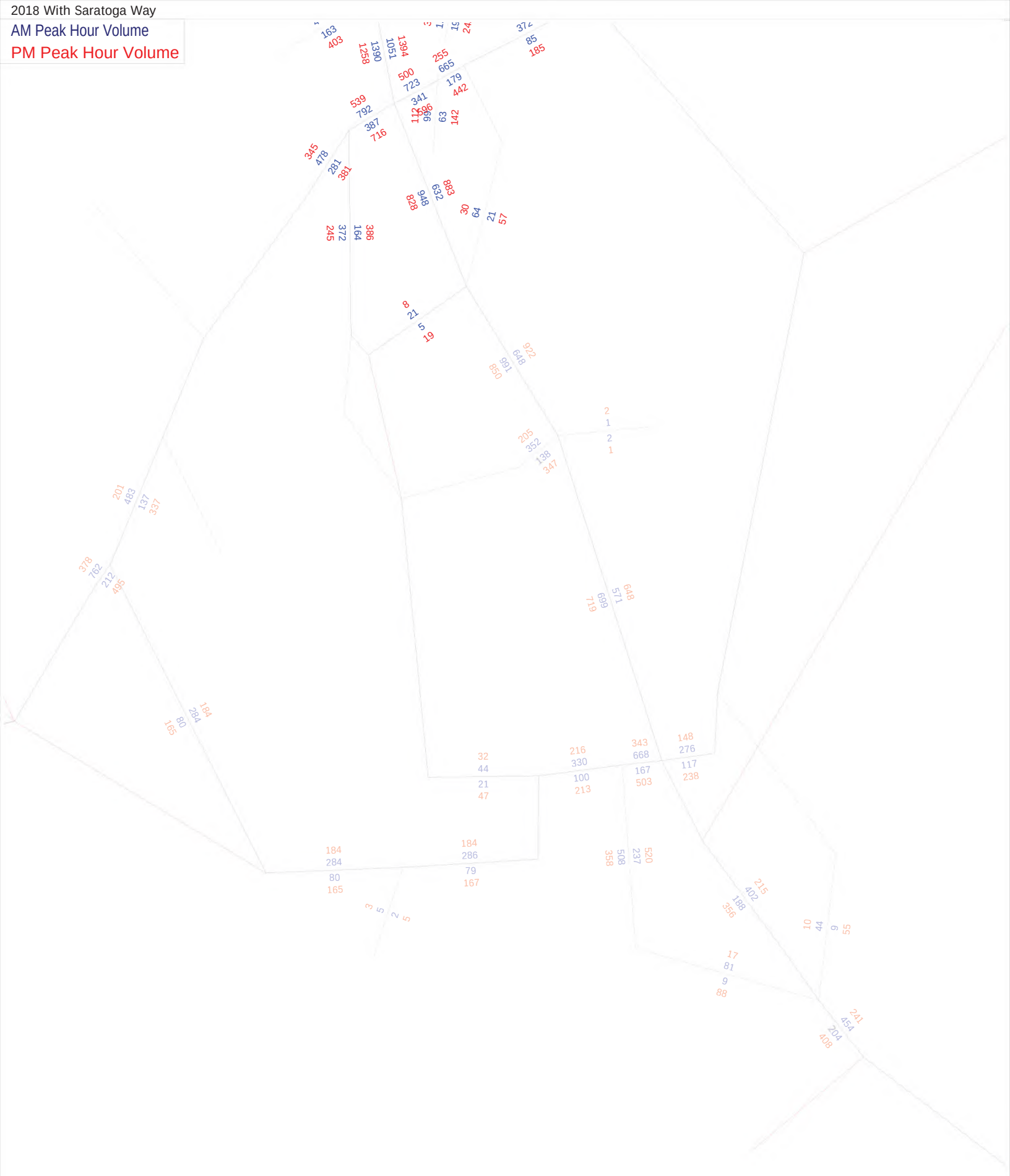
PM Peak Hour Volume



(Licensed to T Kear Transportation Planning and Manag)

AM Peak Hour Volume

PM Peak Hour Volume



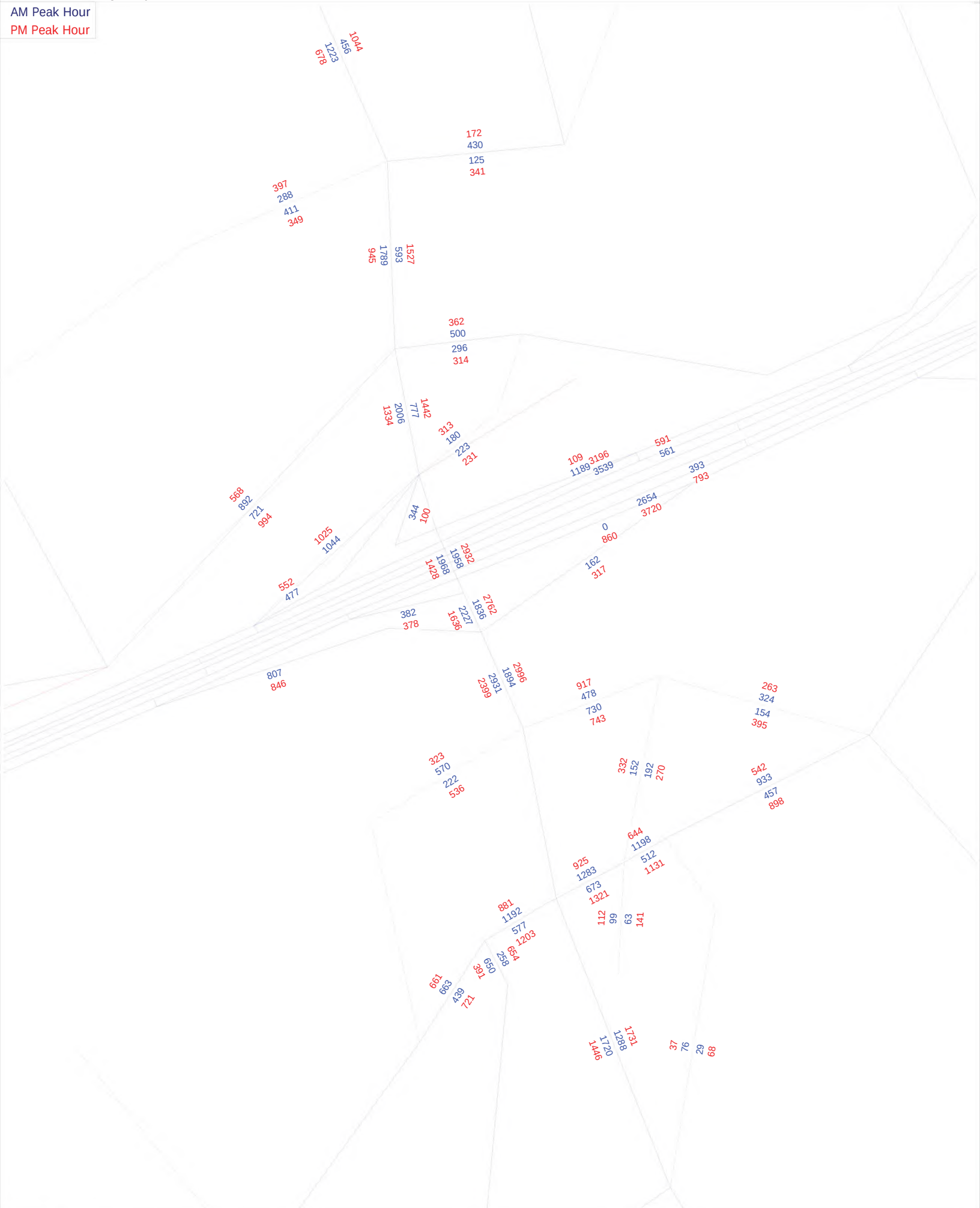
(Licensed to T Kear Transportation Planning and Manag)

AM Peak Hour Volume
PM Peak Hour Volume



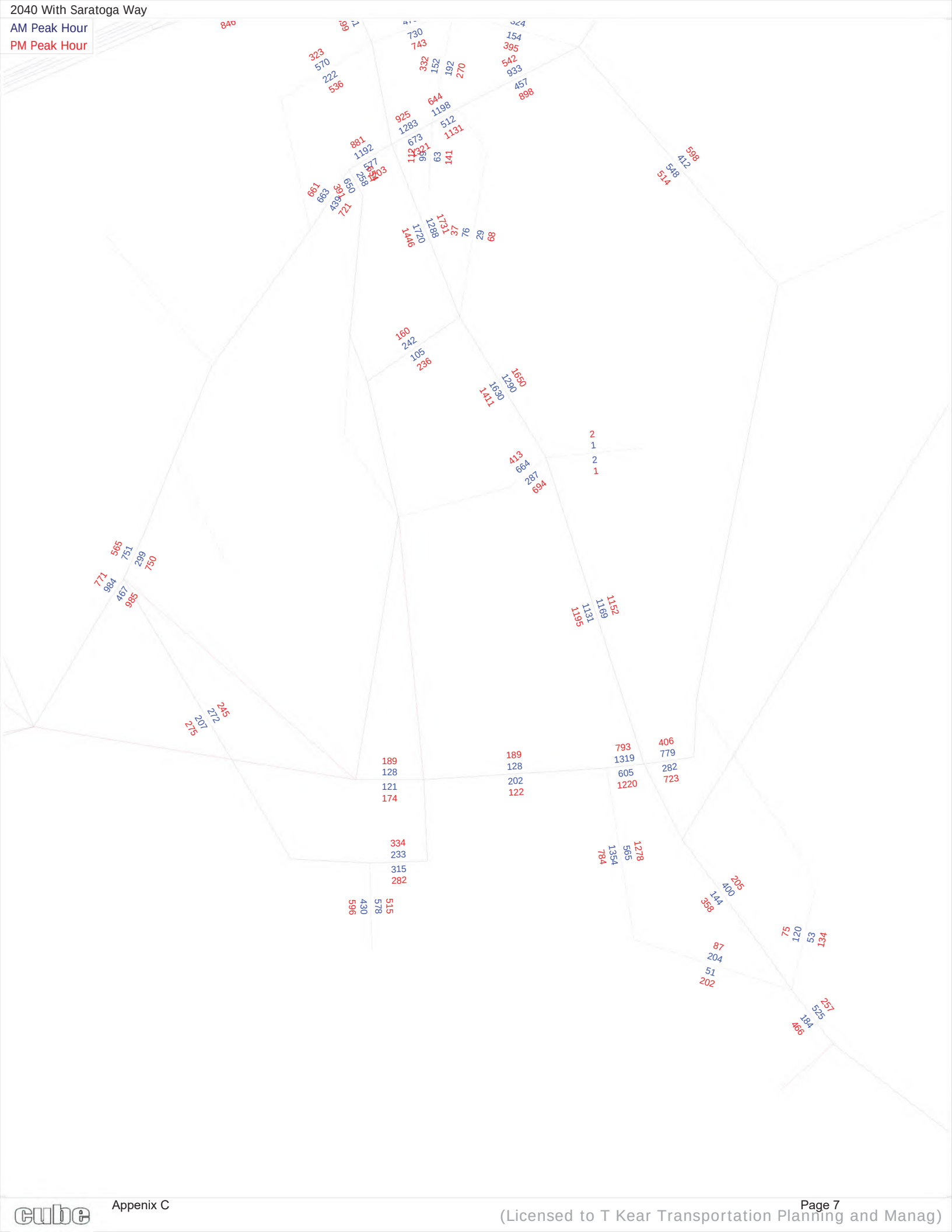
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AM Peak Hour
PM Peak Hour



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AM Peak Hour
PM Peak Hour



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AM Peak Hour
PM Peak Hour



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Appendix D: NCHRP 255 Calculations

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INTERSECTIONNUMBER	NLA	NLD	ELA	ELD	SLA	SLD	WLA	WLD
1	1723	918	511	270	1200	2146	214	314
2	2145	1199	106	305	1483	2301	875	804
3	2302	1484	293	299	2492	2247	1164	2221
4	2247	2492	528	980	2424	2782	1055	0
5	2782	2424	635	733	2104	2060	109	413
6	2060	2104	757	588	1774	1919	738	718
7	1919	1774	24	24	1577	1452	237	507
8	1452	1577	0	0	1542	1157	100	360
9	1157	1542	565	256	821	527	480	698
10	527	821	0	0	587	309	317	301
11	309	587	39	14	548	295	0	0
12	295	548	171	73	419	264	0	0
13	0	0	698	480	328	561	210	195
14	486	87	297	102	104	668	11	41
15	0	0	195	190	139	80	95	159
16	0	0	116	121	88	96	109	96
17	124	85	36	20	77	132	0	0
18	491	311	83	124	317	512	75	19
19	718	738	242	447	664	439	0	0
20	317	356	765	565	84	76	588	757
21	237	528	1077	605	401	382	565	765
22	730	610	4	4	605	1077	358	6
23	917	471	0	0	610	730	189	515
24	813	562	863	0	471	917	0	668
25	295	548	0	0	548	295	0	0
26	264	419	0	0	415	226	4	38
27	188	320	147	165	285	164	116	87
501	1188	1824	356	453	2258	1434	107	198
502	1430	2254	437	280	2133	1652	933	747
503	1657	2138	469	486	2978	1718	726	1488
504	1718	2978	854	926	2733	2884	1483	0
505	2884	2733	701	780	2058	1961	399	568
506	1961	2058	751	941	1950	1805	771	629
507	1805	1950	24	62	1327	1387	653	410
508	1387	1327	0	0	1179	1320	257	176
509	1320	1179	258	369	694	485	638	877
510	485	694	0	0	429	524	457	153
511	524	429	51	25	380	501	0	0
512	501	380	95	110	327	433	0	0
513	0	0	877	638	584	747	223	299
514	366	256	272	107	284	549	58	68
515	0	0	299	223	130	211	245	240
516	0	0	211	130	55	75	125	186
517	152	177	3	39	186	125	0	0
518	474	442	177	152	498	568	29	16
519	629	771	477	249	603	689	0	0
520	429	399	720	899	112	153	941	751
521	388	285	975	1151	408	517	902	720

522 643 1146 1 0 1151 975 336 10
523 787 1033 0 0 1146 643 566 823
524 589 1079 604 0 1033 787 0 360
525 501 380 0 0 380 501 0 0
526 461 327 0 0 300 441 27 20
527 362 274 136 140 250 334 44 44

+--+
| Turning Movement Volumes Report   01:34p Aug 31, 2023 |
+--+

Counts Data

	Southbound			Westbound			Northbound			Eastbound	
Node	R	T	L	R	T	L	R	T	L	R	T	L
1	40	1615	68	108	57	346	191	792	217	185	11	18
2	391	1608	146	82	13	11	98	985	400	682	61	132
3	948	1285	69	55	92	146	138	1173	1181	816	92	256
4	0	1727	520	528	0	0	460	1964	0	1055	0	0
5	322	1970	490	535	30	70	235	1808	61	20	8	81
6	407	1561	92	232	227	298	173	1517	84	60	323	355
7	462	1439	18	14	7	3	2	1537	38	10	4	223
8	300	1152	0	0	0	0	0	1482	60	5	0	95
9	563	386	208	395	94	76	7	773	41	65	41	374
10	273	254	0	0	0	0	0	559	28	55	0	262
11	0	295	14	39	0	0	0	548	0	0	0	0
12	0	254	41	161	0	10	32	387	0	0	0	0
13	0	0	0	0	182	516	315	0	13	45	165	0
14	13	443	30	46	26	225	63	39	2	0	9	2
15	0	0	0	0	128	67	108	0	31	13	82	0
16	0	0	0	0	51	65	43	0	45	31	78	0
17	0	114	10	18	0	18	10	67	0	0	0	0
18	15	439	37	18	0	65	86	227	4	8	1	66
19	0	386	332		189	53	115	549	0	0	0	0
20	192	11	114	204	508	53	20	7	57	12	431	145
21	46	36	155	262	624	191	256	50	95	155	194	216
22	3	723	4	4	0	0	0	602	3	354	0	4
23	220	697	0	0	0	0	0	315	295	33	0	156
24	590	223	0	169	0	694	0	393	78	0	0	0
25	0	295	0	0	0	0	0	548	0	0	0	0
26	38	226	0	0	0	0	0	415	0	0	0	4
27	9	127	52	38	72	37	41	238	6	0	72	44
501	55	1098	35	22	52	282	401	1766	91	54	17	36
502	198	1068	164	273	107	57	75	1616	442	527	41	365
503	428	1192	37	153	80	236	319	1679	980	290	130	306
504	0	1401	317	854	0	0	609	2124	0	1483	0	0
505	549	1803	532	604	6	91	215	1830	13	67	33	299
506	392	1326	243	194	164	393	362	1515	73	86	336	349

507	400	1371	34	19	4	1	21	1300	6	15	7	631
508	128	1259	0	0	0	0	0	1131	48	61	0	196
509	686	385	249	110	93	55	21	575	98	45	99	494
510	38	447	0	0	0	0	0	314	115	77	0	380
511	0	499	25	49	0	2	0	380	0	0	0	0
512	0	407	94	69	0	26	16	311	0	0	0	0
513	0	0	0	0	185	692	470	0	114	55	168	0
514	22	319	25	45	16	211	59	195	30	19	23	16
515	0	0	0	0	190	109	80	0	50	102	143	0
516	0	0	0	0	174	37	43	0	12	38	87	0
517	0	125	27	3	0	0	12	174	0	0	0	0
518	11	397	66	27	0	150	85	408	5	21	1	7
519	0	451	178	239	0	238	71	532	0	0	0	0
520	228	15	186	178	456	86	29	16	67	52	684	205
521	58	100	230	158	583	234	268	61	79	183	653	66
522	2	641	0	1	0	0	0	1143	8	334	0	2
523	200	587	0	0	0	0	0	523	623	56	0	510
524	207	382	0	198	1	405	0	881	152	0	0	0
525	0	501	0	0	0	0	0	380	0	0	0	0
526	20	441	0	0	0	0	0	300	0	0	0	27
527	31	288	43	79	13	44	65	185	0	2	32	10

Furness Adjusted Turning Volumes 01:34p Aug 31, 2023

	Southbound			Westbound			Northbound			Eastbound		
Node	R	T	L	R	T	L	R	T	L	R	T	L
1	46	1655	70	111	64	346	183	774	232	234	14	23
2	372	1718	150	191	34	33	109	886	413	708	60	106
3	1044	1353	64	48	99	151	141	1150	1417	801	80	214
4	0	1821	477	493	0	0	403	2219	0	1263	0	0
5	369	2174	537	557	32	72	251	1957	68	24	9	99
6	444	1737	95	248	318	425	238	1681	121	78	391	346
7	532	1699	18	15	9	4	2	1777	57	15	5	257
8	397	1327	0	0	0	0	0	1693	92	9	0	153
9	750	341	249	520	164	88	8	757	53	78	67	514
10	291	220	0	0	0	0	0	575	61	88	0	245
11	0	295	14	39	0	0	0	599	0	0	0	0
12	0	244	49	190	0	11	41	408	0	0	0	0
13	0	0	0	0	104	862	460	0	6	51	201	0
14	37	779	22	62	45	240	80	149	9	0	17	11
15	0	0	0	0	83	26	126	0	110	30	106	0
16	0	0	0	0	95	121	80	0	83	57	145	0
17	0	165	11	16	0	19	8	63	0	0	0	0
18	14	536	50	16	0	61	125	296	4	8	1	66
19	0	442	378	185	0	72	184	632	0	0	0	0
20	203	8	114	205	728	55	19	5	59	12	569	142

21	46	45	193	307	836	320	383	53	115	224	276	218
22	3	1112	4	5	0	0	0	851	2	354	0	4
23	278	1054	0	0	0	0	0	376	481	64	0	187
24	671	388	0	298	0	941	0	514	51	0	0	0
25	0	295	0	0	0	0	0	599	0	0	0	0
26	38	218	0	0	0	0	0	445	0	0	0	4
27	7	102	50	43	73	36	39	215	4	0	81	47
501	67	1126	33	20	61	278	385	1708	113	85	25	53
502	178	1127	185	286	101	63	81	1544	380	581	48	380
503	493	1252	34	131	88	236	323	1638	1224	272	108	246
504	0	1504	251	733	0	0	495	2456	0	1591	0	0
505	587	1937	570	615	6	92	233	1987	14	76	37	340
506	436	1422	253	190	223	516	518	1668	111	124	471	376
507	454	1590	27	18	6	1	30	1582	11	27	9	703
508	190	1424	0	0	0	0	0	1321	71	93	0	309
509	809	359	352	150	147	68	28	551	108	57	191	686
510	34	452	0	0	0	0	0	303	148	118	0	386
511	0	547	25	49	0	2	0	405	0	0	0	0
512	0	424	123	90	0	32	19	314	0	0	0	0
513	0	0	0	0	174	886	790	0	113	38	146	0
514	32	476	33	66	16	218	87	466	49	32	34	39
515	0	0	0	0	195	92	67	0	109	180	117	0
516	0	0	0	0	103	170	158	0	107	152	18	0
517	0	171	27	3	0	0	11	199	0	0	0	0
518	10	536	81	29	0	172	115	578	5	21	0	6
519	0	542	225	310	0	278	84	663	0	0	0	0
520	238	11	189	177	619	85	29	12	69	55	967	218
521	60	125	315	187	731	350	453	74	102	231	903	66
522	2	937	0	2	0	0	1	1666	8	333	0	2
523	261	861	0	0	0	0	0	672	995	78	0	509
524	236	557	0	263	1	562	0	1034	145	0	0	0
525	0	549	0	0	0	0	0	405	0	0	0	0
526	20	465	0	0	0	0	0	306	0	0	0	27
527	40	261	45	84	20	47	66	162	0	2	37	9

+--+
| Counts Data Approach & Departure Volumes   01:34p Aug 31, 2023 |
+--+

!	North Leg		East Leg		South Leg		West Leg	
!Node	App	Dep	App	Dep	App	Dep	App	Dep
1	1723	918	511	270	1200	2146	214	314
2	2145	1199	106	305	1483	2301	875	804
3	2302	1484	293	299	2492	2247	1164	2221
4	2247	2492	528	980	2424	2782	1055	0
5	2782	2424	635	733	2104	2060	109	413
6	2060	2104	757	588	1774	1919	738	718
7	1919	1774	24	24	1577	1452	237	507

8	1452	1577	0	0	1542	1157	100	360
9	1157	1542	565	256	821	527	480	698
10	527	821	0	0	587	309	317	301
11	309	587	39	14	548	295	0	0
12	295	548	171	73	419	264	0	0
13	0	0	698	480	328	561	210	195
14	486	87	297	102	104	668	11	41
15	0	0	195	190	139	80	95	159
16	0	0	116	121	88	96	109	96
17	124	85	36	20	77	132	0	0
18	491	311	83	124	317	512	75	19
19	718	738	242	447	664	439	0	0
20	317	356	765	565	84	76	588	757
21	237	528	1077	605	401	382	565	765
22	730	610	4	4	605	1077	358	6
23	917	471	0	0	610	730	189	515
24	813	562	863	0	471	917	0	668
25	295	548	0	0	548	295	0	0
26	264	419	0	0	415	226	4	38
27	188	320	147	165	285	164	116	87
501	1188	1824	356	453	2258	1434	107	198
502	1430	2254	437	280	2133	1652	933	747
503	1657	2138	469	486	2978	1718	726	1488
504	1718	2978	854	926	2733	2884	1483	0
505	2884	2733	701	780	2058	1961	399	568
506	1961	2058	751	941	1950	1805	771	629
507	1805	1950	24	62	1327	1387	653	410
508	1387	1327	0	0	1179	1320	257	176
509	1320	1179	258	369	694	485	638	877
510	485	694	0	0	429	524	457	153
511	524	429	51	25	380	501	0	0
512	501	380	95	110	327	433	0	0
513	0	0	877	638	584	747	223	299
514	366	256	272	107	284	549	58	68
515	0	0	299	223	130	211	245	240
516	0	0	211	130	55	75	125	186
517	152	177	3	39	186	125	0	0
518	474	442	177	152	498	568	29	16
519	629	771	477	249	603	689	0	0
520	429	399	720	899	112	153	941	751
521	388	285	975	1151	408	517	902	720
522	643	1146	1	1	1152	975	336	10
523	787	1033	0	0	1146	643	566	823
524	589	1079	604	0	1033	787	0	360
525	501	380	0	0	380	501	0	0
526	461	327	0	0	300	441	27	20
527	362	274	136	140	250	334	44	44

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| Model Future Year Approach & Departure Volumes 01:34p Aug 31, 2023 |

	North Leg		East Leg		South Leg		West Leg	
Node	App	Dep	App	Dep	App	Dep	App	Dep
1	1776	910	523	268	1186	2237	273	343
2	2238	1185	260	320	1413	2460	875	821
3	2461	1414	299	286	2713	2306	1095	2562
4	2306	2713	491	880	2613	3085	1268	0
5	3083	2615	662	798	2275	2271	134	470
6	2270	2276	991	726	2048	2241	818	884
7	2241	2049	29	27	1845	1719	279	599
8	1718	1846	0	0	1792	1337	163	490
9	1338	1792	774	325	821	509	662	969
10	509	821	0	0	638	309	335	352
11	309	638	39	14	599	295	0	0
12	295	599	202	91	449	256	0	0
13	0	0	970	662	464	913	252	111
14	838	223	348	120	240	1020	29	92
15	0	0	110	233	237	57	137	194
16	0	0	93	219	329	274	162	91
17	177	80	36	20	72	185	0	0
18	603	379	78	177	424	605	75	19
19	885	818	281	563	730	515	0	0
20	326	353	988	704	84	76	726	991
21	285	579	1466	854	552	591	720	999
22	1119	860	5	4	854	1466	358	6
23	1330	564	0	0	860	1119	253	760
24	1062	813	1240	0	564	1330	0	723
25	295	599	0	0	599	295	0	0
26	256	449	0	0	445	218	4	38
27	161	306	154	171	259	139	128	86
501	1222	1782	359	444	2214	1491	164	242
502	1487	2211	451	315	2011	1772	1009	660
503	1777	2016	456	467	3190	1761	627	1806
504	1761	3190	731	747	2944	3096	1597	0
505	3096	2943	714	841	2235	2107	454	608
506	2107	2235	928	1244	2304	2063	974	771
507	2063	2304	27	67	1631	1620	743	473
508	1620	1631	0	0	1389	1518	402	262
509	1518	1389	366	572	690	485	937	1065
510	485	690	0	0	454	571	505	183
511	572	454	51	25	405	549	0	0
512	550	405	122	143	333	457	0	0
513	0	0	1065	937	900	925	185	288
514	544	572	302	155	600	727	106	98
515	0	0	288	185	177	273	298	305
516	0	0	273	177	267	323	171	211

517	198	202	3	39	211	171	0	0
518	627	615	202	198	702	731	29	16
519	771	974	589	310	745	821	0	0
520	440	409	883	1187	111	153	1243	928
521	501	328	1272	1673	630	707	1199	894
522	940	1670	2	1	1674	1271	336	10
523	1120	1182	0	0	1670	940	589	1257
524	793	1298	826	0	1182	1120	0	383
525	549	405	0	0	405	549	0	0
526	485	333	0	0	306	465	27	20
527	347	257	152	149	230	311	49	61

Computed Approach & Departure Volumes 01:34p Aug 31, 2023

Node	North Leg App	North Leg Dep	East Leg App	East Leg Dep	South Leg App	South Leg Dep	West Leg App	West Leg Dep
1	1776	910	523	268	1186	2237	273	343
2	2238	1185	260	320	1413	2460	875	821
3	2461	1414	299	286	2713	2306	1095	2562
4	2306	2713	491	880	2613	3085	1268	0
5	3083	2615	662	798	2275	2271	134	470
6	2270	2276	991	726	2048	2241	818	884
7	2241	2049	29	27	1845	1719	279	599
8	1718	1846	0	0	1792	1337	163	490
9	1338	1792	774	325	821	509	662	969
10	509	821	0	0	638	309	335	352
11	309	638	39	14	599	295	0	0
12	295	599	202	91	449	256	0	0
13	0	0	970	662	464	913	252	111
14	838	223	348	120	240	1020	29	92
15	0	0	110	233	237	57	137	194
16	0	0	217	226	164	179	203	179
17	177	80	36	20	72	185	0	0
18	603	379	78	177	424	605	75	19
19	818	818	259	563	818	515	0	0
20	326	353	988	704	84	76	726	991
21	285	579	1466	854	552	591	720	999
22	1119	860	5	4	854	1466	358	6
23	1330	564	0	0	860	1119	253	760
24	1062	813	1240	0	564	1330	0	723
25	295	599	0	0	599	295	0	0
26	256	449	0	0	445	218	4	38
27	161	306	154	171	259	139	128	86
501	1222	1782	359	444	2214	1491	164	242
502	1487	2211	451	315	2011	1772	1009	660
503	1777	2016	456	467	3190	1761	627	1806

504	1761	3190	731	747	2944	3096	1597	0
505	3096	2943	714	841	2235	2107	454	608
506	2107	2235	928	1244	2304	2063	974	771
507	2063	2304	27	67	1631	1620	743	473
508	1620	1631	0	0	1389	1518	402	262
509	1518	1389	366	572	690	485	937	1065
510	485	690	0	0	454	571	505	183
511	572	454	51	25	405	549	0	0
512	550	405	122	143	333	457	0	0
513	0	0	1065	937	900	925	185	288
514	544	572	302	155	600	727	106	98
515	0	0	288	185	177	273	298	305
516	0	0	273	177	267	323	171	211
517	198	202	3	39	211	171	0	0
518	627	615	202	198	702	731	29	16
519	771	974	589	310	745	821	0	0
520	440	409	883	1187	111	153	1243	928
521	501	328	1272	1673	630	707	1199	894
522	940	1670	2	1	1674	1271	336	10
523	1120	1182	0	0	1670	940	589	1257
524	793	1298	826	0	1182	1120	0	383
525	549	405	0	0	405	549	0	0
526	485	333	0	0	306	465	27	20
527	347	257	152	149	230	311	49	61

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| Nodes Report   01:34p Aug 31, 2023 |
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Project Nodes

Node	North Link	East Link	South Link	West Link
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File: Y:\Shared\Projects\P23160 Creekside Village II\Joint Turns W32\Turns 2023\Appendix\2040 turns.rpt 8/31/2023, 3:53:54 PM

INTERSECTIONNUMBER	NLA	NLD	ELA	ELD	SLA	SLD	WLA	WLD
1	1812	904	532	266	1177	2302	315	364
2	2302	1176	368	330	1363	2571	876	832
3	2572	1364	303	278	2868	2348	1047	2800
4	2348	2868	465	810	2745	3296	1416	0
5	3294	2745	680	844	2394	2419	151	511
6	2418	2394	1154	823	2239	2466	873	1001
7	2466	2239	32	30	2032	1905	308	664
8	1904	2032	0	0	1966	1463	206	581
9	1463	1966	921	373	820	496	790	1159
10	496	820	0	0	673	308	347	388
11	308	673	39	14	634	294	0	0
12	294	634	224	104	470	250	0	0
13	0	0	1160	790	560	1160	282	52
14	1085	319	384	132	336	1267	41	128
15	0	0	51	262	306	42	166	219
16	0	0	78	288	496	398	199	87
17	214	76	36	20	68	222	0	0
18	681	426	74	214	498	669	75	19
19	1001	873	309	644	776	569	0	0
20	333	352	1143	801	84	76	823	1154
21	319	614	1738	1029	658	738	828	1162
22	1391	1035	5	4	1029	1738	358	6
23	1620	630	0	0	1035	1391	297	931
24	1237	989	1503	0	630	1620	0	761
25	294	634	0	0	634	294	0	0
26	250	470	0	0	466	212	4	38
27	141	295	159	175	241	121	136	86
501	1245	1750	360	437	2184	1532	203	273
502	1528	2181	461	339	1924	1856	1063	600
503	1861	1929	446	453	3338	1792	557	2028
504	1792	3338	644	621	3091	3244	1676	0
505	3244	3091	723	883	2359	2209	493	636
506	2209	2359	1052	1455	2551	2243	1116	871
507	2243	2551	29	70	1843	1784	807	517
508	1784	1843	0	0	1536	1657	503	323
509	1657	1536	441	713	687	486	1146	1196
510	486	687	0	0	471	605	538	203
511	606	471	51	25	422	583	0	0
512	583	422	141	166	338	474	0	0
513	0	0	1196	1146	1121	1049	158	280
514	668	793	322	188	821	851	139	118
515	0	0	280	158	211	317	335	351
516	0	0	317	211	416	496	203	229
517	230	220	3	39	229	203	0	0
518	733	735	220	230	845	846	29	16
519	871	1116	667	353	844	913	0	0
520	447	416	996	1387	111	153	1454	1052
521	579	358	1479	2039	786	839	1407	1015

522 1148 2036 2 1 2040 1479 336 10
523 1354 1286 0 0 2036 1148 605 1561
524 936 1452 982 0 1286 1354 0 398
525 583 422 0 0 422 583 0 0
526 502 338 0 0 311 482 27 20
527 336 245 163 156 215 294 53 72

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| Turning Movement Volumes Report   03:38p Aug 31, 2023 |
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Counts Data

	Southbound			Westbound			Northbound			Eastbound	
Node	R	T	L	R	T	L	R	T	L	R	T	L
1	40	1615	68	108	57	346	191	792	217	185	11	18
2	391	1608	146	82	13	11	98	985	400	682	61	132
3	948	1285	69	55	92	146	138	1173	1181	816	92	256
4	0	1727	520	528	0	0	460	1964	0	1055	0	0
5	322	1970	490	535	30	70	235	1808	61	20	8	81
6	407	1561	92	232	227	298	173	1517	84	60	323	355
7	462	1439	18	14	7	3	2	1537	38	10	4	223
8	300	1152	0	0	0	0	0	1482	60	5	0	95
9	563	386	208	395	94	76	7	773	41	65	41	374
10	273	254	0	0	0	0	0	559	28	55	0	262
11	0	295	14	39	0	0	0	548	0	0	0	0
12	0	254	41	161	0	10	32	387	0	0	0	0
13	0	0	0	0	182	516	315	0	13	45	165	0
14	13	443	30	46	26	225	63	39	2	0	9	2
15	0	0	0	0	128	67	108	0	31	13	82	0
16	0	0	0	0	51	65	43	0	45	31	78	0
17	0	114	10	18	0	18	10	67	0	0	0	0
18	15	439	37	18	0	65	86	227	4	8	1	66
19	0	386	332		189	53	115	549	0	0	0	0
20	192	11	114	204	508	53	20	7	57	12	431	145
21	46	36	155	262	624	191	256	50	95	155	194	216
22	3	723	4	4	0	0	0	602	3	354	0	4
23	220	697	0	0	0	0	0	315	295	33	0	156
24	590	223	0	169	0	694	0	393	78	0	0	0
25	0	295	0	0	0	0	0	548	0	0	0	0
26	38	226	0	0	0	0	0	415	0	0	0	4
27	9	127	52	38	72	37	41	238	6	0	72	44
501	55	1098	35	22	52	282	401	1766	91	54	17	36
502	198	1068	164	273	107	57	75	1616	442	527	41	365
503	428	1192	37	153	80	236	319	1679	980	290	130	306
504	0	1401	317	854	0	0	609	2124	0	1483	0	0
505	549	1803	532	604	6	91	215	1830	13	67	33	299
506	392	1326	243	194	164	393	362	1515	73	86	336	349

507	400	1371	34	19	4	1	21	1300	6	15	7	631
508	128	1259	0	0	0	0	0	1131	48	61	0	196
509	686	385	249	110	93	55	21	575	98	45	99	494
510	38	447	0	0	0	0	0	314	115	77	0	380
511	0	499	25	49	0	2	0	380	0	0	0	0
512	0	407	94	69	0	26	16	311	0	0	0	0
513	0	0	0	0	185	692	470	0	114	55	168	0
514	22	319	25	45	16	211	59	195	30	19	23	16
515	0	0	0	0	190	109	80	0	50	102	143	0
516	0	0	0	0	174	37	43	0	12	38	87	0
517	0	125	27	3	0	0	12	174	0	0	0	0
518	11	397	66	27	0	150	85	408	5	21	1	7
519	0	451	178	239	0	238	71	532	0	0	0	0
520	228	15	186	178	456	86	29	16	67	52	684	205
521	58	100	230	158	583	234	268	61	79	183	653	66
522	2	641	0	1	0	0	0	1143	8	334	0	2
523	200	587	0	0	0	0	0	523	623	56	0	510
524	207	382	0	198	1	405	0	881	152	0	0	0
525	0	501	0	0	0	0	0	380	0	0	0	0
526	20	441	0	0	0	0	0	300	0	0	0	27
527	31	288	43	79	13	44	65	185	0	2	32	10

Furness Adjusted Turning Volumes 03:38p Aug 31, 2023

	Southbound			Westbound			Northbound			Eastbound		
Node	R	T	L	R	T	L	R	T	L	R	T	L
1	51	1684	72	114	70	347	177	761	242	270	16	27
2	359	1793	152	261	52	53	116	822	420	724	60	92
3	1107	1406	62	44	104	154	142	1130	1588	787	73	189
4	0	1886	454	467	0	0	356	2400	0	1410	0	0
5	403	2317	570	572	33	74	262	2060	73	27	10	112
6	469	1858	98	257	381	517	287	1794	150	90	437	342
7	577	1879	19	15	11	5	3	1944	74	20	6	279
8	462	1449	0	0	0	0	0	1839	118	13	0	192
9	877	315	276	604	221	93	8	747	60	86	88	613
10	298	198	0	0	0	0	0	582	89	109	0	237
11	0	294	14	39	0	0	0	634	0	0	0	0
12	0	237	55	211	0	12	48	422	0	0	0	0
13	0	0	0	0	49	1106	560	0	2	53	229	0
14	55	1009	21	70	55	258	88	229	16	0	21	19
15	0	0	0	0	43	7	130	0	175	34	131	0
16	0	0	0	0	152	194	128	0	134	92	233	0
17	0	202	12	16	0	20	7	60	0	0	0	0
18	14	603	60	16	0	57	152	343	4	7	1	66
19	0	504	499	243	0	65	144	629	0	0	0	0
20	210	7	115	206	883	56	19	4	60	12	666	141

21	48	51	219	335	984	414	474	55	129	271	334	223
22	3	1384	4	5	0	0	0	1026	2	354	0	4
23	320	1303	0	0	0	0	0	421	610	87	0	208
24	719	514	0	398	0	1105	0	590	41	0	0	0
25	0	294	0	0	0	0	0	634	0	0	0	0
26	38	212	0	0	0	0	0	466	0	0	0	4
27	6	85	49	47	75	36	38	199	4	0	87	48
501	74	1144	30	18	66	276	376	1668	131	110	29	62
502	163	1168	200	295	96	67	85	1494	339	619	53	390
503	534	1298	33	117	92	237	325	1604	1401	256	94	207
504	0	1576	208	646	0	0	412	2691	0	1667	0	0
505	615	2032	596	623	6	94	245	2098	14	82	40	369
506	465	1490	259	189	264	600	629	1774	141	152	566	395
507	490	1740	23	18	8	2	36	1780	18	41	10	751
508	235	1541	0	0	0	0	0	1454	88	115	0	388
509	895	346	419	178	186	76	31	539	114	63	262	817
510	32	456	0	0	0	0	0	298	171	148	0	388
511	0	581	25	49	0	2	0	422	0	0	0	0
512	0	437	144	104	0	36	21	317	0	0	0	0
513	0	0	0	0	171	1019	1017	0	108	29	129	0
514	40	585	40	79	17	225	105	657	60	40	42	56
515	0	0	0	0	196	83	56	0	154	233	101	0
516	0	0	0	0	23	294	208	0	205	201	2	0
517	0	203	28	3	0	0	11	217	0	0	0	0
518	10	634	90	30	0	189	138	697	5	21	0	6
519	0	607	260	361	0	305	92	754	0	0	0	0
520	246	10	191	177	734	85	29	10	71	57	1166	227
521	63	142	373	207	834	432	587	83	117	264	1078	67
522	2	1145	0	2	0	0	1	2032	8	333	0	2
523	301	1056	0	0	0	0	0	773	1259	91	0	512
524	254	682	0	310	1	671	0	1141	142	0	0	0
525	0	583	0	0	0	0	0	422	0	0	0	0
526	20	482	0	0	0	0	0	311	0	0	0	27
527	46	242	47	87	25	49	67	147	0	2	41	9

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| Counts Data Approach & Departure Volumes   03:38p Aug 31, 2023 |
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!	North Leg		East Leg		South Leg		West Leg	
!Node	App	Dep	App	Dep	App	Dep	App	Dep
1	1723	918	511	270	1200	2146	214	314
2	2145	1199	106	305	1483	2301	875	804
3	2302	1484	293	299	2492	2247	1164	2221
4	2247	2492	528	980	2424	2782	1055	0
5	2782	2424	635	733	2104	2060	109	413
6	2060	2104	757	588	1774	1919	738	718
7	1919	1774	24	24	1577	1452	237	507

8	1452	1577	0	0	1542	1157	100	360
9	1157	1542	565	256	821	527	480	698
10	527	821	0	0	587	309	317	301
11	309	587	39	14	548	295	0	0
12	295	548	171	73	419	264	0	0
13	0	0	698	480	328	561	210	195
14	486	87	297	102	104	668	11	41
15	0	0	195	190	139	80	95	159
16	0	0	116	121	88	96	109	96
17	124	85	36	20	77	132	0	0
18	491	311	83	124	317	512	75	19
19	718	738	242	447	664	439	0	0
20	317	356	765	565	84	76	588	757
21	237	528	1077	605	401	382	565	765
22	730	610	4	4	605	1077	358	6
23	917	471	0	0	610	730	189	515
24	813	562	863	0	471	917	0	668
25	295	548	0	0	548	295	0	0
26	264	419	0	0	415	226	4	38
27	188	320	147	165	285	164	116	87
501	1188	1824	356	453	2258	1434	107	198
502	1430	2254	437	280	2133	1652	933	747
503	1657	2138	469	486	2978	1718	726	1488
504	1718	2978	854	926	2733	2884	1483	0
505	2884	2733	701	780	2058	1961	399	568
506	1961	2058	751	941	1950	1805	771	629
507	1805	1950	24	62	1327	1387	653	410
508	1387	1327	0	0	1179	1320	257	176
509	1320	1179	258	369	694	485	638	877
510	485	694	0	0	429	524	457	153
511	524	429	51	25	380	501	0	0
512	501	380	95	110	327	433	0	0
513	0	0	877	638	584	747	223	299
514	366	256	272	107	284	549	58	68
515	0	0	299	223	130	211	245	240
516	0	0	211	130	55	75	125	186
517	152	177	3	39	186	125	0	0
518	474	442	177	152	498	568	29	16
519	629	771	477	249	603	689	0	0
520	429	399	720	899	112	153	941	751
521	388	285	975	1151	408	517	902	720
522	643	1146	1	1	1152	975	336	10
523	787	1033	0	0	1146	643	566	823
524	589	1079	604	0	1033	787	0	360
525	501	380	0	0	380	501	0	0
526	461	327	0	0	300	441	27	20
527	362	274	136	140	250	334	44	44

+--+

| Model Future Year Approach & Departure Volumes 03:38p Aug 31, 2023 |

Node	North Leg App	North Leg Dep	East Leg App	East Leg Dep	South Leg App	South Leg Dep	West Leg App	West Leg Dep
1	1812	904	532	266	1177	2302	315	364
2	2302	1176	368	330	1363	2571	876	832
3	2572	1364	303	278	2868	2348	1047	2800
4	2348	2868	465	810	2745	3296	1416	0
5	3294	2745	680	844	2394	2419	151	511
6	2418	2394	1154	823	2239	2466	873	1001
7	2466	2239	32	30	2032	1905	308	664
8	1904	2032	0	0	1966	1463	206	581
9	1463	1966	921	373	820	496	790	1159
10	496	820	0	0	673	308	347	388
11	308	673	39	14	634	294	0	0
12	294	634	224	104	470	250	0	0
13	0	0	1160	790	560	1160	282	52
14	1085	319	384	132	336	1267	41	128
15	0	0	51	262	306	42	166	219
16	0	0	78	288	496	398	199	87
17	214	76	36	20	68	222	0	0
18	681	426	74	214	498	669	75	19
19	1001	873	309	644	776	569	0	0
20	333	352	1143	801	84	76	823	1154
21	319	614	1738	1029	658	738	828	1162
22	1391	1035	5	4	1029	1738	358	6
23	1620	630	0	0	1035	1391	297	931
24	1237	989	1503	0	630	1620	0	761
25	294	634	0	0	634	294	0	0
26	250	470	0	0	466	212	4	38
27	141	295	159	175	241	121	136	86
501	1245	1750	360	437	2184	1532	203	273
502	1528	2181	461	339	1924	1856	1063	600
503	1861	1929	446	453	3338	1792	557	2028
504	1792	3338	644	621	3091	3244	1676	0
505	3244	3091	723	883	2359	2209	493	636
506	2209	2359	1052	1455	2551	2243	1116	871
507	2243	2551	29	70	1843	1784	807	517
508	1784	1843	0	0	1536	1657	503	323
509	1657	1536	441	713	687	486	1146	1196
510	486	687	0	0	471	605	538	203
511	606	471	51	25	422	583	0	0
512	583	422	141	166	338	474	0	0
513	0	0	1196	1146	1121	1049	158	280
514	668	793	322	188	821	851	139	118
515	0	0	280	158	211	317	335	351
516	0	0	317	211	416	496	203	229

517	230	220	3	39	229	203	0	0
518	733	735	220	230	845	846	29	16
519	871	1116	667	353	844	913	0	0
520	447	416	996	1387	111	153	1454	1052
521	579	358	1479	2039	786	839	1407	1015
522	1148	2036	2	1	2040	1479	336	10
523	1354	1286	0	0	2036	1148	605	1561
524	936	1452	982	0	1286	1354	0	398
525	583	422	0	0	422	583	0	0
526	502	338	0	0	311	482	27	20
527	336	245	163	156	215	294	53	72

Computed Approach & Departure Volumes 03:38p Aug 31, 2023

Node	North Leg App	North Leg Dep	East Leg App	East Leg Dep	South Leg App	South Leg Dep	West Leg App	West Leg Dep
1	1812	904	532	266	1177	2302	315	364
2	2302	1176	368	330	1363	2571	876	832
3	2572	1364	303	278	2868	2348	1047	2800
4	2348	2868	465	810	2745	3296	1416	0
5	3294	2745	680	844	2394	2419	151	511
6	2418	2394	1154	823	2239	2466	873	1001
7	2466	2239	32	30	2032	1905	308	664
8	1904	2032	0	0	1966	1463	206	581
9	1463	1966	921	373	820	496	790	1159
10	496	820	0	0	673	308	347	388
11	308	673	39	14	634	294	0	0
12	294	634	224	104	470	250	0	0
13	0	0	1160	790	560	1160	282	52
14	1085	319	384	132	336	1267	41	128
15	0	0	51	262	306	42	166	219
16	0	0	347	362	263	287	326	287
17	214	76	36	20	68	222	0	0
18	681	426	74	214	498	669	75	19
19	1001	873	309	644	776	569	0	0
20	333	352	1143	801	84	76	823	1154
21	319	614	1738	1029	658	738	828	1162
22	1391	1035	5	4	1029	1738	358	6
23	1620	630	0	0	1035	1391	297	931
24	1237	989	1503	0	630	1620	0	761
25	294	634	0	0	634	294	0	0
26	250	470	0	0	466	212	4	38
27	141	295	159	175	241	121	136	86
501	1245	1750	360	437	2184	1532	203	273
502	1528	2181	461	339	1924	1856	1063	600
503	1861	1929	446	453	3338	1792	557	2028

504	1792	3338	644	621	3091	3244	1676	0
505	3244	3091	723	883	2359	2209	493	636
506	2209	2359	1052	1455	2551	2243	1116	871
507	2243	2551	29	70	1843	1784	807	517
508	1784	1843	0	0	1536	1657	503	323
509	1657	1536	441	713	687	486	1146	1196
510	486	687	0	0	471	605	538	203
511	606	471	51	25	422	583	0	0
512	583	422	141	166	338	474	0	0
513	0	0	1196	1146	1121	1049	158	280
514	668	793	322	188	821	851	139	118
515	0	0	280	158	211	317	335	351
516	0	0	317	211	416	496	203	229
517	230	220	3	39	229	203	0	0
518	733	735	220	230	845	846	29	16
519	871	1116	667	353	844	913	0	0
520	447	416	996	1387	111	153	1454	1052
521	579	358	1479	2039	786	839	1407	1015
522	1148	2036	2	1	2040	1479	336	10
523	1354	1286	0	0	2036	1148	605	1561
524	936	1452	982	0	1286	1354	0	398
525	583	422	0	0	422	583	0	0
526	502	338	0	0	311	482	27	20
527	336	245	163	156	215	294	53	72

+--+
| Nodes Report 03:38p Aug 31, 2023 |
+--+

Project Nodes

Node	North Link	East Link	South Link	West Link
1				
2				
3				
4				
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6				
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Appendix E: VMT Estimation Scripts

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```
;-------------------------------------------------------------------------------
;
; Step 1: Skim the loaded networks for each period to get TAZ-to-TAZ
;         distances. Use half of the shortest centroid connector
;         length for the intrazonal distance. Adjust gateway trip lengths.
;
;         Inputs: loaded networks and final OD tables for each period.
;         Outputs: total TAZ-to-TAZ VMT by DA, SR, C2 and C3 for each period.
;
;-------------------------------------------------------------------------------
; Input networks
;-------------------------------------------------------------------------------
AMNET='.\Loaded_Networks\2040A3VS.NET'
MIDDAYNET='.\Loaded_Networks\2040MDVS.NET'
PMNET='.\Loaded_Networks\2040P3V.NET'
EVVNET='.\Loaded_Networks\2040EVV.NET'
;-------------------------------------------------------------------------------
; Input OD
;-------------------------------------------------------------------------------
AMOD='.\OD_Tables\2040A3VS.MAT'
MDOD='.\OD_Tables\2040MDVS.MAT'
PMOD='.\OD_Tables\2040P3V.MAT'
EVVOD='.\OD_Tables\2040EVV.MAT'
;-------------------------------------------------------------------------------
; Output distance skims
;-------------------------------------------------------------------------------
AMDIST='.\Temp_Files\2040A3VS_Distance.MAT'
MDDIST='.\Temp_Files\2040MDVS_Distance.MAT'
PMDIST='.\Temp_Files\2040P3V_Distance.MAT'
EVVDIST='.\Temp_Files\2040EVV_Distance.MAT'
;-------------------------------------------------------------------------------
; Output VMT matrices
;-------------------------------------------------------------------------------
AMVMT='2040A3VS_vmt_6_Class.MAT'
MDVMT='2040MDVS_VMT_6_Class.MAT'
PMVMT='2040P3V_VMT_6_Class.MAT'
EVVVMT='2040EVV_VMT_6_Class.MAT'
;
AMVMTSIMP='2040A3VS_vmt_4_Class.MAT'
MDVMTSIMP='2040MDVS_VMT_4_Class.MAT'
PMVMTSIMP='2040P3V_VMT_4_Class.MAT'
EVVVMTSIMP='2040EVV_VMT_4_Class.MAT'
;-------------------------------------------------------------------------------
; Temp Output VMT matrices files
;-------------------------------------------------------------------------------
TEMP='.\Temp_Files\TEMP.MAT'
TEMP2='.\Temp_Files\TEMP2.MAT'
;
;
;
;-------------------------------------------------------------------------------
; Run a distance skim for each time period
;-------------------------------------------------------------------------------
; AM peak period enterzonal distance skim
RUN PGM=HWYLOAD
FILEI NETI = "@AMNET@"
FILEO MATO[1] = "@TEMP@",
 MO=1 FORMAT=tpp                                  ; output skim matrix
 PHASE=LINKREAD                                   ; define link groups
  IF (LI.HOVLINK=0) ADDTOGROUP=1                  ; no restriction
  IF (LI.HOVLINK=1) ADDTOGROUP=2                  ; walk
```

```
   IF (LI.HOVLINK=2) ADDTOGROUP=3                    ; HOV lanes
   IF (LI.HOVLINK=3) ADDTOGROUP=4                    ; HOV bypassses
   IF (LI.CAPCLASS=99) ADDTOGROUP=5                  ; switched off links
  endphase
  PHASE=ILOOP                                        ; skim path building
     PATHLOAD PATH=li.TIME_1,EXCLUDEGRP=2,5,         ; pathload without HOV links
        MW[1]=PATHTRACE(LI.DISTANCE),SELECTGROUP=1   ; select links used by all
veh
  endphase
ENDRUN
; intrazonals - fill the diagonal element with half of the rowmin value
RUN PGM=MATRIX
FILEI MATI[1] = "@TEMP@"
FILEO MATO[1] = "@TEMP2@",
 MO=1
 MW[1]=MI.1.1
 iz1 = lowest(1,1,0.5,32700)*0.5
 jloop j=i
    mw[1] = iz1
 endjloop
ENDRUN
;
; Adjust gateway distnaces
;(Note: these values come from the 1/5/2021 Central El Dorado Hills Specific
Plan VMT Analysis memorandom)
RUN PGM=MATRIX
FILEI MATI[1] = "@TEMP2@"
FILEO MATO[1] = "@AMDIST@",
 MO=1
 MW[1]=MI.1.1
;
;Adjust external to internal (XI) gateway distance
 IF (I=650) mw[1]=mw[1]+13.08
 IF (I=651) mw[1]=mw[1]+3.96
 IF (I=652) mw[1]=mw[1]+0
 IF (I=653) mw[1]=mw[1]+20.39
 IF (I=654) mw[1]=mw[1]+10.38
 IF (I=655) mw[1]=mw[1]+8.80
 IF (I=656) mw[1]=mw[1]+0
 IF (I=657) mw[1]=mw[1]+6.4
 IF (I=658) mw[1]=mw[1]+0
 IF (I=659) mw[1]=mw[1]+0
 IF (I=660) mw[1]=mw[1]+7.19
 IF (I=661) mw[1]=mw[1]+8.54
 IF (I=662) mw[1]=mw[1]+6.14
 IF (I=663) mw[1]=mw[1]+5.41
 IF (I=664) mw[1]=mw[1]+12.66
 IF (I=665) mw[1]=mw[1]+5.17
 IF (I=666) mw[1]=mw[1]+7.44
 IF (I=667) mw[1]=mw[1]+0
 IF (I=668) mw[1]=mw[1]+14.21
 IF (I=669) mw[1]=mw[1]+0
 IF (I=670) mw[1]=mw[1]+0
 IF (I=671) mw[1]=mw[1]+16.28
 IF (I=672) mw[1]=mw[1]+0
 IF (I=673) mw[1]=mw[1]+3.82
 IF (I=674) mw[1]=mw[1]+18.38
;
;Adjust internal to external (IX) gateway distance
 jloop j=650
    mw[1] = mw[1]+12.41
```

```
 121    endjloop
 122   ;
 123    jloop j=651
 124       mw[1] = mw[1]+4.11
 125    endjloop
 126   ;
 127    jloop j=652
 128       mw[1] = mw[1]+0
 129    endjloop
 130   ;
 131    jloop j=653
 132       mw[1] = mw[1]+31.33
 133    endjloop
 134   ;
 135    jloop j=654
 136       mw[1] = mw[1]+11.07
 137    endjloop
 138   ;
 139    jloop j=655
 140       mw[1] = mw[1]+11.32
 141    endjloop
 142   ;
 143    jloop j=656
 144       mw[1] = mw[1]+0
 145    endjloop
 146   ;
 147    jloop j=657
 148       mw[1] = mw[1]+6.91
 149    endjloop
 150   ;
 151    jloop j=658
 152       mw[1] = mw[1]+0
 153    endjloop
 154   ;
 155    jloop j=659
 156       mw[1] = mw[1]+0
 157    endjloop
 158   ;
 159    jloop j=660
 160       mw[1] = mw[1]+7.73
 161    endjloop
 162   ;
 163    jloop j=661
 164       mw[1] = mw[1]+8.88
 165    endjloop
 166   ;
 167    jloop j=662
 168       mw[1] = mw[1]+5.47
 169    endjloop
 170   ;
 171    jloop j=663
 172       mw[1] = mw[1]+8.16
 173    endjloop
 174   ;
 175    jloop j=664
 176       mw[1] = mw[1]+10.17
 177    endjloop
 178   ;
 179    jloop j=665
 180       mw[1] = mw[1]+5.43
 181    endjloop
```

```
;
 jloop j=666
    mw[1] = mw[1]+6.97
 endjloop
;
 jloop j=667
    mw[1] = mw[1]+0
 endjloop
;
 jloop j=668
    mw[1] = mw[1]+15.96
 endjloop
;
 jloop j=669
    mw[1] = mw[1]+0
 endjloop
;
 jloop j=670
    mw[1] = mw[1]+0
 endjloop
;
 jloop j=671
    mw[1] = mw[1]+18.61
 endjloop
;
 jloop j=672
    mw[1] = mw[1]+0
 endjloop
;
 jloop j=673
    mw[1] = mw[1]+3.73
 endjloop
;
 jloop j=674
    mw[1] = mw[1]+19.21
 endjloop
;
ENDRUN
;
;
; mid day enterzonal distance skim
RUN PGM=HWYLOAD
FILEI NETI = "@MIDDAYNET@"
FILEO MATO[1] = "@TEMP@",
 MO=1 FORMAT=tpp                                  ; output skim matrix
 PHASE=LINKREAD                                   ; define link groups
  IF (LI.HOVLINK=0) ADDTOGROUP=1                  ; no restriction
  IF (LI.HOVLINK=1) ADDTOGROUP=2                  ; walk
  IF (LI.HOVLINK=2) ADDTOGROUP=3                  ; HOV lanes
  IF (LI.HOVLINK=3) ADDTOGROUP=4                  ; HOV bypassses
  IF (LI.CAPCLASS=99) ADDTOGROUP=5                ; switched off links
 endphase
 PHASE=ILOOP                                      ; skim path building
    PATHLOAD PATH=li.TIME_1,EXCLUDEGRP=2,5,       ; pathload without HOV links
       MW[1]=PATHTRACE(LI.DISTANCE),SELECTGROUP=1 ; select links used by all
veh
 endphase
ENDRUN
; intrazonals - fill the diagonal element with half of the rowmin value
RUN PGM=MATRIX
FILEI MATI[1] = "@TEMP@"
```

```
242   FILEO MATO[1] = "@TEMP2@",
243    MO=1
244    MW[1]=MI.1.1
245    iz1 = lowest(1,1,0.5,32700)*0.5
246    jloop j=i
247       mw[1] = iz1
248    endjloop
249   ENDRUN
250   ;
251   ; Adjust gateway distnaces
252   ;(Note: these values come from the 1/5/2021 Central El Dorado Hills Specific
      Plan VMT Analysis memorandom)
253   RUN PGM=MATRIX
254   FILEI MATI[1] = "@TEMP2@"
255   FILEO MATO[1] = "@MDDIST@",
256    MO=1
257    MW[1]=MI.1.1
258   ;
259   ;Adjust external to internal (XI) gateway distance
260    IF (I=650) mw[1]=mw[1]+13.08
261    IF (I=651) mw[1]=mw[1]+3.96
262    IF (I=652) mw[1]=mw[1]+0
263    IF (I=653) mw[1]=mw[1]+20.39
264    IF (I=654) mw[1]=mw[1]+10.38
265    IF (I=655) mw[1]=mw[1]+8.80
266    IF (I=656) mw[1]=mw[1]+0
267    IF (I=657) mw[1]=mw[1]+6.4
268    IF (I=658) mw[1]=mw[1]+0
269    IF (I=659) mw[1]=mw[1]+0
270    IF (I=660) mw[1]=mw[1]+7.19
271    IF (I=661) mw[1]=mw[1]+8.54
272    IF (I=662) mw[1]=mw[1]+6.14
273    IF (I=663) mw[1]=mw[1]+5.41
274    IF (I=664) mw[1]=mw[1]+12.66
275    IF (I=665) mw[1]=mw[1]+5.17
276    IF (I=666) mw[1]=mw[1]+7.44
277    IF (I=667) mw[1]=mw[1]+0
278    IF (I=668) mw[1]=mw[1]+14.21
279    IF (I=669) mw[1]=mw[1]+0
280    IF (I=670) mw[1]=mw[1]+0
281    IF (I=671) mw[1]=mw[1]+16.28
282    IF (I=672) mw[1]=mw[1]+0
283    IF (I=673) mw[1]=mw[1]+3.82
284    IF (I=674) mw[1]=mw[1]+18.38
285   ;
286   ;Adjust internal to external (IX) gateway distance
287    jloop j=650
288       mw[1] = mw[1]+12.41
289    endjloop
290   ;
291    jloop j=651
292       mw[1] = mw[1]+4.11
293    endjloop
294   ;
295    jloop j=652
296       mw[1] = mw[1]+0
297    endjloop
298   ;
299    jloop j=653
300       mw[1] = mw[1]+31.33
301    endjloop
```

```
302   ;
303    jloop j=654
304       mw[1] = mw[1]+11.07
305    endjloop
306   ;
307    jloop j=655
308       mw[1] = mw[1]+11.32
309    endjloop
310   ;
311    jloop j=656
312       mw[1] = mw[1]+0
313    endjloop
314   ;
315    jloop j=657
316       mw[1] = mw[1]+6.91
317    endjloop
318   ;
319    jloop j=658
320       mw[1] = mw[1]+0
321    endjloop
322   ;
323    jloop j=659
324       mw[1] = mw[1]+0
325    endjloop
326   ;
327    jloop j=660
328       mw[1] = mw[1]+7.73
329    endjloop
330   ;
331    jloop j=661
332       mw[1] = mw[1]+8.88
333    endjloop
334   ;
335    jloop j=662
336       mw[1] = mw[1]+5.47
337    endjloop
338   ;
339    jloop j=663
340       mw[1] = mw[1]+8.16
341    endjloop
342   ;
343    jloop j=664
344       mw[1] = mw[1]+10.17
345    endjloop
346   ;
347    jloop j=665
348       mw[1] = mw[1]+5.43
349    endjloop
350   ;
351    jloop j=666
352       mw[1] = mw[1]+6.97
353    endjloop
354   ;
355    jloop j=667
356       mw[1] = mw[1]+0
357    endjloop
358   ;
359    jloop j=668
360       mw[1] = mw[1]+15.96
361    endjloop
362   ;
```

```
363    jloop j=669
364       mw[1] = mw[1]+0
365    endjloop
366    ;
367    jloop j=670
368       mw[1] = mw[1]+0
369    endjloop
370    ;
371    jloop j=671
372       mw[1] = mw[1]+18.61
373    endjloop
374    ;
375    jloop j=672
376       mw[1] = mw[1]+0
377    endjloop
378    ;
379    jloop j=673
380       mw[1] = mw[1]+3.73
381    endjloop
382    ;
383    jloop j=674
384       mw[1] = mw[1]+19.21
385    endjloop
386    ;
387    ENDRUN
388    ;
389    ;
390    ; PM peak period enterzonal distance skim
391    RUN PGM=HWYLOAD
392    FILEI NETI = "@PMNET@"
393    FILEO MATO[1] = "@TEMP@",
394     MO=1 FORMAT=tpp                                    ; output skim matrix
395     PHASE=LINKREAD                                     ; define link groups
396      IF (LI.HOVLINK=0) ADDTOGROUP=1                    ; no restriction
397      IF (LI.HOVLINK=1) ADDTOGROUP=2                    ; walk
398      IF (LI.HOVLINK=2) ADDTOGROUP=3                    ; HOV lanes
399      IF (LI.HOVLINK=3) ADDTOGROUP=4                    ; HOV bypassses
400      IF (LI.CAPCLASS=99) ADDTOGROUP=5                  ; switched off links
401     endphase
402     PHASE=ILOOP                                        ; skim path building
403        PATHLOAD PATH=li.TIME_1,EXCLUDEGRP=2,5,         ; pathload without HOV links
404           MW[1]=PATHTRACE(LI.DISTANCE),SELECTGROUP=1   ; select links used by all
       veh
405     endphase
406    ENDRUN
407    ; intrazonals - fill the diagonal element with half of the rowmin value
408    RUN PGM=MATRIX
409    FILEI MATI[1] = "@TEMP@"
410    FILEO MATO[1] = "@TEMP2@",
411     MO=1
412     MW[1]=MI.1.1
413     iz1 = lowest(1,1,0.5,32700)*0.5
414     jloop j=i
415        mw[1] = iz1
416     endjloop
417    ENDRUN
418    ;
419    ; Adjust gateway distnaces
420    ;(Note: these values come from the 1/5/2021 Central El Dorado Hills Specific
       Plan VMT Analysis memorandom)
421    RUN PGM=MATRIX
```

```
FILEI MATI[1] = "@TEMP2@"
FILEO MATO[1] = "@PMDIST@",
 MO=1
 MW[1]=MI.1.1
;
;Adjust external to internal (XI) gateway distance
 IF (I=650) mw[1]=mw[1]+13.08
 IF (I=651) mw[1]=mw[1]+3.96
 IF (I=652) mw[1]=mw[1]+0
 IF (I=653) mw[1]=mw[1]+20.39
 IF (I=654) mw[1]=mw[1]+10.38
 IF (I=655) mw[1]=mw[1]+8.80
 IF (I=656) mw[1]=mw[1]+0
 IF (I=657) mw[1]=mw[1]+6.4
 IF (I=658) mw[1]=mw[1]+0
 IF (I=659) mw[1]=mw[1]+0
 IF (I=660) mw[1]=mw[1]+7.19
 IF (I=661) mw[1]=mw[1]+8.54
 IF (I=662) mw[1]=mw[1]+6.14
 IF (I=663) mw[1]=mw[1]+5.41
 IF (I=664) mw[1]=mw[1]+12.66
 IF (I=665) mw[1]=mw[1]+5.17
 IF (I=666) mw[1]=mw[1]+7.44
 IF (I=667) mw[1]=mw[1]+0
 IF (I=668) mw[1]=mw[1]+14.21
 IF (I=669) mw[1]=mw[1]+0
 IF (I=670) mw[1]=mw[1]+0
 IF (I=671) mw[1]=mw[1]+16.28
 IF (I=672) mw[1]=mw[1]+0
 IF (I=673) mw[1]=mw[1]+3.82
 IF (I=674) mw[1]=mw[1]+18.38
;
;Adjust internal to external (IX) gateway distance
 jloop j=650
    mw[1] = mw[1]+12.41
 endjloop
;
 jloop j=651
    mw[1] = mw[1]+4.11
 endjloop
;
 jloop j=652
    mw[1] = mw[1]+0
 endjloop
;
 jloop j=653
    mw[1] = mw[1]+31.33
 endjloop
;
 jloop j=654
    mw[1] = mw[1]+11.07
 endjloop
;
 jloop j=655
    mw[1] = mw[1]+11.32
 endjloop
;
 jloop j=656
    mw[1] = mw[1]+0
 endjloop
;
```

```
 jloop j=657
    mw[1] = mw[1]+6.91
 endjloop
;
 jloop j=658
    mw[1] = mw[1]+0
 endjloop
;
 jloop j=659
    mw[1] = mw[1]+0
 endjloop
;
 jloop j=660
    mw[1] = mw[1]+7.73
 endjloop
;
 jloop j=661
    mw[1] = mw[1]+8.88
 endjloop
;
 jloop j=662
    mw[1] = mw[1]+5.47
 endjloop
;
 jloop j=663
    mw[1] = mw[1]+8.16
 endjloop
;
 jloop j=664
    mw[1] = mw[1]+10.17
 endjloop
;
 jloop j=665
    mw[1] = mw[1]+5.43
 endjloop
;
 jloop j=666
    mw[1] = mw[1]+6.97
 endjloop
;
 jloop j=667
    mw[1] = mw[1]+0
 endjloop
;
 jloop j=668
    mw[1] = mw[1]+15.96
 endjloop
;
 jloop j=669
    mw[1] = mw[1]+0
 endjloop
;
 jloop j=670
    mw[1] = mw[1]+0
 endjloop
;
 jloop j=671
    mw[1] = mw[1]+18.61
 endjloop
;
 jloop j=672
```

```
544       mw[1] = mw[1]+0
545     endjloop
546    ;
547     jloop j=673
548       mw[1] = mw[1]+3.73
549     endjloop
550    ;
551     jloop j=674
552       mw[1] = mw[1]+19.21
553     endjloop
554    ;
555    ENDRUN
556    ;
557    ;
558    ; Evening enterzonal distance skim
559    RUN PGM=HWYLOAD
560    FILEI NETI = "@EVVNET@"
561    FILEO MATO[1] = "@TEMP@",
562     MO=1 FORMAT=tpp                                  ; output skim matrix
563     PHASE=LINKREAD                                   ; define link groups
564      IF (LI.HOVLINK=0) ADDTOGROUP=1                  ; no restriction
565      IF (LI.HOVLINK=1) ADDTOGROUP=2                  ; walk
566      IF (LI.HOVLINK=2) ADDTOGROUP=3                  ; HOV lanes
567      IF (LI.HOVLINK=3) ADDTOGROUP=4                  ; HOV bypassses
568      IF (LI.CAPCLASS=99) ADDTOGROUP=5                ; switched off links
569     endphase
570     PHASE=ILOOP                                      ; skim path building
571        PATHLOAD PATH=li.TIME_1,EXCLUDEGRP=2,5,       ; pathload without HOV links
572           MW[1]=PATHTRACE(LI.DISTANCE),SELECTGROUP=1 ; select links used by all
    veh
573     endphase
574    ENDRUN
575    ; intrazonals - fill the diagonal element with half of the rowmin value
576    RUN PGM=MATRIX
577    FILEI MATI[1] = "@TEMP@"
578    FILEO MATO[1] = "@TEMP2@",
579     MO=1
580     MW[1]=MI.1.1
581     iz1 = lowest(1,1,0.5,32700)*0.5
582     jloop j=i
583        mw[1] = iz1
584     endjloop
585    ENDRUN
586    ;
587    ; Adjust gateway distnaces
588    ;(Note: these values come from the 1/5/2021 Central El Dorado Hills Specific
    Plan VMT Analysis memorandom)
589    RUN PGM=MATRIX
590    FILEI MATI[1] = "@TEMP2@"
591    FILEO MATO[1] = "@EVVDIST@",
592     MO=1
593     MW[1]=MI.1.1
594    ;
595    ;Adjust external to internal (XI) gateway distance
596     IF (I=650) mw[1]=mw[1]+13.08
597     IF (I=651) mw[1]=mw[1]+3.96
598     IF (I=652) mw[1]=mw[1]+0
599     IF (I=653) mw[1]=mw[1]+20.39
600     IF (I=654) mw[1]=mw[1]+10.38
601     IF (I=655) mw[1]=mw[1]+8.80
602     IF (I=656) mw[1]=mw[1]+0
```

```
   IF (I=657) mw[1]=mw[1]+6.4
   IF (I=658) mw[1]=mw[1]+0
   IF (I=659) mw[1]=mw[1]+0
   IF (I=660) mw[1]=mw[1]+7.19
   IF (I=661) mw[1]=mw[1]+8.54
   IF (I=662) mw[1]=mw[1]+6.14
   IF (I=663) mw[1]=mw[1]+5.41
   IF (I=664) mw[1]=mw[1]+12.66
   IF (I=665) mw[1]=mw[1]+5.17
   IF (I=666) mw[1]=mw[1]+7.44
   IF (I=667) mw[1]=mw[1]+0
   IF (I=668) mw[1]=mw[1]+14.21
   IF (I=669) mw[1]=mw[1]+0
   IF (I=670) mw[1]=mw[1]+0
   IF (I=671) mw[1]=mw[1]+16.28
   IF (I=672) mw[1]=mw[1]+0
   IF (I=673) mw[1]=mw[1]+3.82
   IF (I=674) mw[1]=mw[1]+18.38
  ;
  ;Adjust internal to external (IX) gateway distance
   jloop j=650
      mw[1] = mw[1]+12.41
   endjloop
  ;
   jloop j=651
      mw[1] = mw[1]+4.11
   endjloop
  ;
   jloop j=652
      mw[1] = mw[1]+0
   endjloop
  ;
   jloop j=653
      mw[1] = mw[1]+31.33
   endjloop
  ;
   jloop j=654
      mw[1] = mw[1]+11.07
   endjloop
  ;
   jloop j=655
      mw[1] = mw[1]+11.32
   endjloop
  ;
   jloop j=656
      mw[1] = mw[1]+0
   endjloop
  ;
   jloop j=657
      mw[1] = mw[1]+6.91
   endjloop
  ;
   jloop j=658
      mw[1] = mw[1]+0
   endjloop
  ;
   jloop j=659
      mw[1] = mw[1]+0
   endjloop
  ;
   jloop j=660
```

```
664         mw[1] = mw[1]+7.73
665      endjloop
666     ;
667      jloop j=661
668         mw[1] = mw[1]+8.88
669      endjloop
670     ;
671      jloop j=662
672         mw[1] = mw[1]+5.47
673      endjloop
674     ;
675      jloop j=663
676         mw[1] = mw[1]+8.16
677      endjloop
678     ;
679      jloop j=664
680         mw[1] = mw[1]+10.17
681      endjloop
682     ;
683      jloop j=665
684         mw[1] = mw[1]+5.43
685      endjloop
686     ;
687      jloop j=666
688         mw[1] = mw[1]+6.97
689      endjloop
690     ;
691      jloop j=667
692         mw[1] = mw[1]+0
693      endjloop
694     ;
695      jloop j=668
696         mw[1] = mw[1]+15.96
697      endjloop
698     ;
699      jloop j=669
700         mw[1] = mw[1]+0
701      endjloop
702     ;
703      jloop j=670
704         mw[1] = mw[1]+0
705      endjloop
706     ;
707      jloop j=671
708         mw[1] = mw[1]+18.61
709      endjloop
710     ;
711      jloop j=672
712         mw[1] = mw[1]+0
713      endjloop
714     ;
715      jloop j=673
716         mw[1] = mw[1]+3.73
717      endjloop
718     ;
719      jloop j=674
720         mw[1] = mw[1]+19.21
721      endjloop
722     ;
723     ENDRUN
724     ;
```

```
;-------------------------------------------------------------------------------
; Combine distance skimes and OD DAta to get VMT (6 classes)
;-------------------------------------------------------------------------------
/*
; AM peak period VMT
RUN PGM=MATRIX
FILEI MATI[1] = "@AMOD@"                                ; OD Tables
; There are 6 tables in the OD file
;   1 = drive alone, no HOV lane use
;   2 = shared ride, no HOV lane use
;   3 = drive alone, with HOV lane use
;   4 = shared ride, with HOV lane use
;   5 = comercial vehicle 2 axles
;   6 = comercial vehicle 3+ axles
FILEI MATI[2] = "@AMDIST@"
; Note: Gateway TAZs are 650-674
FILEO MATO[1] = "@AMVMT@", MO=1-6, NAME= DA, SR, DA_HOV, SR_HOV, C2, C3
  MW[11]=MI.1.1
  MW[12]=MI.1.2
  MW[13]=MI.1.3
  MW[14]=MI.1.4
  MW[15]=MI.1.5
  MW[16]=MI.1.6
  MW[17]=MI.2.1
;
  JLOOP
    MW[1]=MW[11]*MW[17]
    MW[2]=MW[12]*MW[17]
    MW[3]=MW[13]*MW[17]
    MW[4]=MW[14]*MW[17]
    MW[5]=MW[15]*MW[17]
    MW[6]=MW[16]*MW[17]
  ENDJLOOP
ENDRUN
;
;
; Mid day period VMT
RUN PGM=MATRIX
FILEI MATI[1] = "@MDOD@"                                ; OD Tables
; There are 6 tables in the OD file
;   1 = drive alone, no HOV lane use
;   2 = shared ride, no HOV lane use
;   3 = drive alone, with HOV lane use
;   4 = shared ride, with HOV lane use
;   5 = comercial vehicle 2 axles
;   6 = comercial vehicle 3+ axles
FILEI MATI[2] = "@MDDIST@"
; Note: Gateway TAZs are 650-674
FILEO MATO[1] = "@MDVMT@", MO=1-6, NAME= DA, SR, DA_HOV, SR_HOV, C2, C3
  MW[11]=MI.1.1
  MW[12]=MI.1.2
  MW[13]=MI.1.3
  MW[14]=MI.1.4
  MW[15]=MI.1.5
  MW[16]=MI.1.6
  MW[17]=MI.2.1
;
  JLOOP
    MW[1]=MW[11]*MW[17]
    MW[2]=MW[12]*MW[17]
    MW[3]=MW[13]*MW[17]
```

```
      MW[4]=MW[14]*MW[17]
      MW[5]=MW[15]*MW[17]
      MW[6]=MW[16]*MW[17]
    ENDJLOOP
  ENDRUN
  ;
  ;
  ; PM peak period VMT
  RUN PGM=MATRIX
  FILEI MATI[1] = "@PMOD@"                                ; OD Tables
  ; There are 6 tables in the OD file
  ;   1 = drive alone, no HOV lane use
  ;   2 = shared ride, no HOV lane use
  ;   3 = drive alone, with HOV lane use
  ;   4 = shared ride, with HOV lane use
  ;   5 = comercial vehicle 2 axles
  ;   6 = comercial vehicle 3+ axles
  FILEI MATI[2] = "@PMDIST@"
  ; Note: Gateway TAZs are 650-674
  FILEO MATO[1] = "@PMVMT@", MO=1-6, NAME= DA, SR, DA_HOV, SR_HOV, C2, C3
    MW[11]=MI.1.1
    MW[12]=MI.1.2
    MW[13]=MI.1.3
    MW[14]=MI.1.4
    MW[15]=MI.1.5
    MW[16]=MI.1.6
    MW[17]=MI.2.1
  ;
    JLOOP
      MW[1]=MW[11]*MW[17]
      MW[2]=MW[12]*MW[17]
      MW[3]=MW[13]*MW[17]
      MW[4]=MW[14]*MW[17]
      MW[5]=MW[15]*MW[17]
      MW[6]=MW[16]*MW[17]
    ENDJLOOP
  ENDRUN
  ;
  ;
  ; Evening period VMT
  RUN PGM=MATRIX
  FILEI MATI[1] = "@EVVOD@"                                ; OD Tables
  ; There are 6 tables in the OD file
  ;   1 = drive alone, no HOV lane use
  ;   2 = shared ride, no HOV lane use
  ;   3 = drive alone, with HOV lane use
  ;   4 = shared ride, with HOV lane use
  ;   5 = comercial vehicle 2 axles
  ;   6 = comercial vehicle 3+ axles
  FILEI MATI[2] = "@EVVDIST@"
  ; Note: Gateway TAZs are 650-674
  FILEO MATO[1] = "@EVVVMT@", MO=1-6, NAME= DA, SR, DA_HOV, SR_HOV, C2, C3
    MW[11]=MI.1.1
    MW[12]=MI.1.2
    MW[13]=MI.1.3
    MW[14]=MI.1.4
    MW[15]=MI.1.5
    MW[16]=MI.1.6
    MW[17]=MI.2.1
  ;
    JLOOP
```

```
      MW[1]=MW[11]*MW[17]
      MW[2]=MW[12]*MW[17]
      MW[3]=MW[13]*MW[17]
      MW[4]=MW[14]*MW[17]
      MW[5]=MW[15]*MW[17]
      MW[6]=MW[16]*MW[17]
    ENDJLOOP
  ENDRUN
  */
  ;
  ;-------------------------------------------------------------------------------
  ; ombine distance skimes and OD DAta to get VMT.
  ; Simplify VMT tables to 4 classes: DA, SR, C2, and C3
  ;-------------------------------------------------------------------------------
  ; AM peak period VMT
  RUN PGM=MATRIX
  FILEI MATI[1] = "@AMOD@"                              ; OD Tables
  ; There are 6 tables in the OD file
  ;   1 = drive alone, no HOV lane use
  ;   2 = shared ride, no HOV lane use
  ;   3 = drive alone, with HOV lane use
  ;   4 = shared ride, with HOV lane use
  ;   5 = comercial vehicle 2 axles
  ;   6 = comercial vehicle 3+ axles
  FILEI MATI[2] = "@AMDIST@"
  ; Note: Gateway TAZs are 650-674
  FILEO MATO[1] = "@AMVMTSIMP@", MO=1-4, NAME= DA, SR, C2, C3
    MW[11]=MI.1.1
    MW[12]=MI.1.2
    MW[13]=MI.1.3
    MW[14]=MI.1.4
    MW[15]=MI.1.5
    MW[16]=MI.1.6
    MW[17]=MI.2.1
  ;
    JLOOP
      MW[1]=MW[11]*MW[17]+MW[13]*MW[17]
      MW[2]=MW[12]*MW[17]+MW[14]*MW[17]
      MW[3]=MW[15]*MW[17]
      MW[4]=MW[16]*MW[17]
    ENDJLOOP
  ENDRUN
  ;
  ; Mid day period VMT
  RUN PGM=MATRIX
  FILEI MATI[1] = "@MDOD@"                              ; OD Tables
  ; There are 6 tables in the OD file
  ;   1 = drive alone, no HOV lane use
  ;   2 = shared ride, no HOV lane use
  ;   3 = drive alone, with HOV lane use
  ;   4 = shared ride, with HOV lane use
  ;   5 = comercial vehicle 2 axles
  ;   6 = comercial vehicle 3+ axles
  FILEI MATI[2] = "@MDDIST@"
  ; Note: Gateway TAZs are 650-674
  FILEO MATO[1] = "@MDVMTSIMP@", MO=1-4, NAME= DA, SR, C2, C3
    MW[11]=MI.1.1
    MW[12]=MI.1.2
    MW[13]=MI.1.3
    MW[14]=MI.1.4
    MW[15]=MI.1.5
```

```
    MW[16]=MI.1.6
    MW[17]=MI.2.1
  ;
    JLOOP
      MW[1]=MW[11]*MW[17]+MW[13]*MW[17]
      MW[2]=MW[12]*MW[17]+MW[14]*MW[17]
      MW[3]=MW[15]*MW[17]
      MW[4]=MW[16]*MW[17]
    ENDJLOOP
  ENDRUN
  ;
  ; PM peak period VMT
  RUN PGM=MATRIX
  FILEI MATI[1] = "@PMOD@"                              ; OD Tables
  ; There are 6 tables in the OD file
  ;   1 = drive alone, no HOV lane use
  ;   2 = shared ride, no HOV lane use
  ;   3 = drive alone, with HOV lane use
  ;   4 = shared ride, with HOV lane use
  ;   5 = comercial vehicle 2 axles
  ;   6 = comercial vehicle 3+ axles
  FILEI MATI[2] = "@PMDIST@"
  ; Note: Gateway TAZs are 650-674
  FILEO MATO[1] = "@PMVMTSIMP@", MO=1-4, NAME= DA, SR, C2, C3
    MW[11]=MI.1.1
    MW[12]=MI.1.2
    MW[13]=MI.1.3
    MW[14]=MI.1.4
    MW[15]=MI.1.5
    MW[16]=MI.1.6
    MW[17]=MI.2.1
  ;
    JLOOP
      MW[1]=MW[11]*MW[17]+MW[13]*MW[17]
      MW[2]=MW[12]*MW[17]+MW[14]*MW[17]
      MW[3]=MW[15]*MW[17]
      MW[4]=MW[16]*MW[17]
    ENDJLOOP
  ENDRUN
  ;
  ; Evening period VMT
  RUN PGM=MATRIX
  FILEI MATI[1] = "@EVVOD@"                              ; OD Tables
  ; There are 6 tables in the OD file
  ;   1 = drive alone, no HOV lane use
  ;   2 = shared ride, no HOV lane use
  ;   3 = drive alone, with HOV lane use
  ;   4 = shared ride, with HOV lane use
  ;   5 = comercial vehicle 2 axles
  ;   6 = comercial vehicle 3+ axles
  FILEI MATI[2] = "@EVVDIST@"
  ; Note: Gateway TAZs are 650-674
  FILEO MATO[1] = "@EVVVMTSIMP@", MO=1-4, NAME= DA, SR, C2, C3
    MW[11]=MI.1.1
    MW[12]=MI.1.2
    MW[13]=MI.1.3
    MW[14]=MI.1.4
    MW[15]=MI.1.5
    MW[16]=MI.1.6
    MW[17]=MI.2.1
  ;
```

```
969     JLOOP
970       MW[1]=MW[11]*MW[17]+MW[13]*MW[17]
971       MW[2]=MW[12]*MW[17]+MW[14]*MW[17]
972       MW[3]=MW[15]*MW[17]
973       MW[4]=MW[16]*MW[17]
974     ENDJLOOP
975   ENDRUN
976   ;
977   ;
978   ;
```

```
;-------------------------------------------------------------------------
;
; Step 2: Determine trips by purpose for each time period.
;
;         Inputs: PA tables for HBW, HBS, HBSc, HBO, WO, OO, Commercial,
;                 transit access, and Thru trips by class
;
;         Output for each period: Production to Attraction (PA) and
;                 Attraction to Production (AP) trip tables for
;                    (File 1) drive alone (HBW, HBS, HBSc, HBO, WO,and OO)
;                    (File 2) shared ride (HBW, HBS, HBSc, HBO, WO,and OO)
;                    (File 3) C2
;                    (File 4) C3
;        these are then  further processed to multiclass OD tables and
;        multiclass OD percentage tables.
;
;        Combine multiclass PA and AP tables to true OD tables for C2, C3, and
;        by purpose for drive alone and shared ride. Then estiumate the
;        percentage of each trip...all by period.
;
;        Inputs: PA and AP tables by purpose for DA, SR, C2 and C3 for each
;                 time period.
;        Outputs: Fraction of trips for DA (by purpose), SR (by purpose)
;                  C2, and C3.
;        These outputs from step 2 will be combined with VMT by class from
;        step 1 to estimate total VMT by trip purpose in step 3.
;
;-------------------------------------------------------------------------
; Note This is addopted from the script that parse the daily PA's to OD pairs
; by time-of-day (i.e., "EDC_CAT_082118C\APPLICATIONS1\03_ASSIGN\3AMAT00C.S")
; and from 3AMAT00D.S which is under the first highway assignment step in
; the assenment portion of the catalog.
;-------------------------------------------------------------------------
;    We have TAZ-to-TAZ VMT for DA, SR C2 and C3.
;
;   For residential we want want HBW, HBS, HBSc, and HBO trips for DA and SR.
;   For office we want HBW.
;   To derive percentages, we also want total OD pairs across HBW, HBS, HBS, HBO,
;   WO, OO, C2, and C3.
;-------------------------------------------------------------------------
;-------------------------------------------------------------------------
; Input daily PA tables (sub tables in parentheses)
;-------------------------------------------------------------------------
HBW='.\PA_Tables\2040HBWM.MAT'    ;home based work
;                        (1)DA, (2)SR2, (3)SR3, (4)transit access walk,
;                        (5)transit access drive, (6)walk, (7)bike
HBS='.\PA_Tables\2040HBSM.MAT'    ;home based shop
;                        (1)DA, (2)SR2, (3)SR3, (4)transit access walk,
;                        (5)transit access drive, (6)walk, (7)bike
HBSC='.\PA_Tables\2040HSCM.MAT'   ;home based school
;                         (1)m1, (2)m2 ???
HBO='.\PA_Tables\2040HBOM.MAT'     ;home based other
;                        (1)DA, (2)SR2, (3)SR3, (4)transit access walk,
;                        (5)transit access drive, (6)walk, (7)bike
WO='.\PA_Tables\2040WOM.MAT'       ;work-other
;                        (1)DA, (2)SR2, (3)SR3, (4)transit access walk,
;                        (5)transit access drive, (6)walk, (7)bike
OO='.\PA_Tables\2040OOM.MAT'       ;other-other
;                        (1)DA, (2)SR2, (3)SR3, (4)transit access walk,
;                        (5)transit access drive, (6)walk, (7)bike
NWTD='.\PA_Tables\2040NWTD.MAT'   ;used for commercial vehicle trips (???)
```

```
;                          (1)HBS, (2)HBSC, (3)HBO, (4)WO, (5)OO,
;                          (6)C2, (7)C3
TDVT='.\PA_Tables\TDVT.MAT'       ;transit access
;                          (1)HBW DA, (2)HBW SR, (3)HBS DA, (4)HBS SR,
;                          (5)HBO DA, (6)HBO SR, (7)WO DA, (8)WO SR,
;                          (9)OO DA, (10)OO SR)
THRU='.\PA_Tables\2040THRU.MAT'   ;through trips
;                          (1)auto, (2)C3
;
;-------------------------------------------------------------------------------
; Temp output trips by purpose
;-------------------------------------------------------------------------------
; AM Peak Period
DA_AM='.\Temp_Files\DA_AM_Trips_by_Purpose.mat'
SR_AM='.\Temp_Files\SR_AM_Trips_by_Purpose.mat'
C2_AM='.\Temp_Files\C2_AM_Trips_by_Purpose.mat'
C3_AM='.\Temp_Files\C3_AM_Trips_by_Purpose.mat'
;
; mid day Period
DA_MD='.\Temp_Files\DA_MD_Trips_by_Purpose.mat'
SR_MD='.\Temp_Files\SR_MD_Trips_by_Purpose.mat'
C2_MD='.\Temp_Files\C2_MD_Trips_by_Purpose.mat'
C3_MD='.\Temp_Files\C3_MD_Trips_by_Purpose.mat'
;
; PM Peak Period
DA_PM='.\Temp_Files\DA_PM_Trips_by_Purpose.mat'
SR_PM='.\Temp_Files\SR_PM_Trips_by_Purpose.mat'
C2_PM='.\Temp_Files\C2_PM_Trips_by_Purpose.mat'
C3_PM='.\Temp_Files\C3_PM_Trips_by_Purpose.mat'
;
; Evening Peak Period
DA_EV='.\Temp_Files\DA_EV_Trips_by_Purpose.mat'
SR_EV='.\Temp_Files\SR_EV_Trips_by_Purpose.mat'
C2_EV='.\Temp_Files\C2_EV_Trips_by_Purpose.mat'
C3_EV='.\Temp_Files\C3_EV_Trips_by_Purpose.mat'
;
;-------------------------------------------------------------------------------
; Output multi-class OD tables
;-------------------------------------------------------------------------------
AM_OD=  '.\Temp_Files\AM_MULTICLASS.MAT'
AM_FRAC='AM_FRACTIONS_BY_PURPOSE.MAT'
MD_OD=  '.\Temp_Files\MD_MULTICLASS.MAT'
MD_FRAC='MD_FRACTIONS_BY_PURPOSE.MAT'
PM_OD=  '.\Temp_Files\PM_MULTICLASS.MAT'
PM_FRAC='PM_FRACTIONS_BY_PURPOSE.MAT'
EV_OD=  '.\Temp_Files\EV_MULTICLASS.MAT'
EV_FRAC='EV_FRACTIONS_BY_PURPOSE.MAT'
DAILY_OD='Daily_multiclass_OD.MAT'
;
;-------------------------------------------------------------------------------
; Estimate trip purposes for AM3
;-------------------------------------------------------------------------------
RUN PGM=MATRIX
; Inputs
FILEI MATI[1] = "@HBW@"
FILEI MATI[2] = "@HBS@"
FILEI MATI[3] = "@HBSC@"
FILEI MATI[4] = "@HBO@"
FILEI MATI[5] = "@WO@"
FILEI MATI[6] = "@OO@"
FILEI MATI[7] = "@nwtd@"
```

```
FILEI MATI[8] = "@TDVT@"
FILEI MATI[9] = "@THRU@"
;
; Outputs
FILEO MATO[1] = "@DA_AM@", MO=21-34,
                NAME= HBW_PA, HBW_AP,    HBS_PA, HBS_AP,    HBSc_PA, HBSC_AP,
                      HBO_PA, HBO_AP,    WO_PA, WO_AP,      OO_PA, OO_AP,
                      THRU_PA, THRU_AP
FILEO MATO[2] = "@SR_AM@", MO=41-54,
                NAME= HBW_PA, HBW_AP,    HBS_PA, HBS_AP,    HBSc_PA, HBSC_AP,
                      HBO_PA, HBO_AP,    WO_PA, WO_AP,      OO_PA, OO_AP,
                      THRU_PA, THRU_AP
FILEO MATO[3] = "@C2_AM@", MO=55-56, NAME= C2_PA, C2_AP
FILEO MATO[4] = "@C3_AM@", MO=57-58, NAME= C3_PA, C3_AP
;
; Input DA trips
  MW[1] = mi.1.1 *0.01                        ; HBW (scaled by 100)
  MW[2] = mi.2.1                              ; HBS (unscaled)
  MW[3] = (mi.3.1*0.06 + mi.3.1.t*0.22)       ; HBSc (unscaled)
  MW[4] = mi.4.1                              ; HBO (unscaled)
  MW[5] = mi.5.1                              ; WO (unscaled)
  MW[6] = mi.6.1                              ; OO (unscaled)
;
; Input and convert SR to Vehicle Trips
  MW[11] = (mi.1.2*0.50 + mi.1.3*0.302)*0.01 ; HBW SR (scaled by 100)
  MW[12] = (mi.2.2*0.50 + mi.2.3*0.272)       ; HBS (unscaled)
  MW[13] = (mi.3.1*0.34)                      ; HBSc (unscaled)
  MW[14] = (mi.4.2*0.50 + mi.4.3*0.287)       ; HBO (unscaled)
  MW[15] = (mi.5.2*0.50 + mi.5.3*0.279)       ; WO (unscaled)
  MW[16] = (mi.6.2*0.50 + mi.6.3*0.272)       ; OO (unscaled)
;
; Drive Alone P-A to O-D factoring
; P-A
  MW[21] = 0.330 *MW[1] + 0.406 *mi.8.1       ;HBW + HBW TD access
  MW[23] = 0.052 *MW[2] + 0.185 *mi.8.3       ;HBS + HBS TD access
  MW[25] = 0.523 *MW[3]                       ;HBSc
  MW[27] = 0.147 *MW[4] + 0.108 *mi.8.5       ;HBO + HBO TD access
  MW[29] = 0.146 *MW[5] + 0.075 *mi.8.7       ;WO + WO TD access
  MW[31] = 0.063 *MW[6] + 0.1675*mi.8.9       ;OO + OO TD access
  MW[33] = 0.090 *mi.9.1*0.8                  ;Thru
;
; A-P
  MW[22] = 0.014 *MW[1] + 0.0   *mi.8.1       ;HBW + HBW TD access
  MW[24] = 0.026 *MW[2] + 0.004 *mi.8.3       ;HBS + HBS TD access
  MW[26] = 0.006 *MW[3]                       ;HBSc
  MW[28] = 0.045 *MW[4] + 0.004 *mi.8.5       ;HBO + HBO TD access
  MW[30] = 0.040 *MW[5] + 0.093 *mi.8.7       ;WO + WO TD access
  MW[32] = 0.063 *MW[6] + 0.1675*mi.8.9       ;OO + OO TD access
  MW[34] = 0.090 *mi.9.1*0.8                  ;Thru
;
; Shared Ride  P-A to O-D factoring
; P-A
  MW[41] = 0.365 *MW[11] + 0.406 *mi.8.2       ;HBW + HBW TD access
  MW[43] = 0.052 *MW[12] + 0.185 *mi.8.4       ;HBS + HBS TD access
  MW[45] = 0.523 *MW[13]                       ;HBSc
  MW[47] = 0.147 *MW[14] + 0.108 *mi.8.6       ;HBO + HBO TD access
  MW[49] = 0.146 *MW[15] + 0.075 *mi.8.8       ;WO + WO TD access
  MW[51] = 0.063 *MW[16] + 0.1675*mi.8.10      ;OO + OO TD access
  MW[53] = 0.090 *mi.9.1*0.2                   ;Thru
;
; A-P
```

```
    MW[42] = 0.009 *MW[11] + 0.0   *mi.8.2      ;HBW + HBW TD access
    MW[43] = 0.026 *MW[12] + 0.004 *mi.8.4      ;HBS + HBS TD access
    MW[46] = 0.006 *MW[13]                      ;HBSc
    MW[48] = 0.045 *MW[14] + 0.004 *mi.8.6      ;HBO + HBO TD access
    MW[50] = 0.040 *MW[15] + 0.093 *mi.8.8      ;WO + WO TD access
    MW[52] = 0.063 *MW[16] + 0.1675*mi.8.10     ;OO + OO TD access
    MW[54] = 0.090 *MI.9.1*0.2                  ;Thru
  ;
  ; C2  P-A to O-D factoring
    MW[55] = 0.091*mi.7.6                       ; P-A
    MW[56] = MW[55]                             ; A-P
  ;
  ; C3  P-A to O-D factoring
    MW[57] = 0.091*mi.7.7 + 0.91*mi.9.2         ; P-A (with XX commercial)
    MW[58] = MW[57]                             ; A-P
  ENDRUN
  ;
  ;
  ;
  ;-------------------------------------------------------------------------------
  ; Estimate trip purposes for mid day
  ;-------------------------------------------------------------------------------
  RUN PGM=MATRIX
  ; Inputs
  FILEI MATI[1] = "@HBW@"
  FILEI MATI[2] = "@HBS@"
  FILEI MATI[3] = "@HBSC@"
  FILEI MATI[4] = "@HBO@"
  FILEI MATI[5] = "@WO@"
  FILEI MATI[6] = "@OO@"
  FILEI MATI[7] = "@nwtd@"
  FILEI MATI[8] = "@TDVT@"
  FILEI MATI[9] = "@THRU@"
  ;
  ; Outputs
  FILEO MATO[1] = "@DA_MD@", MO=21-34,
                  NAME= HBW_PA, HBW_AP,    HBS_PA, HBS_AP,    HBSc_PA, HBSC_AP,
                        HBO_PA, HBO_AP,    WO_PA, WO_AP,      OO_PA, OO_AP,
                        THRU_PA, THRU_AP
  FILEO MATO[2] = "@SR_MD@", MO=41-54,
                  NAME= HBW_PA, HBW_AP,    HBS_PA, HBS_AP,    HBSc_PA, HBSC_AP,
                        HBO_PA, HBO_AP,    WO_PA, WO_AP,      OO_PA, OO_AP,
                        THRU_PA, THRU_AP
  FILEO MATO[3] = "@C2_MD@", MO=55-56, NAME= C2_PA, C2_AP
  FILEO MATO[4] = "@C3_MD@", MO=57-78, NAME= C3_PA, C3_AP
  ;
  ; Input DA trips
    MW[1] = mi.1.1 *0.01                        ; HBW (scaled by 100)
    MW[2] = mi.2.1                              ; HBS (unscaled)
    MW[3] = (mi.3.1*0.06 + mi.3.1.t*0.22)       ; HBSc (unscaled)
    MW[4] = mi.4.1                              ; HBO (unscaled)
    MW[5] = mi.5.1                              ; WO (unscaled)
    MW[6] = mi.6.1                              ; OO (unscaled)
  ;
  ; Input and convert SR to Vehicle Trips
    MW[11] = (mi.1.2*0.50 + mi.1.3*0.302)*0.01 ; HBW SR (scaled by 100)
    MW[12] = (mi.2.2*0.50 + mi.2.3*0.272)       ; HBS (unscaled)
    MW[13] = (mi.3.1*0.34)                      ; HBSc (unscaled)
    MW[14] = (mi.4.2*0.50 + mi.4.3*0.287)       ; HBO (unscaled)
    MW[15] = (mi.5.2*0.50 + mi.5.3*0.279)       ; WO (unscaled)
    MW[16] = (mi.6.2*0.50 + mi.6.3*0.272)       ; OO (unscaled)
```

```
;
; Drive Alone P-A to O-D factoring
; P-A
  MW[21] = 0.082 *MW[1] + 0.044 *mi.8.1      ;HBW + HBW TD access
  MW[23] = 0.145 *MW[2] + 0.015 *mi.8.3      ;HBS + HBS TD access
  MW[25] = 0.028 *MW[3]                      ;HBSc
  MW[27] = 0.135 *MW[4] + 0.131 *mi.8.5      ;HBO + HBO TD access
  MW[29] = 0.219 *MW[5] + 0.394 *mi.8.7      ;WO + WO TD access
  MW[31] = 0.194 *MW[6] + 0.1295*mi.8.9      ;OO + OO TD access
  MW[33] = 0.180 *mi.9.1*0.8                 ;Thru
;
; A-P
  MW[22] = 0.076 *MW[1] + 0.0   *mi.8.1      ;HBW + HBW TD access
  MW[24] = 0.189 *MW[2] + 0.311 *mi.8.3      ;HBS + HBS TD access
  MW[26] = 0.119 *MW[3]                      ;HBSc
  MW[28] = 0.109 *MW[4] + 0.138 *mi.8.5      ;HBO + HBO TD access
  MW[30] = 0.203 *MW[5] + 0.309 *mi.8.7      ;WO + WO TD access
  MW[32] = 0.194 *MW[6] + 0.1295*mi.8.9      ;OO + OO TD access
  MW[34] = 0.180 *mi.9.1*0.8                 ;Thru
;
; Shared Ride  P-A to O-D factoring
; P-A
  MW[41] = 0.083 *MW[11] + 0.044 *mi.8.2      ;HBW + HBW TD access
  MW[43] = 0.145 *MW[12] + 0.015 *mi.8.4      ;HBS + HBS TD access
  MW[45] = 0.028 *MW[13]                      ;HBSc
  MW[47] = 0.135 *MW[14] + 0.131 *mi.8.6      ;HBO + HBO TD access
  MW[49] = 0.219 *MW[15] + 0.394 *mi.8.8      ;WO + WO TD access
  MW[51] = 0.194 *MW[16] + 0.129*mi.8.10      ;OO + OO TD access
  MW[53] = 0.180 *mi.9.1*0.2                  ;Thru
;
; A-P
  MW[42] = 0.064 *MW[11] + 0.0   *mi.8.2      ;HBW + HBW TD access
  MW[42] = 0.189 *MW[12] + 0.311 *mi.8.4      ;HBS + HBS TD access
  MW[46] = 0.119 *MW[13]                      ;HBSc
  MW[48] = 0.109 *MW[14] + 0.138 *mi.8.6      ;HBO + HBO TD access
  MW[50] = 0.203 *MW[15] + 0.309 *mi.8.8      ;WO + WO TD access
  MW[52] = 0.194 *MW[16] + 0.129 *mi.8.10     ;OO + OO TD access
  MW[54] = 0.180 *MI.9.1*0.2                  ;Thru
;
; C2  P-A to O-D factoring
  MW[55] = 0.144*mi.7.6                       ; P-A
  MW[56] = MW[55]                             ; A-P
;
; C3  P-A to O-D factoring
  MW[57] = 0.1625*mi.7.7 + 0.1625*mi.9.2      ; P-A (with XX commercial)
  MW[58] = MW[57]                             ; A-P
ENDRUN
;
;
;
;-------------------------------------------------------------------------------
; Estimate trip purposes for PM3
;-------------------------------------------------------------------------------
RUN PGM=MATRIX
; Inputs
FILEI MATI[1] = "@HBW@"
FILEI MATI[2] = "@HBS@"
FILEI MATI[3] = "@HBSC@"
FILEI MATI[4] = "@HBO@"
FILEI MATI[5] = "@WO@"
FILEI MATI[6] = "@OO@"
```

```
FILEI MATI[7] = "@nwtd@"
FILEI MATI[8] = "@TDVT@"
FILEI MATI[9] = "@THRU@"
;
; Outputs
FILEO MATO[1] = "@DA_PM@", MO=21-34,
                NAME= HBW_PA, HBW_AP,    HBS_PA, HBS_AP,    HBSc_PA, HBSC_AP,
                      HBO_PA, HBO_AP,    WO_PA, WO_AP,      OO_PA, OO_AP,
                      THRU_PA, THRU_AP
FILEO MATO[2] = "@SR_PM@", MO=41-54,
                NAME= HBW_PA, HBW_AP,    HBS_PA, HBS_AP,    HBSc_PA, HBSC_AP,
                      HBO_PA, HBO_AP,    WO_PA, WO_AP,      OO_PA, OO_AP,
                      THRU_PA, THRU_AP
FILEO MATO[3] = "@C2_PM@", MO=55-56, NAME= C2_PA, C2_AP
FILEO MATO[4] = "@C3_PM@", MO=57-78, NAME= C3_PA, C3_AP
;
; Input DA trips
  MW[1] = mi.1.1 *0.01                          ; HBW (scaled by 100)
  MW[2] = mi.2.1                                ; HBS (unscaled)
  MW[3] = (mi.3.1*0.06 + mi.3.1.t*0.22)         ; HBSc (unscaled)
  MW[4] = mi.4.1                                ; HBO (unscaled)
  MW[5] = mi.5.1                                ; WO (unscaled)
  MW[6] = mi.6.1                                ; OO (unscaled)
;
; Input and convert SR to Vehicle Trips
  MW[11] = (mi.1.2*0.50 + mi.1.3*0.302)*0.01 ; HBW SR (scaled by 100)
  MW[12] = (mi.2.2*0.50 + mi.2.3*0.272)         ; HBS (unscaled)
  MW[13] = (mi.3.1*0.34)                        ; HBSc (unscaled)
  MW[14] = (mi.4.2*0.50 + mi.4.3*0.287)         ; HBO (unscaled)
  MW[15] = (mi.5.2*0.50 + mi.5.3*0.279)         ; WO (unscaled)
  MW[16] = (mi.6.2*0.50 + mi.6.3*0.272)         ; OO (unscaled)
;
; Drive Alone P-A to O-D factoring
; P-A
  MW[21] = 0.026 *MW[1] + 0.0 *mi.8.1           ;HBW + HBW TD access
  MW[23] = 0.093 *MW[2] + 0.069 *mi.8.3         ;HBS + HBS TD access
  MW[25] = 0.023 *MW[3]                         ;HBSc
  MW[27] = 0.088 *MW[4] + 0.154 *mi.8.5         ;HBO + HBO TD access
  MW[29] = 0.075 *MW[5] + 0.039 *mi.8.7         ;WO + WO TD access
  MW[31] = 0.142 *MW[6] + 0.146*mi.8.9          ;OO + OO TD access
  MW[33] = 0.090 *mi.9.1*0.8                    ;Thru
;
; A-P
  MW[22] = 0.226 *MW[1] + 0.465 *mi.8.1         ;HBW + HBW TD access
  MW[24] = 0.213 *MW[2] + 0.171 *mi.8.3         ;HBS + HBS TD access
  MW[26] = 0.246 *MW[3]                         ;HBSc
  MW[28] = 0.133 *MW[4] + 0.176 *mi.8.5         ;HBO + HBO TD access
  MW[30] = 0.207 *MW[5] + 0.064 *mi.8.7         ;WO + WO TD access
  MW[32] = 0.142 *MW[6] + 0.146 *mi.8.9         ;OO + OO TD access
  MW[34] = 0.090 *mi.9.1*0.8                    ;Thru
;
; Shared Ride  P-A to O-D factoring
; P-A
  MW[41] = 0.037 *MW[11] + 0.0 *mi.8.2           ;HBW + HBW TD access
  MW[43] = 0.093 *MW[12] + 0.069 *mi.8.4         ;HBS + HBS TD access
  MW[45] = 0.023 *MW[13]                         ;HBSc
  MW[47] = 0.088 *MW[14] + 0.154 *mi.8.6         ;HBO + HBO TD access
  MW[49] = 0.075 *MW[15] + 0.039 *mi.8.8         ;WO + WO TD access
  MW[51] = 0.142 *MW[16] + 0.146 *mi.8.10        ;OO + OO TD access
  MW[53] = 0.090 *mi.9.1*0.2                     ;Thru
;
```

```
; A-P
  MW[42] = 0.211 *MW[11] + 0.465 *mi.8.2      ;HBW + HBW TD access
  MW[44] = 0.213 *MW[12] + 0.171 *mi.8.4      ;HBS + HBS TD access
  MW[46] = 0.246 *MW[13]                      ;HBSc
  MW[48] = 0.133 *MW[14] + 0.176 *mi.8.6      ;HBO + HBO TD access
  MW[50] = 0.207 *MW[15] + 0.064 *mi.8.8      ;WO + WO TD access
  MW[52] = 0.142 *MW[16] + 0.146 *mi.8.10     ;OO + OO TD access
  MW[54] = 0.090 *MI.9.1*0.2                  ;Thru
;
; C2  P-A to O-D factoring
  MW[55] = 0.1175*mi.7.6                       ; P-A
  MW[56] = MW[55]                             ; A-P
;
; C3  P-A to O-D factoring
  MW[57] = 0.072*mi.7.7 + 0.072*mi.9.2        ; P-A (with XX commercial)
  MW[58] = MW[57]                             ; A-P
ENDRUN
;
;
;
;-------------------------------------------------------------------------------
; Estimate trip purposes for evening
;-------------------------------------------------------------------------------
RUN PGM=MATRIX
; Inputs
FILEI MATI[1] = "@HBW@"
FILEI MATI[2] = "@HBS@"
FILEI MATI[3] = "@HBSC@"
FILEI MATI[4] = "@HBO@"
FILEI MATI[5] = "@WO@"
FILEI MATI[6] = "@OO@"
FILEI MATI[7] = "@nwtd@"
FILEI MATI[8] = "@TDVT@"
FILEI MATI[9] = "@THRU@"
;
; Outputs
FILEO MATO[1] = "@DA_EV@", MO=21-34,
                NAME= HBW_PA, HBW_AP,    HBS_PA, HBS_AP,    HBSc_PA, HBSC_AP,
                      HBO_PA, HBO_AP,    WO_PA, WO_AP,      OO_PA, OO_AP,
                      THRU_PA, THRU_AP
FILEO MATO[2] = "@SR_EV@", MO=41-54,
                NAME= HBW_PA, HBW_AP,    HBS_PA, HBS_AP,    HBSc_PA, HBSC_AP,
                      HBO_PA, HBO_AP,    WO_PA, WO_AP,      OO_PA, OO_AP,
                      THRU_PA, THRU_AP
FILEO MATO[3] = "@C2_EV@", MO=55-56, NAME= C2_PA, C2_AP
FILEO MATO[4] = "@C3_EV@", MO=57-78, NAME= C3_PA, C3_AP
;
; Input DA trips
  MW[1] = mi.1.1 *0.01                      ; HBW (scaled by 100)
  MW[2] = mi.2.1                            ; HBS (unscaled)
  MW[3] = (mi.3.1*0.06 + mi.3.1.t*0.22)     ; HBSc (unscaled)
  MW[4] = mi.4.1                            ; HBO (unscaled)
  MW[5] = mi.5.1                            ; WO (unscaled)
  MW[6] = mi.6.1                            ; OO (unscaled)
;
; Input and convert SR to Vehicle Trips
  MW[11] = (mi.1.2*0.50 + mi.1.3*0.302)*0.01 ; HBW SR (scaled by 100)
  MW[12] = (mi.2.2*0.50 + mi.2.3*0.272)     ; HBS (unscaled)
  MW[13] = (mi.3.1*0.34)                    ; HBSc (unscaled)
  MW[14] = (mi.4.2*0.50 + mi.4.3*0.287)     ; HBO (unscaled)
  MW[15] = (mi.5.2*0.50 + mi.5.3*0.279)     ; WO (unscaled)
```

```
  MW[16] = (mi.6.2*0.50 + mi.6.3*0.272)      ; OO (unscaled)
;
; Drive Alone P-A to O-D factoring
; P-A
  MW[21] = 0.098 *MW[1] + 0.048 *mi.8.1      ;HBW + HBW TD access
  MW[23] = 0.089 *MW[2] + 0.136 *mi.8.3      ;HBS + HBS TD access
  MW[25] = 0.018 *MW[3]                      ;HBSc
  MW[27] = 0.140 *MW[4] + 0.128 *mi.8.5      ;HBO + HBO TD access
  MW[29] = 0.036 *MW[5] + 0.0 *mi.8.7        ;WO + WO TD access
  MW[31] = 0.101 *MW[6] + 0.057*mi.8.9       ;OO + OO TD access
  MW[33] = 0.140 *mi.9.1*0.8                 ;Thru
;
; A-P
  MW[22] = 0.149 *MW[1] + 0.037 *mi.8.1      ;HBW + HBW TD access
  MW[24] = 0.194 *MW[2] + 0.109 *mi.8.3      ;HBS + HBS TD access
  MW[26] = 0.036 *MW[3]                      ;HBSc
  MW[28] = 0.204 *MW[4] + 0.161 *mi.8.5      ;HBO + HBO TD access
  MW[30] = 0.072 *MW[5] + 0.026 *mi.8.7      ;WO + WO TD access
  MW[32] = 0.101 *MW[6] + 0.057 *mi.8.9      ;OO + OO TD access
  MW[34] = 0.140 *mi.9.1*0.8                 ;Thru
;
; Shared Ride  P-A to O-D factoring
; P-A
  MW[41] = 0.082 *MW[11] + 0.048 *mi.8.2      ;HBW + HBW TD access
  MW[43] = 0.089 *MW[12] + 0.136 *mi.8.4      ;HBS + HBS TD access
  MW[45] = 0.018 *MW[13]                      ;HBSc
  MW[47] = 0.140 *MW[14] + 0.128 *mi.8.6      ;HBO + HBO TD access
  MW[49] = 0.036 *MW[15] + 0.0 *mi.8.8        ;WO + WO TD access
  MW[51] = 0.101 *MW[16] + 0.057 *mi.8.10     ;OO + OO TD access
  MW[53] = 0.140 *mi.9.1*0.2                  ;Thru
;
; A-P
  MW[42] = 0.148 *MW[11] + 0.037 *mi.8.2      ;HBW + HBW TD access
  MW[44] = 0.194 *MW[12] + 0.109 *mi.8.4      ;HBS + HBS TD access
  MW[46] = 0.036 *MW[13]                      ;HBSc
  MW[48] = 0.204 *MW[14] + 0.161 *mi.8.6      ;HBO + HBO TD access
  MW[50] = 0.072 *MW[15] + 0.026 *mi.8.8      ;WO + WO TD access
  MW[52] = 0.101 *MW[16] + 0.057 *mi.8.10     ;OO + OO TD access
  MW[54] = 0.140 *MI.9.1*0.2                  ;Thru
;
; C2  P-A to O-D factoring
  MW[55] = 0.1475*mi.7.6                      ; P-A
  MW[56] = MW[55]                             ; A-P
;
; C3  P-A to O-D factoring
  MW[57] = 0.1745*mi.7.7 + 0.1745*mi.9.2      ; P-A (with XX commercial)
  MW[58] = MW[57]                             ; A-P
ENDRUN
;*********************************************************************************
;
;--------------------------------------------------------------------------------
;  Combine P-A and A-P into assignable vehicle trips and estimate percentages
;--------------------------------------------------------------------------------
;
;--------------------------------------------------------------------------------
; For A3 period,
;--------------------------------------------------------------------------------
RUN PGM=MATRIX
; INPUTS
FILEI MATI[1] = "@DA_AM@"
FILEI MATI[2] = "@SR_AM@"
```

```
  FILEI MATI[3] = "@C2_AM@"
  FILEI MATI[4] = "@C3_AM@"
  ;
  ; OUTPUTS
  FILEO MATO[1] = "@AM_OD@'", mo=1-17, name=
                  DA_HBW, SR_HBW, DA_HBS, SR_HBS,
                  DA_HBSC, SR_HBSC, DA_HBO, SR_HBO,
                  DA_WO, SR_WO, DA_OO, SR_OO,
                  DA_THRU, SR_THRU, C2, C3, TOT
  FILEO MATO[2] = "@AM_FRAC@'", mo=21-37, name=
                  DA_HBW, SR_HBW, DA_HBS, SR_HBS,
                  DA_HBSC, SR_HBSC, DA_HBO, SR_HBO,
                  DA_WO, SR_WO, DA_OO, SR_OO,
                  DA_THRU, SR_THRU, C2, C3, TOT
  ;
  ; TRIPS
  ; HBW
    MW[1] = mi.1.1 + mi.1.2.t                                   ;DA_HBW
    MW[2] = mi.2.1 + mi.2.2.t                                   ;SR_HBW
  ; HBS
    MW[3] = mi.1.3 + mi.1.4.t                                   ;DA_HBS
    MW[4] = mi.2.3 + mi.2.4.t                                   ;SR_HBS
  ; HBSC
    MW[5] = mi.1.5 + mi.1.6.t                                   ;DA_HBSC
    MW[6] = mi.2.5 + mi.2.6.t                                   ;SR_HBSC
  ; HBO
    MW[7] = mi.1.7 + mi.1.8.t                                   ;DA_HBO
    MW[8] = mi.2.7 + mi.2.8.t                                   ;SR_HBO
  ; WO
    MW[9] = mi.1.9 + mi.1.10.t                                  ;DA_WO
    MW[10] = mi.2.9 + mi.2.10.t                                 ;SR_WO
  ; OO
    MW[11] = mi.1.11 + mi.1.12.t                                ;DA_OO
    MW[12] = mi.2.11 + mi.2.12.t                                ;SR_OO
  ; THRU
    MW[13] = mi.1.13 + mi.1.14.t                                ;DA_THRU
    MW[14] = mi.2.13 + mi.2.14.t                                ;SR_THRU
  ; C2
    MW[15] = mi.3.1 + mi.3.2.t                                  ;C2
  ; C3
    MW[16] = mi.4.1 + mi.4.2.t                                  ;C2
  ; TOTAL
    MW[17]=MW[1] +MW[2] +MW[3] +MW[4] +MW[5] +MW[6] +           ;TOTAL
           MW[7] +MW[8] +MW[9] +MW[10]+MW[11]+MW[12]+
           MW[13]+MW[14]+MW[15]+MW[16]
  ;
  ; fRACTIONS
  ; HBW
    JLOOP
      IF (MW[17] == 0)
        MW[21] = 0
        MW[22] = 0
        MW[23] = 0
        MW[24] = 0
        MW[25] = 0
        MW[26] = 0
        MW[27] = 0
        MW[28] = 0
        MW[29] = 0
        MW[30] = 0
        MW[31] = 0
```

```
        MW[32] = 0
        MW[33] = 0
        MW[34] = 0
        MW[35] = 0
        MW[36] = 0
      ELSE
        MW[21] = MW[1] / MW[17]                                  ;DA_HBW
        MW[22] = MW[2] / MW[17]                                  ;SR_HBW
   ;
        MW[23] = MW[3] / MW[17]                                  ;DA_HBS
        MW[24] = MW[4] / MW[17]                                  ;SR_HBS
   ;
        MW[25] = MW[5] / MW[17]                                  ;DA_HBSC
        MW[26] = MW[6] / MW[17]                                  ;SR_HBSC
   ;
        MW[27] = MW[7] / MW[17]                                  ;DA_HBO
        MW[28] = MW[8] / MW[17]                                  ;SR_HBO
   ;
        MW[29] = MW[9] / MW[17]                                  ;DA_WO
        MW[30] = MW[10] / MW[17]                                 ;SR_WO
   ;
        MW[31] = MW[11] / MW[17]                                 ;DA_OO
        MW[32] = MW[12] / MW[17]                                 ;SR_OO
   ;
        MW[33] = MW[13] / MW[17]                                 ;DA_THRU
        MW[34] = MW[14] / MW[17]                                 ;SR_THRY
   ;
        MW[35] = MW[15] / MW[17]                                 ;C2
        MW[36] = MW[16] / MW[17]                                 ;C3
      ENDIF
    ENDJLOOP
    MW[37]=MW[21]+MW[22]+MW[23]+MW[24]+MW[25]+MW[26] +           ;TOTAL
           MW[27]+MW[28]+MW[29]+ MW[30]+MW[31]+MW[32]+
           MW[33]+MW[34]+MW[35]+MW[36]
ENDRUN
;
;-------------------------------------------------------------------------------
; For mid day period,
;-------------------------------------------------------------------------------
RUN PGM=MATRIX
; INPUTS
FILEI MATI[1] = "@DA_MD@"
FILEI MATI[2] = "@SR_MD@"
FILEI MATI[3] = "@C2_MD@"
FILEI MATI[4] = "@C3_MD@"
;
; OUTPUTS
FILEO MATO[1] = "@MD_OD@'", mo=1-17, name=
                DA_HBW, SR_HBW, DA_HBS, SR_HBS,
                DA_HBSC, SR_HBSC, DA_HBO, SR_HBO,
                DA_WO, SR_WO, DA_OO, SR_OO,
                DA_THRU, SR_THRU, C2, C3, TOT
FILEO MATO[2] = "@MD_FRAC@'", mo=21-37, name=
                DA_HBW, SR_HBW, DA_HBS, SR_HBS,
                DA_HBSC, SR_HBSC, DA_HBO, SR_HBO,
                DA_WO, SR_WO, DA_OO, SR_OO,
                DA_THRU, SR_THRU, C2, C3, TOT
;
; TRIPS
; HBW
  MW[1] = mi.1.1 + mi.1.2.t                                      ;DA_HBW
```

```
611     MW[2] = mi.2.1 + mi.2.2.t                                       ;SR_HBW
612   ; HBS
613     MW[3] = mi.1.3 + mi.1.4.t                                       ;DA_HBS
614     MW[4] = mi.2.3 + mi.2.4.t                                       ;SR_HBS
615   ; HBSC
616     MW[5] = mi.1.5 + mi.1.6.t                                       ;DA_HBSC
617     MW[6] = mi.2.5 + mi.2.6.t                                       ;SR_HBSC
618   ; HBO
619     MW[7] = mi.1.7 + mi.1.8.t                                       ;DA_HBO
620     MW[8] = mi.2.7 + mi.2.8.t                                       ;SR_HBO
621   ; WO
622     MW[9] = mi.1.9 + mi.1.10.t                                      ;DA_WO
623     MW[10] = mi.2.9 + mi.2.10.t                                     ;SR_WO
624   ; OO
625     MW[11] = mi.1.11 + mi.1.12.t                                    ;DA_OO
626     MW[12] = mi.2.11 + mi.2.12.t                                    ;SR_OO
627   ; THRU
628     MW[13] = mi.1.13 + mi.1.14.t                                    ;DA_THRU
629     MW[14] = mi.2.13 + mi.2.14.t                                    ;SR_THRU
630   ; C2
631     MW[15] = mi.3.1 + mi.3.2.t                                      ;C2
632   ; C3
633     MW[16] = mi.4.1 + mi.4.2.t                                      ;C2
634   ; TOTAL
635     MW[17]=MW[1] +MW[2] +MW[3] +MW[4] +MW[5] +MW[6] +               ;TOTAL
636            MW[7] +MW[8] +MW[9] +MW[10]+MW[11]+MW[12]+
637            MW[13]+MW[14]+MW[15]+MW[16]
638   ;
639   ; fRACTIONS
640   ; HBW
641     JLOOP
642       IF (MW[17] == 0)
643         MW[21] = 0
644         MW[22] = 0
645         MW[23] = 0
646         MW[24] = 0
647         MW[25] = 0
648         MW[26] = 0
649         MW[27] = 0
650         MW[28] = 0
651         MW[29] = 0
652         MW[30] = 0
653         MW[31] = 0
654         MW[32] = 0
655         MW[33] = 0
656         MW[34] = 0
657         MW[35] = 0
658         MW[36] = 0
659       ELSE
660         MW[21] = MW[1] / MW[17]                                     ;DA_HBW
661         MW[22] = MW[2] / MW[17]                                     ;SR_HBW
662    ;
663         MW[23] = MW[3] / MW[17]                                     ;DA_HBS
664         MW[24] = MW[4] / MW[17]                                     ;SR_HBS
665    ;
666         MW[25] = MW[5] / MW[17]                                     ;DA_HBSC
667         MW[26] = MW[6] / MW[17]                                     ;SR_HBSC
668    ;
669         MW[27] = MW[7] / MW[17]                                     ;DA_HBO
670         MW[28] = MW[8] / MW[17]                                     ;SR_HBO
671    ;
```

```
         MW[29] = MW[9] / MW[17]                                    ;DA_WO
         MW[30] = MW[10] / MW[17]                                   ;SR_WO
    ;
         MW[31] = MW[11] / MW[17]                                   ;DA_OO
         MW[32] = MW[12] / MW[17]                                   ;SR_OO
    ;
         MW[33] = MW[13] / MW[17]                                   ;DA_THRU
         MW[34] = MW[14] / MW[17]                                   ;SR_THRY
    ;
         MW[35] = MW[15] / MW[17]                                   ;C2
         MW[36] = MW[16] / MW[17]                                   ;C3
        ENDIF
     ENDJLOOP
     MW[37]=MW[21]+MW[22]+MW[23]+MW[24]+MW[25]+MW[26] +             ;TOTAL
            MW[27]+MW[28]+MW[29]+ MW[30]+MW[31]+MW[32]+
            MW[33]+MW[34]+MW[35]+MW[36]
  ENDRUN
  ;
  ;-------------------------------------------------------------------------------
  ; For P3 period,
  ;-------------------------------------------------------------------------------
  RUN PGM=MATRIX
  ; INPUTS
  FILEI MATI[1] = "@DA_PM@"
  FILEI MATI[2] = "@SR_PM@"
  FILEI MATI[3] = "@C2_PM@"
  FILEI MATI[4] = "@C3_PM@"
  ;
  ; OUTPUTS
  FILEO MATO[1] = "@PM_OD@'", mo=1-17, name=
                  DA_HBW, SR_HBW, DA_HBS, SR_HBS,
                  DA_HBSC, SR_HBSC, DA_HBO, SR_HBO,
                  DA_WO, SR_WO, DA_OO, SR_OO,
                  DA_THRU, SR_THRU, C2, C3, TOT
  FILEO MATO[2] = "@PM_FRAC@'", mo=21-37, name=
                  DA_HBW, SR_HBW, DA_HBS, SR_HBS,
                  DA_HBSC, SR_HBSC, DA_HBO, SR_HBO,
                  DA_WO, SR_WO, DA_OO, SR_OO,
                  DA_THRU, SR_THRU, C2, C3, TOT
  ;
  ; TRIPS
  ; HBW
    MW[1] = mi.1.1 + mi.1.2.t                                       ;DA_HBW
    MW[2] = mi.2.1 + mi.2.2.t                                       ;SR_HBW
  ; HBS
    MW[3] = mi.1.3 + mi.1.4.t                                       ;DA_HBS
    MW[4] = mi.2.3 + mi.2.4.t                                       ;SR_HBS
  ; HBSC
    MW[5] = mi.1.5 + mi.1.6.t                                       ;DA_HBSC
    MW[6] = mi.2.5 + mi.2.6.t                                       ;SR_HBSC
  ; HBO
    MW[7] = mi.1.7 + mi.1.8.t                                       ;DA_HBO
    MW[8] = mi.2.7 + mi.2.8.t                                       ;SR_HBO
  ; WO
    MW[9] = mi.1.9 + mi.1.10.t                                      ;DA_WO
    MW[10] = mi.2.9 + mi.2.10.t                                     ;SR_WO
  ; OO
    MW[11] = mi.1.11 + mi.1.12.t                                    ;DA_OO
    MW[12] = mi.2.11 + mi.2.12.t                                    ;SR_OO
  ; THRU
    MW[13] = mi.1.13 + mi.1.14.t                                    ;DA_THRU
```

```
    MW[14] = mi.2.13 + mi.2.14.t                                    ;SR_THRU
  ; C2
    MW[15] = mi.3.1 + mi.3.2.t                                      ;C2
  ; C3
    MW[16] = mi.4.1 + mi.4.2.t                                      ;C2
  ; TOTAL
    MW[17]=MW[1] +MW[2] +MW[3] +MW[4] +MW[5] +MW[6] +               ;TOTAL
           MW[7] +MW[8] +MW[9] +MW[10]+MW[11]+MW[12]+
           MW[13]+MW[14]+MW[15]+MW[16]
  ;
  ; fRACTIONS
  ; HBW
    JLOOP
      IF (MW[17] == 0)
        MW[21] = 0
        MW[22] = 0
        MW[23] = 0
        MW[24] = 0
        MW[25] = 0
        MW[26] = 0
        MW[27] = 0
        MW[28] = 0
        MW[29] = 0
        MW[30] = 0
        MW[31] = 0
        MW[32] = 0
        MW[33] = 0
        MW[34] = 0
        MW[35] = 0
        MW[36] = 0
      ELSE
        MW[21] = MW[1] / MW[17]                                     ;DA_HBW
        MW[22] = MW[2] / MW[17]                                     ;SR_HBW
   ;
        MW[23] = MW[3] / MW[17]                                     ;DA_HBS
        MW[24] = MW[4] / MW[17]                                     ;SR_HBS
   ;
        MW[25] = MW[5] / MW[17]                                     ;DA_HBSC
        MW[26] = MW[6] / MW[17]                                     ;SR_HBSC
   ;
        MW[27] = MW[7] / MW[17]                                     ;DA_HBO
        MW[28] = MW[8] / MW[17]                                     ;SR_HBO
   ;
        MW[29] = MW[9] / MW[17]                                     ;DA_WO
        MW[30] = MW[10] / MW[17]                                    ;SR_WO
   ;
        MW[31] = MW[11] / MW[17]                                    ;DA_OO
        MW[32] = MW[12] / MW[17]                                    ;SR_OO
   ;
        MW[33] = MW[13] / MW[17]                                    ;DA_THRU
        MW[34] = MW[14] / MW[17]                                    ;SR_THRY
   ;
        MW[35] = MW[15] / MW[17]                                    ;C2
        MW[36] = MW[16] / MW[17]                                    ;C3
       ENDIF
    ENDJLOOP
    MW[37]=MW[21]+MW[22]+MW[23]+MW[24]+MW[25]+MW[26] +              ;TOTAL
           MW[27]+MW[28]+MW[29]+ MW[30]+MW[31]+MW[32]+
           MW[33]+MW[34]+MW[35]+MW[36]
ENDRUN
;
```

```
;-------------------------------------------------------------------------
; For EVENING period,
;-------------------------------------------------------------------------
RUN PGM=MATRIX
; INPUTS
FILEI MATI[1] = "@DA_EV@"
FILEI MATI[2] = "@SR_EV@"
FILEI MATI[3] = "@C2_EV@"
FILEI MATI[4] = "@C3_EV@"
;
; OUTPUTS
FILEO MATO[1] = "@EV_OD@'", mo=1-17, name=
                DA_HBW, SR_HBW, DA_HBS, SR_HBS,
                DA_HBSC, SR_HBSC, DA_HBO, SR_HBO,
                DA_WO, SR_WO, DA_OO, SR_OO,
                DA_THRU, SR_THRU, C2, C3, TOT
FILEO MATO[2] = "@EV_FRAC@'", mo=21-37, name=
                DA_HBW, SR_HBW, DA_HBS, SR_HBS,
                DA_HBSC, SR_HBSC, DA_HBO, SR_HBO,
                DA_WO, SR_WO, DA_OO, SR_OO,
                DA_THRU, SR_THRU, C2, C3, TOT
;
; TRIPS
; HBW
  MW[1] = mi.1.1 + mi.1.2.t                                    ;DA_HBW
  MW[2] = mi.2.1 + mi.2.2.t                                    ;SR_HBW
; HBS
  MW[3] = mi.1.3 + mi.1.4.t                                    ;DA_HBS
  MW[4] = mi.2.3 + mi.2.4.t                                    ;SR_HBS
; HBSC
  MW[5] = mi.1.5 + mi.1.6.t                                    ;DA_HBSC
  MW[6] = mi.2.5 + mi.2.6.t                                    ;SR_HBSC
; HBO
  MW[7] = mi.1.7 + mi.1.8.t                                    ;DA_HBO
  MW[8] = mi.2.7 + mi.2.8.t                                    ;SR_HBO
; WO
  MW[9] = mi.1.9 + mi.1.10.t                                   ;DA_WO
  MW[10] = mi.2.9 + mi.2.10.t                                  ;SR_WO
; OO
  MW[11] = mi.1.11 + mi.1.12.t                                 ;DA_OO
  MW[12] = mi.2.11 + mi.2.12.t                                 ;SR_OO
; THRU
  MW[13] = mi.1.13 + mi.1.14.t                                 ;DA_THRU
  MW[14] = mi.2.13 + mi.2.14.t                                 ;SR_THRU
; C2
  MW[15] = mi.3.1 + mi.3.2.t                                   ;C2
; C3
  MW[16] = mi.4.1 + mi.4.2.t                                   ;C2
; TOTAL
  MW[17]=MW[1] +MW[2] +MW[3] +MW[4] +MW[5] +MW[6] +            ;TOTAL
         MW[7] +MW[8] +MW[9] +MW[10]+MW[11]+MW[12]+
         MW[13]+MW[14]+MW[15]+MW[16]
;
; fRACTIONS
; HBW
  JLOOP
    IF (MW[17] == 0)
      MW[21] = 0
      MW[22] = 0
      MW[23] = 0
      MW[24] = 0
```

```
        MW[25] = 0
        MW[26] = 0
        MW[27] = 0
        MW[28] = 0
        MW[29] = 0
        MW[30] = 0
        MW[31] = 0
        MW[32] = 0
        MW[33] = 0
        MW[34] = 0
        MW[35] = 0
        MW[36] = 0
      ELSE
        MW[21] = MW[1] / MW[17]                                  ;DA_HBW
        MW[22] = MW[2] / MW[17]                                  ;SR_HBW
   ;
        MW[23] = MW[3] / MW[17]                                  ;DA_HBS
        MW[24] = MW[4] / MW[17]                                  ;SR_HBS
   ;
        MW[25] = MW[5] / MW[17]                                  ;DA_HBSC
        MW[26] = MW[6] / MW[17]                                  ;SR_HBSC
   ;
        MW[27] = MW[7] / MW[17]                                  ;DA_HBO
        MW[28] = MW[8] / MW[17]                                  ;SR_HBO
   ;
        MW[29] = MW[9] / MW[17]                                  ;DA_WO
        MW[30] = MW[10] / MW[17]                                 ;SR_WO
   ;
        MW[31] = MW[11] / MW[17]                                 ;DA_OO
        MW[32] = MW[12] / MW[17]                                 ;SR_OO
   ;
        MW[33] = MW[13] / MW[17]                                 ;DA_THRU
        MW[34] = MW[14] / MW[17]                                 ;SR_THRY
   ;
        MW[35] = MW[15] / MW[17]                                 ;C2
        MW[36] = MW[16] / MW[17]                                 ;C3
       ENDIF
    ENDJLOOP
    MW[37]=MW[21]+MW[22]+MW[23]+MW[24]+MW[25]+MW[26] +           ;TOTAL
           MW[27]+MW[28]+MW[29]+ MW[30]+MW[31]+MW[32]+
           MW[33]+MW[34]+MW[35]+MW[36]
ENDRUN
;
;-------------------------------------------------------------------------------
; Save daily trips by purpose in case we want to estimate avarage trip.
;-------------------------------------------------------------------------------
RUN PGM=MATRIX
; INPUTS
FILEI MATI[1] = "@AM_OD@"
FILEI MATI[2] = "@MD_OD@"
FILEI MATI[3] = "@PM_OD@"
FILEI MATI[4] = "@EV_OD@"
;
; OUTPUTS
FILEO MATO[1] = "@DAILY_OD@'", mo=1-9, name=
                HBW, HBS, HBSC, HBO,
                DWO, OO,THRU, Comercial, TOT
;
  MW[1]=(mi.1.1 +mi.1.2 )+(mi.2.1 +mi.2.2 )+                     ;HBW (DA+SR)
        (mi.3.1 +mi.3.2 )+(mi.4.1 +mi.4.2 )
;
```

```
916     MW[2]=(mi.1.3 +mi.1.4 )+(mi.2.3 +mi.2.4 )+              ;HBS (DA+SR)
917           (mi.3.3 +mi.3.4 )+(mi.4.3 +mi.4.4 )
918   ;
919     MW[3]=(mi.1.5 +mi.1.6 )+(mi.2.5 +mi.2.6 )+              ;HBSC (DA+SR)
920           (mi.3.5 +mi.3.6 )+(mi.4.5 +mi.4.6 )
921   ;
922     MW[4]=(mi.1.7 +mi.1.8 )+(mi.2.7 +mi.2.8 )+              ;HBO (DA+SR)
923           (mi.3.7 +mi.3.8 )+(mi.4.7 +mi.4.8 )
924   ;
925     MW[5]=(mi.1.9 +mi.1.10)+(mi.2.9 +mi.2.10)+              ;WO (DA+SR)
926           (mi.3.9 +mi.3.10)+(mi.4.9 +mi.4.10)
927   ;
928     MW[6]=(mi.1.11+mi.1.12)+(mi.2.11+mi.2.12)+              ;OO (DA+SR)
929           (mi.3.11+mi.3.12)+(mi.4.11+mi.4.12)
930   ;
931     MW[7]=(mi.1.13+mi.1.14)+(mi.2.13+mi.2.14)+              ;THRU (DA+SR)
932           (mi.3.13+mi.3.14)+(mi.4.13+mi.4.14)
933   ;
934     MW[8]=(mi.1.15+mi.1.16)+(mi.2.15+mi.2.16)+              ;COMMERCIAL  (C2+C3)
935           (mi.3.15+mi.3.16)+(mi.4.15+mi.4.16)
936   ;
937     MW[9]=MW[1]+MW[2]+MW[3]+MW[4]+                          ;TOTAL
938           MW[5]+MW[6]+MW[7]+MW[8]
939   ;
940   ENDRUN
```

```
;--------------------------------------------------------------------------
;
; Step 3: Combine the 4 class VMT tables from step 1 with the fraction of
;         trips by class and purpose from step 2 to estimate VMT by class
;         and pupurose for each TAZ.
;
;         These data can then be postprocessed with pop and employment data to
;         derive VMT per capita/service pop data for comparison to thresholds.
;
;--------------------------------------------------------------------------
; Input VMT matrices
;--------------------------------------------------------------------------
AMVMTSIMP='2040A3VS_vmt_4_Class.MAT'
MDVMTSIMP='2040MDVS_VMT_4_Class.MAT'
PMVMTSIMP='2040P3V_VMT_4_Class.MAT'
EVVVMTSIMP='2040EVV_VMT_4_Class.MAT'
; Note: VMT is provided for 4 classes: DA, SR, C2 and C3
;--------------------------------------------------------------------------
; Input multi-class OD table fractions
;--------------------------------------------------------------------------
AM_FRAC='AM_FRACTIONS_BY_PURPOSE.MAT'
MD_FRAC='MD_FRACTIONS_BY_PURPOSE.MAT'
PM_FRAC='PM_FRACTIONS_BY_PURPOSE.MAT'
EV_FRAC='EV_FRACTIONS_BY_PURPOSE.MAT'
; Note 16 fractions, when sumed =1.0 for each TAZ:
;    DA (HBW, HBS, HBSC, HBO, WO, OO, and Thru)
;    SR (HBW, HBS, HBSC, HBO, WO, OO, and Thru)
;    C2 (all)
;    C3 (all)
;--------------------------------------------------------------------------
; Input multi-class TRIP table fractions (FOR TRIP TOTALS TO EST TRIP LENGTH)
;--------------------------------------------------------------------------
TRIPS_BY_PURPOSE='Daily_multiclass_OD.MAT'
;    HBW, HBS, HBSC, HBO, WO, OO, THRU, COMMERCIAL, TOTAL
;
;--------------------------------------------------------------------------
; Output VMT by purpose and each TAZ
;--------------------------------------------------------------------------
VMT_BY_PURPOSE='DAILY_VMT_BY_PURPOSE.MAT'
; Daily HBW, HBS, HBSC, HBO, WO, OO, THRU, COMMERCIAL
;--------------------------------------------------------------------------
; Temp output VMT by class and purpose and each TAZ and period
;--------------------------------------------------------------------------
AM_VMT_BY_PURPOSE=     '.\Temp_Files\AM_VMT_BY_PURPOSE.MAT'
MD_VMT_BY_PURPOSE=     '.\Temp_Files\MD_VMT_BY_PURPOSE.MAT'
PM_VMT_BY_PURPOSE=     '.\Temp_Files\PM_VMT_BY_PURPOSE.MAT'
EV_VMT_BY_PURPOSE=     '.\Temp_Files\EV_VMT_BY_PURPOSE.MAT'
;
;--------------------------------------------------------------------------
; For AM period,
;--------------------------------------------------------------------------
RUN PGM=MATRIX
; VMT inputs
FILEI MATI[1] = "@AMVMTSIMP@"                       ;AM VMT by TAZ
; Trip fraction inputs
FILEI MATI[2] = "@AM_FRAC@"                         ;AM Fraction by trip purpose
; OUTPUTS
FILEO MATO[1] = "@AM_VMT_BY_PURPOSE@", mo=21-29,
                 name= HBW, HBS, SHSC, HBO, WO,
                 OO, THRU, COMERCIAL, TOT
;
```

```
    MW[1]=mi.1.1                                        ;DA VMT
    MW[2]=mi.1.2                                        ;SR VMT
    MW[3]=mi.1.3                                        ;C2 VMT
    MW[4]=mi.1.4                                        ;C3 VMT
;
    MW[5]=mi.2.1                                        ;DA HBW FRACTION
    MW[6]=mi.2.2                                        ;SR HBW FRACTION
;
    MW[7]=mi.2.3                                        ;DA HBS FRACTION
    MW[8]=mi.2.4                                        ;SR HBS FRACTION
;
    MW[9]=mi.2.5                                        ;DA HBSC FRACTION
    MW[10]=mi.2.6                                       ;SR HBSC FRACTION
;
    MW[11]=mi.2.7                                       ;DA HBO FRACTION
    MW[12]=mi.2.8                                       ;SR HBO FRACTION
;
    MW[13]=mi.2.9                                       ;DA WO FRACTION
    MW[14]=mi.2.10                                      ;SR WO FRACTION
;
    MW[15]=mi.2.11                                      ;DA OO FRACTION
    MW[16]=mi.2.12                                      ;SR OO FRACTION
;
    MW[17]=mi.2.13                                      ;DA THRU FRACTION
    MW[18]=mi.2.14                                      ;SR THRU FRACTION
;
    MW[19]=mi.2.15                                      ;C2 FRACTION
    MW[20]=mi.2.16                                      ;C3 FRACTION
;
    MW[21]= MW[1]*MW[5] +  MW[2]*MW[6]                  ;HBW
    MW[22]= MW[1]*MW[7] +  MW[2]*MW[8]                  ;HBS
    MW[23]= MW[1]*MW[9] +  MW[2]*MW[10]                 ;HBSC
    MW[24]= MW[1]*MW[11] + MW[2]*MW[12]                 ;HB0
    MW[25]= MW[1]*MW[13] + MW[2]*MW[14]                 ;WO
    MW[26]= MW[1]*MW[15] + MW[2]*MW[16]                 ;OO
    MW[27]= MW[1]*MW[17] + MW[2]*MW[18]                 ;THRU
    MW[28]= MW[3]*MW[19] + MW[4]*MW[20]                 ;COMMERCIAL
    MW[29]=MW[21]+MW[22]+MW[23]+MW[24]+                 ;TOTAL
           MW[25]+MW[26]+MW[27]+MW[28]
ENDRUN
;
;-------------------------------------------------------------------------------
; For MD period,
;-------------------------------------------------------------------------------
RUN PGM=MATRIX
; VMT inputs
FILEI MATI[1] = "@MDVMTSIMP@"                           ;AM VMT by TAZ
; Trip fraction inputs
FILEI MATI[2] = "@MD_FRAC@"                             ;AM Fraction by trip purpose
; OUTPUTS
FILEO MATO[1] = "@MD_VMT_BY_PURPOSE@", mo=21-29,
                 name= HBW, HBS, SHSC, HBO, WO,
                 OO, THRU, COMERCIAL, TOT
;
;
    MW[1]=mi.1.1                                        ;DA VMT
    MW[2]=mi.1.2                                        ;SR VMT
    MW[3]=mi.1.3                                        ;C2 VMT
    MW[4]=mi.1.4                                        ;C3 VMT
;
    MW[5]=mi.2.1                                        ;DA HBW FRACTION
```

```
  MW[6]=mi.2.2                                          ;SR HBW FRACTION
;
  MW[7]=mi.2.3                                          ;DA HBS FRACTION
  MW[8]=mi.2.4                                          ;SR HBS FRACTION
;
  MW[9]=mi.2.5                                          ;DA HBSC FRACTION
  MW[10]=mi.2.6                                         ;SR HBSC FRACTION
;
  MW[11]=mi.2.7                                         ;DA HBO FRACTION
  MW[12]=mi.2.8                                         ;SR HBO FRACTION
;
  MW[13]=mi.2.9                                         ;DA WO FRACTION
  MW[14]=mi.2.10                                        ;SR WO FRACTION
;
  MW[15]=mi.2.11                                        ;DA OO FRACTION
  MW[16]=mi.2.12                                        ;SR OO FRACTION
;
  MW[17]=mi.2.13                                        ;DA THRU FRACTION
  MW[18]=mi.2.14                                        ;SR THRU FRACTION
;
  MW[19]=mi.2.15                                        ;C2 FRACTION
  MW[20]=mi.2.16                                        ;C3 FRACTION
;
  MW[21]= MW[1]*MW[5] +  MW[2]*MW[6]                    ;HBW
  MW[22]= MW[1]*MW[7] +  MW[2]*MW[8]                    ;HBS
  MW[23]= MW[1]*MW[9] +  MW[2]*MW[10]                   ;HBSC
  MW[24]= MW[1]*MW[11] + MW[2]*MW[12]                   ;HB0
  MW[25]= MW[1]*MW[13] + MW[2]*MW[14]                   ;WO
  MW[26]= MW[1]*MW[15] + MW[2]*MW[16]                   ;OO
  MW[27]= MW[1]*MW[17] + MW[2]*MW[18]                   ;THRU
  MW[28]= MW[3]*MW[19] + MW[4]*MW[20]                   ;COMMERCIAL
  MW[29]=MW[21]+MW[22]+MW[23]+MW[24]+                   ;TOTAL
         MW[25]+MW[26]+MW[27]+MW[28]
ENDRUN
;
;-------------------------------------------------------------------------------
; For PM period,
;-------------------------------------------------------------------------------
RUN PGM=MATRIX
; VMT inputs
FILEI MATI[1] = "@PMVMTSIMP@"                           ;AM VMT by TAZ
; Trip fraction inputs
FILEI MATI[2] = "@PM_FRAC@"                             ;AM Fraction by trip purpose
; OUTPUTS
FILEO MATO[1] = "@PM_VMT_BY_PURPOSE@", mo=21-29,
                 name= HBW, HBS, SHSC, HBO, WO,
                 OO, THRU, COMERCIAL, TOT
;
;
  MW[1]=mi.1.1                                          ;DA VMT
  MW[2]=mi.1.2                                          ;SR VMT
  MW[3]=mi.1.3                                          ;C2 VMT
  MW[4]=mi.1.4                                          ;C3 VMT
;
  MW[5]=mi.2.1                                          ;DA HBW FRACTION
  MW[6]=mi.2.2                                          ;SR HBW FRACTION
;
  MW[7]=mi.2.3                                          ;DA HBS FRACTION
  MW[8]=mi.2.4                                          ;SR HBS FRACTION
;
  MW[9]=mi.2.5                                          ;DA HBSC FRACTION
```

```
    MW[10]=mi.2.6                                          ;SR HBSC FRACTION
  ;
    MW[11]=mi.2.7                                          ;DA HBO FRACTION
    MW[12]=mi.2.8                                          ;SR HBO FRACTION
  ;
    MW[13]=mi.2.9                                          ;DA WO FRACTION
    MW[14]=mi.2.10                                         ;SR WO FRACTION
  ;
    MW[15]=mi.2.11                                         ;DA OO FRACTION
    MW[16]=mi.2.12                                         ;SR OO FRACTION
  ;
    MW[17]=mi.2.13                                         ;DA THRU FRACTION
    MW[18]=mi.2.14                                         ;SR THRU FRACTION
  ;
    MW[19]=mi.2.15                                         ;C2 FRACTION
    MW[20]=mi.2.16                                         ;C3 FRACTION
  ;
    MW[21]= MW[1]*MW[5] +  MW[2]*MW[6]                     ;HBW
    MW[22]= MW[1]*MW[7] +  MW[2]*MW[8]                     ;HBS
    MW[23]= MW[1]*MW[9] +  MW[2]*MW[10]                    ;HBSC
    MW[24]= MW[1]*MW[11] + MW[2]*MW[12]                    ;HB0
    MW[25]= MW[1]*MW[13] + MW[2]*MW[14]                    ;WO
    MW[26]= MW[1]*MW[15] + MW[2]*MW[16]                    ;OO
    MW[27]= MW[1]*MW[17] + MW[2]*MW[18]                    ;THRU
    MW[28]= MW[3]*MW[19] + MW[4]*MW[20]                    ;COMMERCIAL
    MW[29]=MW[21]+MW[22]+MW[23]+MW[24]+                    ;TOTAL
           MW[25]+MW[26]+MW[27]+MW[28]
  ENDRUN
  ;
  ;-----------------------------------------------------------------------------
  ; For EV period,
  ;-----------------------------------------------------------------------------
  RUN PGM=MATRIX
  ; VMT inputs
  FILEI MATI[1] = "@EVVVMTSIMP@"                            ;AM VMT by TAZ
  ; Trip fraction inputs
  FILEI MATI[2] = "@EV_FRAC@"                              ;AM Fraction by trip purpose
  ; OUTPUTS
  FILEO MATO[1] = "@EV_VMT_BY_PURPOSE@", mo=21-29,
                   name= HBW, HBS, SHSC, HBO, WO,
                   OO, THRU, COMERCIAL, TOT
  ;
  ;
    MW[1]=mi.1.1                                           ;DA VMT
    MW[2]=mi.1.2                                           ;SR VMT
    MW[3]=mi.1.3                                           ;C2 VMT
    MW[4]=mi.1.4                                           ;C3 VMT
  ;
    MW[5]=mi.2.1                                           ;DA HBW FRACTION
    MW[6]=mi.2.2                                           ;SR HBW FRACTION
  ;
    MW[7]=mi.2.3                                           ;DA HBS FRACTION
    MW[8]=mi.2.4                                           ;SR HBS FRACTION
  ;
    MW[9]=mi.2.5                                           ;DA HBSC FRACTION
    MW[10]=mi.2.6                                          ;SR HBSC FRACTION
  ;
    MW[11]=mi.2.7                                          ;DA HBO FRACTION
    MW[12]=mi.2.8                                          ;SR HBO FRACTION
  ;
    MW[13]=mi.2.9                                          ;DA WO FRACTION
```

```
  MW[14]=mi.2.10                                        ;SR WO FRACTION
;
  MW[15]=mi.2.11                                        ;DA OO FRACTION
  MW[16]=mi.2.12                                        ;SR OO FRACTION
;
  MW[17]=mi.2.13                                        ;DA THRU FRACTION
  MW[18]=mi.2.14                                        ;SR THRU FRACTION
;
  MW[19]=mi.2.15                                        ;C2 FRACTION
  MW[20]=mi.2.16                                        ;C3 FRACTION
;
  MW[21]= MW[1]*MW[5] +  MW[2]*MW[6]                    ;HBW
  MW[22]= MW[1]*MW[7] +  MW[2]*MW[8]                    ;HBS
  MW[23]= MW[1]*MW[9] +  MW[2]*MW[10]                   ;HBSC
  MW[24]= MW[1]*MW[11] + MW[2]*MW[12]                   ;HB0
  MW[25]= MW[1]*MW[13] + MW[2]*MW[14]                   ;WO
  MW[26]= MW[1]*MW[15] + MW[2]*MW[16]                   ;OO
  MW[27]= MW[1]*MW[17] + MW[2]*MW[18]                   ;THRU
  MW[28]= MW[3]*MW[19] + MW[4]*MW[20]                   ;COMMERCIAL
  MW[29]=MW[21]+MW[22]+MW[23]+MW[24]+                   ;TOTAL
         MW[25]+MW[26]+MW[27]+MW[28]
ENDRUN
;
;-------------------------------------------------------------------------------
; DAILY TOTALS
;-------------------------------------------------------------------------------
RUN PGM=MATRIX
; Inputs
FILEI MATI[1] = "@AM_VMT_BY_PURPOSE@"                   ;AM
FILEI MATI[2] = "@MD_VMT_BY_PURPOSE@"                   ;Md
FILEI MATI[3] = "@PM_VMT_BY_PURPOSE@"                   ;PM
FILEI MATI[4] = "@EV_VMT_BY_PURPOSE@"                   ;EV
; Outputs
FILEO MATO[1] = "@VMT_BY_PURPOSE@", mo=1-9,             ;daily
                 name= HBW, HBS, SHSC, HBO, WO,
                 OO, THRU, COMERCIAL, TOT
;
  MW[1]=mi.1.1+mi.2.1+mi.3.1+mi.4.1                     ;hbw
  MW[2]=mi.1.2+mi.2.2+mi.3.2+mi.4.2                     ;hbs
  MW[3]=mi.1.3+mi.2.3+mi.3.3+mi.4.3                     ;hbsc
  MW[4]=mi.1.4+mi.2.4+mi.3.4+mi.4.4                     ;hbo
  MW[5]=mi.1.5+mi.2.5+mi.3.5+mi.4.5                     ;wo
  MW[6]=mi.1.6+mi.2.6+mi.3.6+mi.4.6                     ;oo
  MW[7]=mi.1.7+mi.2.7+mi.3.7+mi.4.7                     ;thru
  MW[8]=mi.1.8+mi.2.8+mi.3.8+mi.4.8                     ;commercial
  mw[9]=mw[1]+mw[2]+mw[3]+mw[4]+                        ;Total
        mw[5]+mw[6]+mw[7]+mw[8]
;
ENDRUN
;
RUN PGM=MATRIX
;-------------------------------------------------------------------------------
; Print VMT - Rows & Columns
;-------------------------------------------------------------------------------
  MATI="@VMT_BY_PURPOSE@"
  ZONES=4023
  mw[1]=mi.1.1                                          ;HBW
  mw[2]=mi.1.2                                          ;HBS
  mw[3]=mi.1.3                                          ;HBSC
  mw[4]=mi.1.4                                          ;HBO
  mw[5]=mi.1.5                                          ;WO
```

```
    mw[6]=mi.1.6                                        ;00
    mw[7]=mi.1.7                                        ;THRU
    mw[8]=mi.1.8                                        ;COMMERCIAL
    mw[9]=mi.1.9                                        ;Total
  ;
    REPORT  MARGINS=1      ; request margins summaries
    MARGINREC=Y FORM=8.0,LIST=J(5.0),R1,C1,FILE=HBW_VMT_from_to.txt,PRINT=N
  ;
    REPORT  MARGINS=2      ; request margins summaries
    MARGINREC=Y FORM=8.0,LIST=J(5.0),R2,C2,FILE=HBS_VMT_from_to.txt,PRINT=N
  ;
    REPORT  MARGINS=3      ; request margins summaries
    MARGINREC=Y FORM=8.0,LIST=J(5.0),R3,C3,FILE=HBSc_VMT_from_to.txt,PRINT=N
  ;
    REPORT  MARGINS=4      ; request margins summaries
    MARGINREC=Y FORM=8.0,LIST=J(5.0),R4,C4,FILE=HBO_VMT_from_to.txt,PRINT=N
  ;
    REPORT  MARGINS=5      ; request margins summaries
    MARGINREC=Y FORM=8.0,LIST=J(5.0),R5,C5,FILE=WO_VMT_from_to.txt,PRINT=N
  ;
    REPORT  MARGINS=6      ; request margins summaries
    MARGINREC=Y FORM=8.0,LIST=J(5.0),R6,C6,FILE=OO_VMT_from_to.txt,PRINT=N
  ;
    REPORT  MARGINS=7      ; request margins summaries
    MARGINREC=Y FORM=8.0,LIST=J(5.0),R7,C7,FILE=THRU_VMT_from_to.txt,PRINT=N
  ;
    REPORT  MARGINS=8      ; request margins summaries
    MARGINREC=Y FORM=8.0,LIST=J(5.0),R8,C8,FILE=COMMERCIAL_VMT_from_to.txt,PRINT=N
  ;
    REPORT  MARGINS=9      ; request margins summaries
    MARGINREC=Y FORM=8.0,LIST=J(5.0),R9,C9,FILE=Total_VMT_from_to.txt,PRINT=N
  ;
  ;
    ENDRUN
  ;
  RUN PGM=MATRIX
  ;-------------------------------------------------------------------------------
  ; Print Trips - Rows & Columns
  ;-------------------------------------------------------------------------------
    MATI="@TRIPS_BY_PURPOSE@"
    ZONES=4023
    mw[1]=mi.1.1                                        ;HBW
    mw[2]=mi.1.2                                        ;HBS
    mw[3]=mi.1.3                                        ;HBSC
    mw[4]=mi.1.4                                        ;HBO
    mw[5]=mi.1.5                                        ;WO
    mw[6]=mi.1.6                                        ;00
    mw[7]=mi.1.7                                        ;THRU
    mw[8]=mi.1.8                                        ;COMMERCIAL
    mw[9]=mi.1.9                                        ;Total
  ;
    REPORT  MARGINS=1      ; request margins summaries
    MARGINREC=Y FORM=8.0,LIST=J(5.0),R1,C1,FILE=HBW_TRIPS_from_to.txt,PRINT=N
  ;
    REPORT  MARGINS=2      ; request margins summaries
    MARGINREC=Y FORM=8.0,LIST=J(5.0),R2,C2,FILE=HBS_TRIPS_from_to.txt,PRINT=N
  ;
    REPORT  MARGINS=3      ; request margins summaries
    MARGINREC=Y FORM=8.0,LIST=J(5.0),R3,C3,FILE=HBSc_TRIPS_from_to.txt,PRINT=N
  ;
    REPORT  MARGINS=4      ; request margins summaries
```

```
367     MARGINREC=Y FORM=8.0,LIST=J(5.0),R4,C4,FILE=HBO_TRIPS_from_to.txt,PRINT=N
368   ;
369     REPORT  MARGINS=5       ; request margins summaries
370     MARGINREC=Y FORM=8.0,LIST=J(5.0),R5,C5,FILE=WO_TRIPS_from_to.txt,PRINT=N
371   ;
372     REPORT  MARGINS=6       ; request margins summaries
373     MARGINREC=Y FORM=8.0,LIST=J(5.0),R6,C6,FILE=OO_TRIPS_from_to.txt,PRINT=N
374   ;
375     REPORT  MARGINS=7       ; request margins summaries
376     MARGINREC=Y FORM=8.0,LIST=J(5.0),R7,C7,FILE=THRU_TRIPS_from_to.txt,PRINT=N
377   ;
378     REPORT  MARGINS=8       ; request margins summaries
379     MARGINREC=Y FORM=8.0,LIST=J(5.0),R8,C8,FILE=COMMERCIAL_TRIPS_from_to.txt,PRINT
      =N
380   ;
381     REPORT  MARGINS=9       ; request margins summaries
382     MARGINREC=Y FORM=8.0,LIST=J(5.0),R9,C9,FILE=Total_TRIPS_from_to.txt,PRINT=N
383   ;
384   ;
385     ENDRUN
386
```

Appendix F: Business Park Land Uses

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EXISTING USES IN THE EDH BUSINESS PARK

Schools:
John Adams Academy
Marble Valley Academy
Golden Hills School
The Gift of Kids Daycare & Preschool
Madrone Montessori School
Praiseland Academy of EDH
Busy Bees Preschool
SUM Bible College & Theological Seminary
Suzuki Piano Academy
Avicenna Academy Farsi School
Buckeye Union School District Offices
The FADE Institute (dental education)

Churches:
Rolling Hills Church
Sun Hills Church
Congregation of Jehovah's Witnesses

Retail/Commercial:
El Dorado Hills Florist
CVS Drugstore
ClearBags (package supply store)
Cartridge World
Colorado Federal Savings Bank
Yellow Book (bookstore)
Connect one Computers
Executive Style Boat Club (boat sales)
GoldKey Boathouse (boat sales)
Kratos Defense & Security Systems
Alpha Research & Technology, Inc.
USA Student Travel
Ewing Irrigation & Landscape Supply
Soulstice Juice (juice bar & shop)
Accent Bead Design (craft store)
Fastenal

Gym/Fitness Centers:
El Dorado Hills CrossFit
Kaia FIT El Dorado Hills
Kinetic Dance
El Dorado Dance Academy
Flip & Twist Tumbling (gymnastics)
West Coast Martial Arts
El Dorado Hills Brazilian Jiu Jitsu & Self Defense
Steve Wallen Swim School

JJ PilatesXercise
Mini's House of Pain
Urban Sprawl Fitness
Hard 90 Baseball Academy

Services:
America's Best – Contacts & Eyeglasses
Business Workspaces (coworking office space)
Absolut Office Solutions (office furniture store)
Grapevine Apparel (embroidery)
Lavish Wax (personal care)
Personal Management Consultant (financial planner)
GoldKey Storage – El Dorado Hills
iStorage Self Storage
Palms Commerce Center Self-Storage
El Dorado Hills Party Rentals
Fortis – El Dorado Hills (telecom)
V3 Electric (solar)
Gold Rush Energy Solutions (solar)
Sierra Mountain Insurance Agency: Allstate Insurance
Farmers Insurance
Premier Business Lending
Davis & Amaral Mortgage Inc
El Dorado Hills Realty
American Commercial Real Estate
Navigate Realty
Wallen Realty
Youngdahl Consulting Group
Burne Engineering Services
Cason Engineering
Warren Consulting Engineers
National Analytic Laboratories (env consultant)
Nor-Cal Controls ES, Inc. (energy solutions)
D. Marel Plumbing Service & Repair
Dorado Software
El Dorado Hills Musical Theatre
RCP Construction, Inc
Coffey Building Group, Inc. (construction)
Bayview Engineering & Construction
Tri-Square Construction Company, Inc
Heaven' Best Carpet Cleaning
Carter's Carpet Restoration
Wester Water Features (swimming pools)
Gregg's Pool Works
Premier Auto Tint
Norcal Mechanical Heating and Cooling
Inventx (equipment rental)
Central Valley Floor Design

JB Developers, Inc
Grigsby Label (label maker)
Sign Chef (sign maker)
RTS Computers (consultant)
School Innovations & Achievements (school software)
R Systems International (software)
RFgen Software
Wavelength Photography
Front Street Media (web design)
American Recovery Service (repo service)
USA Recovery Solutions (financial consultant)

Law Offices:
Pat A. Turner, CPA
The Gordon Law Firm
Law Office of David J. Cramer
Forethough Law, PC
Clemons & Jaquish
Weiner Law Offices

Doctor/Dental Offices:
Aloha Family Dental
Golden Foothills Oral & Facial Surgery Center
Healthy Eyes Optometry of El Dorado Hills
True Health Center for Functional Medicine
Harmony Home Care
Synergy Dental
Magic Smiles – Dentistry for Children
Beretta Physical Therapy
Marshall Family Medicine
Marshall Physical and Speech Therapy

Employers:
Broadridge
DST Output
Envision
Frontier Dental Labs
Ansync Labs
ITW Rippey (manufacturer)
Aerometals
Digital Doc (medical manufacturer)
Emed Technologies Corporation (medical products)
Consensus Orthopedics (medical equipment)
Ampac Analytical (laboratory)
Vista Analytical Laboratory (medical)

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Active Adult Option VMT Addendum (June 2024)

T. KEAR
TRANSPORTATION PLANNING
& MANAGEMENT, INC.

Memorandum

TO: Mr. Anthony Gon, Winn Ridge Investments, LLC

FROM: Tom Kear

Date: June 4, 2024

RE: Creekside Village Project Active Adult (Age-Restricted) Housing Option, CEQA VMT Addendum

---

Introduction

This memorandum is an addendum to the Transportation Impact Study (TIS) prepared by T. Kear Transportation Planning and Management, Inc. (TKTPM) for the Creekside Village Project[1] (the Project). The original TIS analyzed the Project as 918 traditional single-family households and 5,400 sqft of commercial space and found that the Project was anticipated to have a less-than-significant impact on VMT under the California Environmental Quality Act (CEQA). This addendum addresses anticipated Vehicle Miles of Travel (VMT) impacts under CEQA for a partially active adult/age-restricted housing land use project option.

Subsequent to the original analysis, the age-restricted housing project option was introduced as a means to minimize impacts on student numbers at Latrobe Elementary and reduce the number of vehicle trips generated from the Project, which is not a consideration under CEQA. The age-restricted project option is also based on 918 dwelling units, however, all but 150 of those would be age-restricted. The proposed 5,400 sqft of commercial would remain with the age-restricted project option. The proposed Project and the age-restricted project option are compared in **Table 1** below.

Table 1. Comparison of land use alternatives

Land Use	Proposed Project	Age-Restricted Option
Traditional single-family housing	918 dwelling units	150 dwelling units
Age-restricted detached housing	0 dwelling units	768 dwelling units
Commercial	5,400 sqft	5,400 sqft
Total	918 dwelling units, and 5,400 sqft of commercial	918 dwelling units, and 5,400 sqft of commercial

[1] TKTPM (2024) Transportation Impact Study: Creekside Village: El Dorado Hills, California, currently in draft form dated April 25, 2024.

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Traditional vs Age Restricted Housing

There is limited information published on how the travel characteristics of age-restricted housing and traditional housing differ. The best available data comes from the published ITE trip generation rates for traditional and age-restricted housing and the 2017 National Household Travel Survey.

ITE Trip Generation Rates

Age-restricted households generate fewer trips than traditional households. Published Institute of Traffic Engineers (ITE) trip generation rates[2] anticipate that traditional housing has a daily trip generation rate of 9.43 trips per household, while age-restricted housing generates less than half of that at 4.31 trips per household. This supports the suspected result of lower VMT per capita from age-restricted housing but is not proof as changes in household size are not addressed. Anticipated trip generation for the proposed Project and the age-restricted option are provided in **Table 2** and **Table 3**, respectively.

National Household Travel Survey Person Miles of Travel (PMT)

The 2017 National Household Travel Survey[3] estimated PMT and person trips for both the population (as a whole) and for several subgroups, including those 65[4] and older. Those data show that the older drivers had 19% less PMT and took 5% fewer trips than the population as a whole. PMT being reduced at a greater rate than person trips indicates that the older population is taking fewer and shorter trips, leading to the 19% reduction in PMT.

[2] ITE (2021) Trip Generation Manual 11th Edition, Institute of Transportation Engineers, Washington DC
[3] FHWA (2018) Summary of Travel Trends: 2017 National Household Travel Survey (Tables 11 and 31), Federal Highway Administration, report FHWA-PL-18_019, https://nhts.ornl.gov/assets/2017_nhts_summary_travel_trends.pdf.
[4] Note that active adult/age-restricted housing is defined as 55 and older rather than 65 and older.

Table 2. Anticipated Project trip generation with 918 traditional single-family dwelling units and 5,400 sqft of local serving retail

Land Use	Quantity	Metric	Daily	AM Peak Hour			PM Peak Hour		
				Total	Inbound	Outbound	Total	Inbound	Outbound
Single Family Detached Housing (ITE Use 210)	918 DU (1)	Notes	Average Rate	Average Rate for Peak Hour of Generator			Average Rate for Peak Hour of Generator		
		Rate	9.43	0.75	26%	74%	0.99	64%	36%
		Trips	8657	689	179	510	909	582	327
Coffee/Donut Shop with Drive-Thru Window (ITE Use 937)	2.4 ksf (2)	Notes	Average Rate	Average Rate for Peak Hour of Generator			Average Rate for Peak Hour of Generator		
		Rate	533.57	101.27	50%	50%	43.65	50%	50%
		Trips	1281	243	122	121	105	52	53
		Pass-by (3)	0	-110	-55	-55	-70	-35	-35
Fast Casual Restaurant (ITE Use 930)	1.5 ksf (2)	Notes	Average Rate	Average Rate for Peak Hour of Generator			Average Rate for Peak Hour of Generator		
		Rate	97.14	5.71	63%	37%	18.57	62%	38%
		Trips	146	9	5	4	28	17	11
		Pass-by (4)	0	0	0	0	-12	-6	-6
High-Turnover (Sit-Down) Restaurant (ITE Use 932)	1.5 ksf (2)	Notes	Average Rate	Average Rate for Peak Hour of Generator			Average Rate for Peak Hour of Generator		
		Rate	107.2	13.68	57%	43%	16.35	51%	49%
		Trips	161	21	12	9	25	13	12
		Pass-by (4)	0	0	0	0	-10	-5	-5
Total residential trips			8657	689	179	510	909	582	327
Less 2% internalization based on Travel Demand Model			-173	-14	-4	-10	-18	-12	-7
Net new residential trips to assign			**8484**	**675**	**175**	**500**	**891**	**570**	**321**
Total commercial trips			1588	163	84	79	66	36	30
Less 2% internalization based on Travel Demand Model			-32	-4	-2	-2	-2	-1	-1
Net new commercial trips to assign			**1556**	**159**	**82**	**77**	**64**	**35**	**29**
Total New Project Trips			**10040**	**834**	**257**	**577**	**955**	**605**	**350**
Commercial pass by trips from Latrobe Road (for assignment to commercial driveways)			**0**	**110**	**55**	**55**	**92**	**46**	**46**

(1) DU = Dwelling unit
(2) ksf = 1000 square feet
(3) Pass-by trips based on land use 934 (fast food with drive-thru) which has an average 45.4% pass-by rate in the AM and 68% in the PM.
(4) Pass-by trips based on land use 932 (high-turnover (sit-down) restaurant) which has an average 43% pass-by rate.
Source: ITE (2021) Trip Generation Manual, 11th Ed., Institute of Transportation Engineers, Washington DC.

Table 3. Anticipated Project trip generation with 150 traditional single-family dwelling units, 768 age-restricted detached dwelling units, and 5,400 sqft of local serving retail

Land Use	Quantity	Metric	Daily	AM Peak Hour			PM Peak Hour		
				Total	Inbound	Outbound	Total	Inbound	Outbound
Single Family Detached Housing (ITE Use 210)	150 DU (1)	Notes	Average Rate	Average Rate for Peak Hour of Generator			Average Rate for Peak Hour of Generator		
		Rate	9.43	0.75	26%	74%	0.99	64%	36%
		Trips	1415	113	29	84	149	95	54
Age Restricted Single Family Detached Housing (ITE Use 251)	768 DU (1)	Notes	Average Rate	Average Rate for Peak Hour of Generator			Average Rate for Peak Hour of Generator		
		Rate	4.31	0.34	43%	57%	0.38	56%	44%
		Trips	3310	261	112	149	300	168	132
Coffee/Donut Shop with Drive-Thru Window (ITE Use 937)	2.4 ksf (2)	Notes	Average Rate	Average Rate for Peak Hour of Generator			Average Rate for Peak Hour of Generator		
		Rate	533.57	101.27	50%	50%	43.65	50%	50%
		Trips	1281	243	122	121	105	52	53
		Pass-by (3)	0	-110	-55	-55	-70	-35	-35
Fast Casual Restaurant (ITE Use 930)	1.5 ksf (2)	Notes	Average Rate	Average Rate for Peak Hour of Generator			Average Rate for Peak Hour of Generator		
		Rate	97.14	5.71	63%	37%	18.57	62%	38%
		Trips	146	9	5	4	28	17	11
		Pass-by (4)	0	0	0	0	-12	-6	-6
High-Turnover (Sit-Down) Restaurant (ITE Use 932)	1.5 ksf (2)	Notes	Average Rate	Average Rate for Peak Hour of Generator			Average Rate for Peak Hour of Generator		
		Rate	107.2	13.68	57%	43%	16.35	51%	49%
		Trips	161	21	12	9	25	13	12
		Pass-by (4)	0	0	0	0	-10	-5	-5
Total residential trips			4725	374	141	233	449	263	186
Less 2% internalization based on Travel Demand Model			-95	-7	-3	-5	-9	-5	-4
Net new residential trips to assign			**4630**	**367**	**138**	**228**	**440**	**258**	**183**
Total commercial trips			1588	163	84	79	66	36	30
Less 2% internalization based on Travel Demand Model			-32	-4	-2	-2	-2	-1	-1
Net new commercial trips to assign			**1556**	**159**	**82**	**77**	**64**	**35**	**29**
Total New Project Trips			**6186**	**526**	**220**	**305**	**504**	**293**	**212**
Commercial pass by trips from Latrobe Road (for assignment to commercial driveways)			**0**	**110**	**55**	**55**	**92**	**46**	**46**

(1) DU = Dwelling unit
(2) ksf = 1000 square feet
(3) Pass-by trips based on land use 934 (fast food with drive-thru) which has an average 45.4% pass-by rate in the AM and 68% in the PM.
(4) Pass-by trips based on land use 932 (high-turnover (sit-down) restaurant) which has an average 43% pass-by rate.
Source: ITE (2021) Trip Generation Manual, 11th Ed., Institute of Transportation Engineers, Washington DC.

CEQA VMT thresholds

The County's VMT thresholds set an identifiable metric by which the Project's effect on VMT will be determined to be significant or less-than-significant. Land use specific thresholds have been adopted as follows[5]:

- Residential: 15% below baseline unincorporated countywide VMT per capita,
- Office: 15% below baseline unincorporated countywide VMT per capita,
- Retail: no net increase in VMT.

As noted by the Governor's Office of Planning and Research (OPR), adding local-serving retail into the urban fabric improves retail destination proximity.[6] Local-serving retail development tends to shorten trips and reduce VMT. Thus, lead agencies may presume such development creates a less-than-significant impact. (Regional serving retail on the other hand can substitute longer trips for shorter ones, which may lead to a significant impact.) The El Dorado County Board of Supervisors did not explicitly adopt the local serving retail as a screening criteria. However, the Board of Supervisors allowed that a different method of calculating VMT may be used if, in the exercise of sound engineering judgment, a different method is determined to be more accurate because the unique circumstances of a particular project or particular use that are not captured in the El Dorado County Travel Demand Model resulting in an underestimation or overestimation of VMT.

OPR defined local serving retail as less than 50,000 sqft, significantly greater than the 5,400 sqft commercial component of the Project. Additionally, the El Dorado County travel demand model does not differentiate between local serving and regional retail and therefore is not anticipated to be able to capture the shorter trip lengths associated with the local serving retail component of the Project. Because the travel demand model cannot distinguish between a large regional commercial center (i.e., Costco) and a small local coffee shop, the OPR guidance and methodology was applied for the local serving retail component of the Project, and the 15% reduction threshold was applied for the housing component of the Project[7]. Consistent with OPR guidance, it is unlikely that the neighborhood retail with relatively small footprints for commercial and retail spaces will attract customers beyond the surrounding community, especially when numerous offerings are available closer to Highway 50 at Town Center. It is also unlikely a potential customer would drive past Town Center to seek out the relatively smaller commercial and retail offerings at Creekside Village. Instead, given the scale of the

[5] EDC (2020) Resolution 141-2020, Adopting the El Dorado County "Vehicle Miles Traveled" Thresholds of Significance for Purposes of Analyzing Transportation Impacts Under the California Environmental Quality Act, https://www.eldoradocounty.ca.gov/files/assets/county/v/1/documents/government/transportation/executed-resolution-141-2020.pdf.

[6] OPR Technical Advisory on Evaluating Transportation Impacts in CEQA (April 2018), https://opr.ca.gov/docs/20180416-743_Technical_Advisory_4.16.18.pdf.

[7] The Governor's Office of Planning and Research advises lead agencies evaluate each component of a mixed-use project independently and apply the significance threshold for each project type included (e.g., residential and retail).

commercial component, location of Creekside Village, park amenities surrounding the commercial component, and interconnected trails developed with the project, it is anticipated that the neighborhood commercial offerings will primarily attract surrounding residents and many of those residents can walk or bike to the commercial component.

The Governor's Office of Planning and Research advises lead agencies to evaluate each component of a mixed-use project independently and apply the significance threshold for each project type included (e.g., residential and retail). Alternatively, a lead agency may consider only the project's dominant use. In the analysis of each use, a project should take credit for internal capture. Combining different land uses and applying one threshold to those land uses may result in an inaccurate impact assessment.

For Creekside Village, the residential portion of the Project was evaluated based on the 15% reduction from the baseline threshold listed above. The retail portion of the Project is considered local-serving retail and presumed to have a less-than-significant impact on VMT per OPR guidance as allowed by El Dorado County Board of Supervisors resolution 141-2020.

Discussion and findings

The original TIS found that the 918 traditional housing units were anticipated to have a less-than-significant impact on VMT per capita under CEQA. The implementation of the age-restricted housing option (with 768 or more age restricted dwelling units and 150 or fewer traditional dwelling units) is anticipated to produce fewer trips per household, fewer trips per capita, and less VMT per capita than the 918 traditional households analyzed in the original TIS. Therefore, the age-restricted housing project option is also anticipated to have a less-than-significant impact on VMT under CEQA.

Reduced Impact Alternative Transportation Impact Study (2025)

P23160

Transportation Impact Study (Reduced Impact Alternative)

Creekside Village
El Dorado Hills, California

Prepared for:
Winn Ridge Investments, LLC
and
County of El Dorado, California

Prepared By

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December 12, 2024
Revised April 15, 2025 and May 20, 2025

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REVISION HISTORY

Description	Date	Notes
Admin Draft	Feb 22, 2024	
Public Report	April 25, 2024	Added EBL queue data at intersection 3, clarified abatement 18A.
Revised Report	Dec 12, 2024	Updated to reflect age restricted housing, and removal of commercial component.
Revised Report	April 15, 2025	Addressed peer review comments related to presentation
Revised Report	May 20, 2025	Updated description of community input on Avanti Dr intersection and fixed minor typos.

EXECUTIVE SUMMARY

This transportation impact study (TIS) analyzes the Reduced Impact Alternative for the Creekside Village Specific Plan (referred to herein as the "Project") for consistency with the El Dorado County General Plan level-of-service policies and for vehicle miles of travel (VMT) impacts under the California Environmental Quality Act (CEQA). Where appropriate, abatement measures are provided to address any deficiencies relative to adopted General Plan policies and mitigation measures are provided to address any potentially significant impacts under CEQA. Creekside Village was previously analyzed as a 918 dwelling unit project with 5,400 sqft of neighborhood commercial in an April 2024 transportation impact study, which is the proposed project analyzed in the Draft EIR. Subsequent to that analysis, a variety of constraints were identified which resulted in the Reduced Impact Alternative that is analyzed at a project-specific level. This transportation impact study addresses the Reduced Impact Alternative relative to what was considered in the April 2024 analysis. For ease of reading, the Reduced Impact Alternative analyzed herein is referred to as the "Project."

Creekside Village (the Project) is a planned community with housing, parks, and open space located in the El Dorado Hills community region of El Dorado County. Requested entitlements include a tentative subdivision map allowing for up to 763 single family homes (613 are age-restricted and 150 are traditional), plus neighborhood park parcels, and open space fronting creeks and avoiding sensitive features. The Project creates a new Specific Plan which would amend the General Plan. The Project is located on a vacant 207.9 acre site located on the southern end of the El Dorado Hills Business Park, south of Investment Boulevard and west of Latrobe Road. The Project parcels are APNs 117-010-032 and a portion of 117-720-012. A vicinity map is shown in **Figure ES-1**. The Project parcel is split by a creek, with most of the housing located on the south side of the creek. The north side of the creek would contain 104 of the single-family homes and open space, and the south side of the creek would include the remaining 659 single family homes.

The Project parcels have been de-annexed from the business park, and the applicant is requesting to change its General Plan land use designation and zoning from Research and Development (R&D) to Adopted Plan (AP) with Single Family Low Density (CV-SFL), Single Family Medium Density (CV-SFM) residential, Open Space (CV-OS), and Parks (CV-P) land use designations within the plan area.

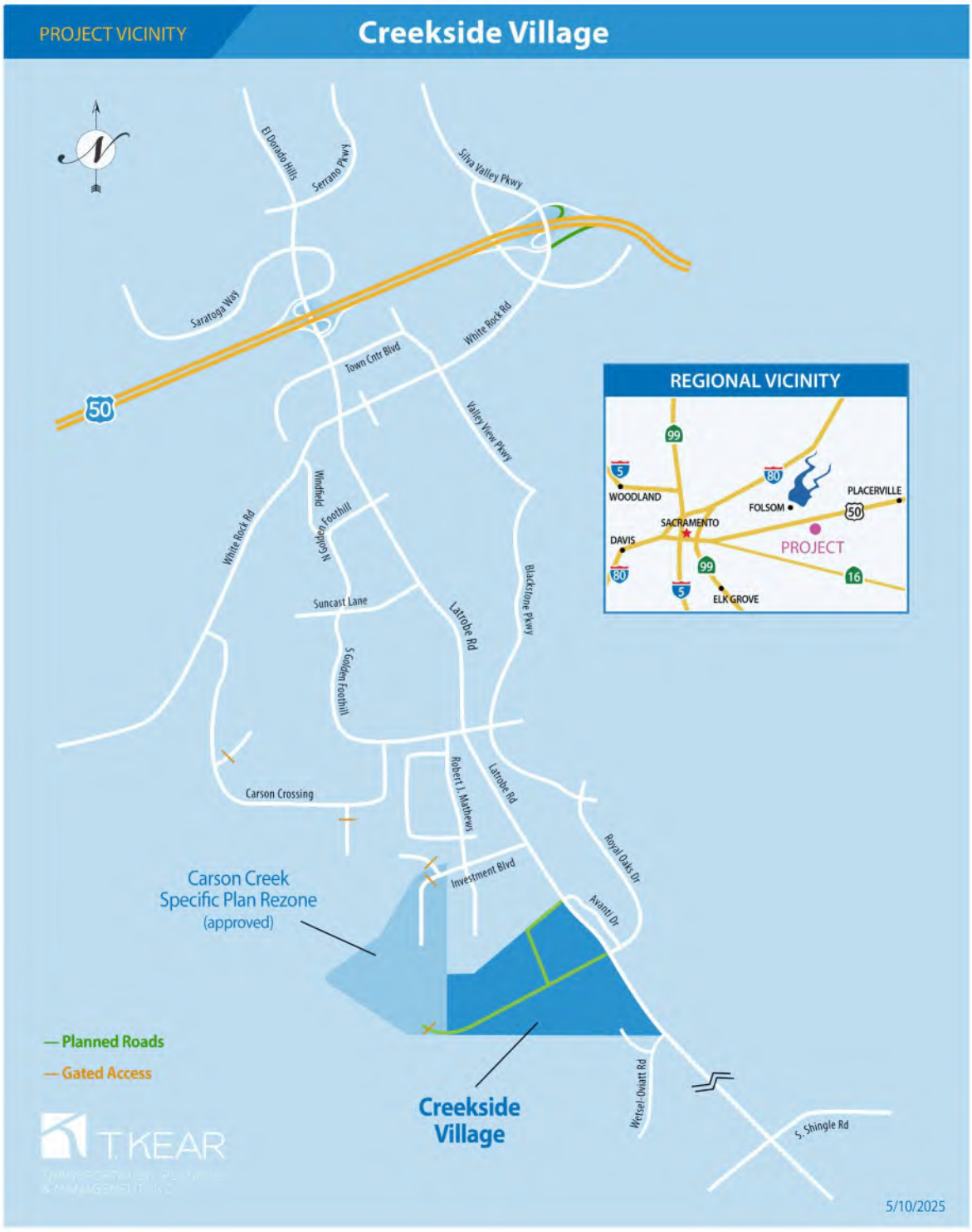


Figure ES-1. Project location map

Project Description

Figure ES-2 provides a preliminary site plan for the Project. The Project would:

- Amend the General Plan, change the zoning designation, and adopt a specific plan to allow the development of 207.9 acres for residential and related uses on land that is undeveloped and currently designated as industrial and R&D.
- Create a Tentative Map for 613 age-restricted single-family homes and 150 traditional single-family homes. The Tentative Map would include additional lots associated with parks and open space and various landscape lots.

Access to the Project will be provided by three roadways and a multiuse trail:

- The primary access will be from Latrobe Road via an extension of Royal Oaks Drive. The intersection of Latrobe Rd/Royal Oaks Dr is proposed to remain as full access. This intersection is analyzed with its existing two-way-stop-control, with signal-controlled recommended as an abatement to maintain acceptable level-of-service.
- The first secondary access road is an extension of Avanti Dr. The intersection is currently a "T" intersection providing full access to Avanti Dr. At the request of community members, access to Avanti Dr at this location will be limited to right-in/right out (RIRO), with full access to the Project. Final configuration will be determined by DOT with confirmation with EDH Fire prior to approval of improvement plans. This intersection currently has and would retain two-way-stop-control (TWSC).
- The second secondary access is via a connection to Wetsel-Oviatt Road.
- A pedestrian and bicycle access route connecting to Robert J. Mathews Parkway will provide enhanced non-motorized access to the medical, education, fitness, service, food, and retail options within the El Dorado Hills Business Park. This will also available as Emergency Vehicle Access for fire apparatus, emergency medical, and law enforcement personnel in an emergency.

Traffic is distributed across the driveways based on the rough proximity of each land use to the access points.

Study Area

The TIS area (**Figure ES-3**), which includes portions of White Rock Road, Latrobe Road, El Dorado Hills Boulevard, Silva Valley Parkway and US 50 in El Dorado County, California, was selected with consideration of the requirements of CEQA and General Plan policies TC-Xd and TC-Xe. Specifically, the study was selected to include El Dorado County locations where Project traffic would constitute:

A. A two percent increase in traffic during the AM peak hour, PM peak hour, or daily; or,
B. The addition of 100 or more daily trips; or,
C. The addition of 10 or more trips during the AM peak hour or the PM peak hour.

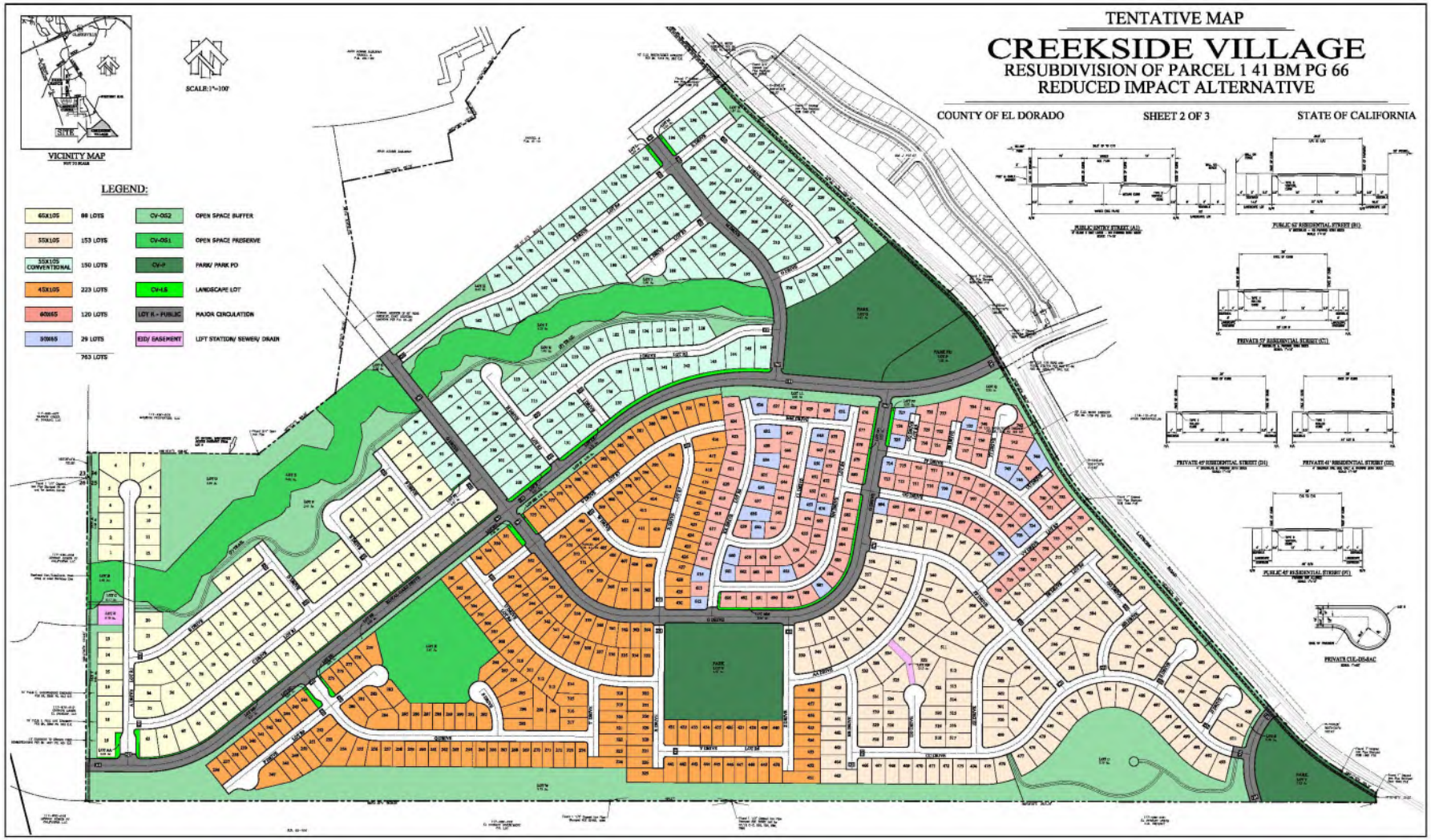


Figure ES-2. Preliminary Project site plan



Figure ES-3 Study area

Project Trip Generation and Distribution

Anticipated Traffic generation by the Project reflects both trips generated by the Project itself, and, avoided trips in 2033 and 2040 from the commercial land uses that the El Dorado County Travel Demand Model (TDM) assumes will take place on the Project parcels.

Project Trips

Anticipated trips are based on Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition (2021). **Table ES-1** shows anticipated Project Trip Generation. To be conservative, trip generation estimates are generally based on the higher rates for the peak hour of the generator rather than the peak hour of adjacent street traffic. The higher of either the average trip generation rate or equation-based trip generation rate was also used.

Avoided Trips

Avoided trips are additional peak hour trips that the TDM assumes in the future from growth within the Project TAZ. These avoided trips were estimated by running the TDM with and without assumed 2020[1] through 2040 employment growth for the effected portion of the Project's transportation analysis zone (TAZ 612). Creekside Village replaces 62% of the available land in TAZ 612 (**Figure ES-4**), therefore 62% of the employment growth was eliminated from TAZ 612 when estimating the number of avoided trips using the TDM. TDM employment assumptions for TAZ 612 are shown in **Table ES-2** below, along with the resulting avoided trips.

Trip Distribution with Adjustment for Latrobe Elementary

Project trip distribution was based on the El Dorado County TDM, observed counts, prior studies in the vicinity of the Project, and consultation with El Dorado County staff. Additional adjustments were made to reflect school trips to Latrobe Elementary based on student generation statistics published by the school district. Trip distribution is shown in **Figure ES-5**.

Table ES-1. Trip generation

Land Use	Quantity	Metric	Daily	AM Peak Hour			PM Peak Hour		
				Total	Inbound	Outbound	Total	Inbound	Outbound
Single Family Detached Housing (ITE Use 210)	150 DU (1)	Notes	Equation Rate	Equation Rate for Peak Hour of Generator			Equation Rate for Peak Hour of Generator		
		Rate	9.77	0.76	26%	74%	1.01	64%	36%
		Trips	1465	114	30	84	151	97	54
Age Restricted Single Family Detached Housing (ITE Use 251)	613 DU (1)	Notes	Equation Rate	Average Rate for Peak Hour of Generator			Average Rate for Peak Hour of Generator		
		Rate	4.51	0.34	43%	57%	0.39	56%	44%
		Trips	2767	208	90	118	239	134	105
Total residential trips			4232	322	120	202	390	231	159
Less 2% internalization based on Travel Demand Model			-85	-6	-2	-4	-8	-5	-3
Total New Project Trips			**4147**	**316**	**118**	**198**	**382**	**226**	**156**

(1) DU = Dwelling unit

Source: ITE (2021) Trip Generation Manual, 11th Ed., Institute of Transportation Engineers, Washington DC.

(Dated October 25, 2024)

[1] 2020 is used rather than 2023 because the process of purchasing the land and de-annexing it from the business park meant that no new employment on this portion of the model TAZ occurred as of that year.



Figure ES-4. Creekside Village is 62% of available land in TAZ 612

Table ES-2. TDM employment assumptions and avoided trips

	2020	2040 without Project	2040 with Project	Notes
Employment				
Retail	224	433	304	Creekside Village is 62% of remaining land in TAZ 612. Housing is assumed to replace 62% of employment growth. (With Project there are 2097 fewer employees.)
Non-Retail	2115	5355	3387	
Total	2339	5788	3691	
Avoided Trips AM (PM) [Daily]				
In			526 (311) [4735]	
Out			207 (518) [4680]	

Source: Section 5.1 of this report and of this report.



Figure ES-5. Creekside Village Project trip distribution

FINDINGS

Trip Generation Findings

The 763 dwelling unit Project is anticipated to generate 316 AM peak hour trips, 382 PM peak hour trips, and 4,147 daily trips. Those Project trips are offset under both the EPAP 2033 and Cumulative 2040 scenarios through forgone commercial development on the 207.9 ac project site which the travel demand model anticipated would have generated 733 AM and 829 PM peak hour trips, and 9,415 daily trips. Trip Generation is discussed in more detail in **Section 5.1**. Findings are reported in **Section 14.1**

CEQA Findings

VMT: The 763 dwelling unit Project is anticipated to have home based VMT per capita of 13.6 in 2023 and 13.1 in 2040, compared to a significance threshold of 17.3 (calculated using the same methodology and data as the Proposed Project impacts). Therefore, the Project has a **less-than significant** impact on VMT. The VMT analysis is discussed in **Section 3.4** and **Section 11**. CEQA Findings are reported in **Section 14.2**

Transit: The Project does not interfere with existing or proposed transit service and has a **less-than-significant** impact on transit. Transit impacts are briefly discussed in **Section 12**. CEQA Findings are reported in **Section 14.2**

Bicycles and Pedestrians: The Project enhances bicycle and pedestrian access to the El Dorado Hills Business Park and does not interfere with existing or planned bicycle and pedestrian facilities. The Project includes a variety of bike and pedestrian amenities providing connections both within the planned community and externally to the existing bike and pedestrian facilities along Latrobe Road and Royal Oaks Dr. Therefore, the Project has a **less-than-significant** impact on bicycle and pedestrian facilities. Bicycles and pedestrian impacts are briefly discussed in **Section 12**. CEQA Findings are reported in **Section 14.2**

General Plan Level-of-Service and Queue Length Findings

Deficiencies that are caused or worsened by the Project, and abatement measures to address said deficiencies, are identified for existing 2023 plus Project, Existing Plus Approved Projects (EPAP) 2033 plus Project, and cumulative 2040 plus Project conditions.

Throughout this document, segment deficiencies are numbered using the segment number (i through v) and a year code (2023 = "A", 2033 = "B", and 2040 = "C"). Intersection abatement measures are numbered using the intersection number (1-27) and the year code (A, B, or C). Locations where the Project causes new or worsen existing deficiencies are listed in **Table ES-3**. The first occurrence of an abatement measure is listed in **bold red** font, subsequent applications of an abatement measure are listed in a regular typeface. Abatement measures for existing 2023 plus Project conditions are described in more detail in **Section 14.3**.

Other Findings/Conditions of Approval ("On-Site Transportation Review")

As noted in sections 13 and 14 of this report, "On-Site Transportation Review" looks at internal circulation (i.e., sight distance, driveway spacing, minimum required throat depth, parking). For this Project the on-site review should be addressed for each Final Map. Review at Final Map is appropriate because the Specific Plan allows for minor administrative changes that may shift lotting and internal roadways. On-Site Transportation Review findings are reported in **Section 14.3**

Table ES-3 Study area

ID	Location	2023 Plus Project (See Section 6.3)	2033 Plus Project (See Section 8.3)	2040 Plus Project	Related CIP Project
Locations have preexisting level-of-service and/or queueing deficiencies which are worsened by the Project:					
1	Latrobe Road/Serrano Pkwy	**1A: Adjust timing**	n/a	n/a	"Traffic Signals Intersection"
2	El Dorado Hills Blvd/Saratoga Way	**2A: SB right pocket, adjust timing**	n/a	n/a	36105076 and 36105035
3	El Dorado Hills Blvd/US 50 WB	**3A: Adjust timing**	Implement 3A	n/a	"Traffic Signals Intersection"
6	Latrobe Road/White Rock Road	**6A: Adjust timing**	Implement 6A	n/a	36105069
7	Latrobe Road/Golden Foothill Parkway (N)	n/a	**7B: Add SB right pocket**	n/a	36105069
9	Latrobe Road/ Golden Foothill Parkway (S)	**9A: Adjust timing**	**9B: Implement 9A plus: Add 2nd SB left-turn lane with receiving lane on Clubview Dr, adjust timing**	n/a	36105055 (AKA "72Latrobe")
10	Latrobe Road/Investment Boulevard	**10A: Stripe EB approach as left and a shared left-right in a pocket**	Implement 10A	Implement 10A	36105055 (AKA "72Latrobe")
13	Golden Foothill Parkway (S)/Robert J Mathews Pkwy	**13A: Construct roundabout**	n/a	n/a	36105083
18	White Rock Road/Carson Crossing Road	**18A: All Way Stop Control**	n/a	n/a	36105041
21	White Rock Road/Valley View Parkway	**21A: Add WB right pocket, extend WB left pocket to 350'**	**21B: Implement 21A plus additional lengthening of WB left pocket to 410'.**	n/a	36105042
Locations where the Project is anticipated to cause new deficiencies:					
12	Latrobe Road/Royal Oaks Drive	**12A: Signalize**	Implement 12A	Implement 12A	n/a

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1.0 INTRODUCTION AND BACKGROUND

This transportation impact study (TIS) analyzes the Reduced Impact Alternative analyzed in the Draft EIR for the Creekside Village Specific Plan (the Project) for consistency with the El Dorado County General Plan level-of-service policies and for vehicle miles of travel (VMT) impacts under the California Environmental Quality Act (CEQA). Where appropriate, abatement measures are provided to address any deficiencies relative to adopted General Plan policies and mitigation measures are provided to address any potentially significant impacts under CEQA. Creekside Village was originally analyzed as a 918 dwelling unit project with 5,400 sqft of neighborhood commercial in an April 2024 transportation impact study. Subsequent to that analysis a variety of constraints were identified which led to the development of the Reduced Impact Alterative that is analyzed at the project-specific level. This transportation impact study addresses that alternative relative to what was considered in the April 2024 analysis and is referred to as the "Project" for purposes of this analysis.

Creekside Village (the Project) is a planned community with housing, parks, and open space located in the El Dorado Hills community region of El Dorado County. Requested entitlements include a tentative subdivision map allowing for up to 763 single family homes (613 of which are age-restricted and 150 are traditional), plus neighborhood park parcels, and open space fronting creeks and avoiding sensitive features. The Project creates a new Specific Plan which would amend the General Plan. The Project is located on a vacant 207.9 acre site located on the southern end of the El Dorado Hills Business Park, south of Investment Boulevard and west of Latrobe Road. The Project parcels are APNs 117-010-032 and a portion of 117-720-012. A vicinity map is shown in **Figure 1**. The Project parcel is split by a creek, with most of the housing located on the south side of the creek. The north side of the creek would contain 104 of the single-family homes and open space, and the south side of the creek would include the remaining 659 single family homes.

The Project parcels have been de-annexed from the business park, and the applicant is requesting to change its General Plan land use designation and zoning from Research and Development (R&D) to Adopted Plan (AP) with Single Family Low Density (CV-SFL), Single Family Medium Density (CV-SFM) residential, Open Space (CV-OS), and Parks (CV-P) land use designations within the plan area.

Project Description

Figure 2 provides a preliminary site plan for the Project. The Project would:

- Amend the General Plan, change the zoning designation, and adopt a specific plan to allow the development of 207.9 acres for residential and related uses on land that is undeveloped and currently designated as industrial and R&D.
- Create a Tentative Map for 613 of age-restricted single-family homes and 150 traditional single-family homes. The Tentative Map would include additional lots associated with parks and open space and various landscape lots.



Figure 1. Project location map

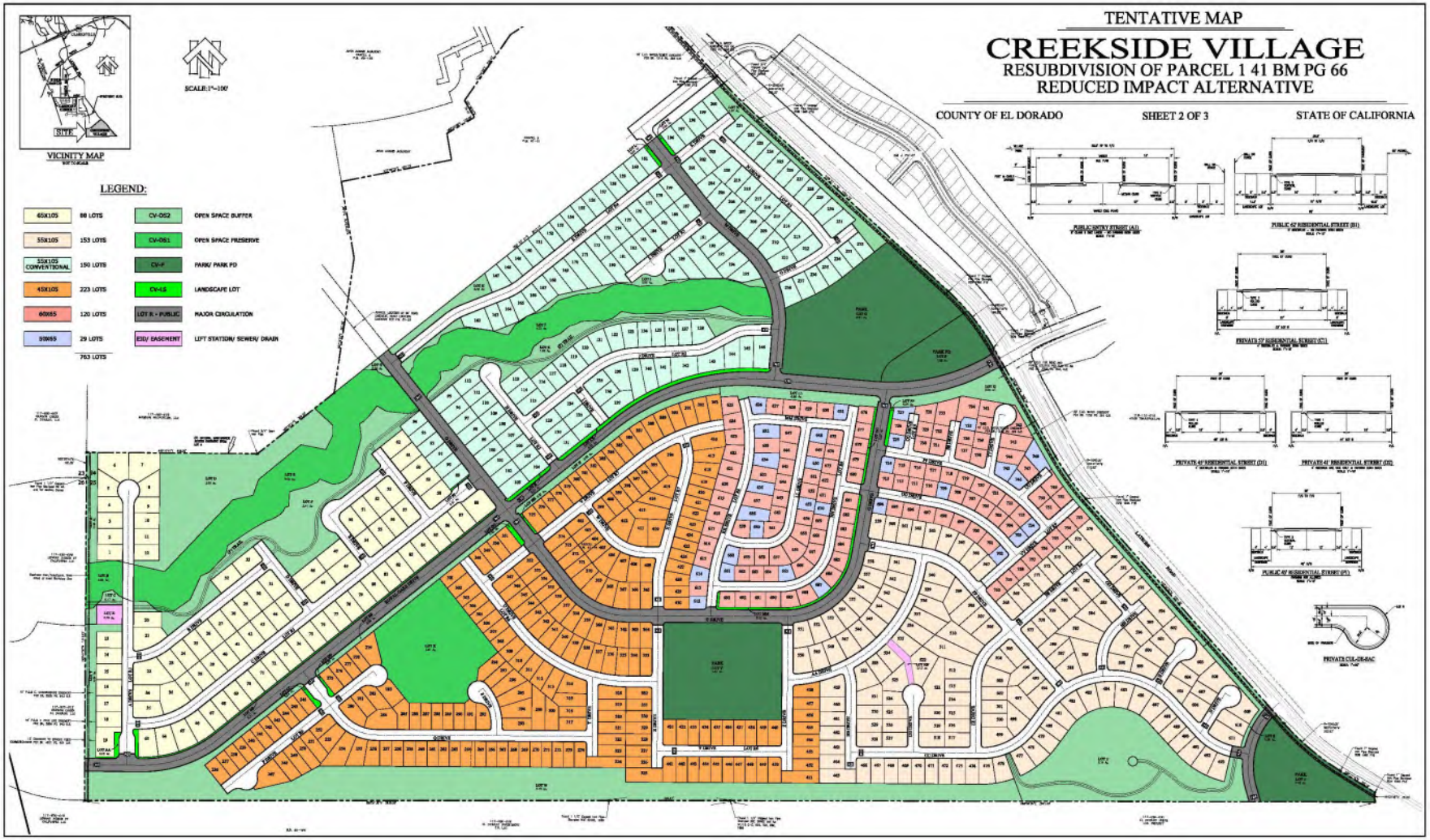


Figure 2. Preliminary Project site plan

Access to the Project will be provided by three roadways, and a multiuse trail:

- The primary access will be from Latrobe Road via an extension of Royal Oaks Drive. The intersection of Latrobe Rd/Royal Oaks Dr is proposed to remain as full access. This intersection is analyzed with its existing two-way-stop-control, with signal-controlled recommended as an abatement to maintain acceptable level-of-service.
- The first secondary access road is an extension of Avanti Dr. The intersection is currently a "T" intersection providing full access to Avanti Dr. At the request of community members, access to Avanti Dr at this location will be limited to right-in/right out (RIRO), with full access to the Project. Final configuration will be determined by DOT with confirmation with EDH Fire prior to approval of improvement plans. This intersection currently has and would retain two-way-stop-control (TWSC).
- The second secondary access is via a connection to Wetsel-Oviatt Road.
- A pedestrian and bicycle access route connecting to Robert J. Mathews Parkway will provide enhanced non-motorized access to the medical, education, fitness, service, food, and retail options within the El Dorado Hills Business Park. This will also be available as Emergency Vehicle Access for fire apparatus, emergency medical, and law enforcement personnel in an emergency.

Traffic is distributed across the driveways based on the rough proximity of each land use to the access points.

General Plan Consistency Considerations for Cumulative Impact Analysis

Projects that are consistent with the General Plan, and cumulative travel demand model assumptions, may rely upon the General Plan EIR's cumulative analysis. The Project parcel is currently designated as industrial and R&D in the General Plan and zoned accordingly. The Project requires a general plan amendment and rezoning to accommodate the proposed residential uses and is therefore not consistent with the General Plan or its related CEQA documents. Project-level cumulative analysis is included in this TIS.

2.0 STUDY AREA

The TIS area (**Figure 3**), which includes portions of White Rock Road, Latrobe Road, El Dorado Hills Boulevard, Silva Valley Parkway and US 50 in El Dorado County, California, was selected with consideration of the requirements of CEQA and General Plan policies TC-Xd and TC-Xe. Specifically, the study was selected to include El Dorado County locations where Project traffic would constitute:

D. A two percent increase in traffic during the AM peak hour, PM peak hour, or daily; or,
E. The addition of 100 or more daily trips; or,
F. The addition of 10 or more trips during the AM peak hour or the PM peak hour.

2.1 Project Area Roadways

The following are descriptions of the primary roadways in the project vicinity.

- **El Dorado Hills Boulevard** is a north-south arterial roadway that extends from Green Valley Road on the north to US 50 on the south where it continues as Latrobe Road. North of Green Valley Road it continues as Salmon Falls Road. Between US 50 and Saratoga Way El Dorado Hills Boulevard is a six-lane urban arterial, between Saratoga Way and Serrano Parkway it is a five-lane urban arterial, north of Serrano Parkway it continues as a four-lane urban arterial until Governor Drive, and then as a two-lane urban arterial northward to Green Valley Road. Just north of US 50, El Dorado Hills Boulevard carries approximately 28,000 vehicles per day.

- **Latrobe Road** is a north-south arterial roadway that provides a primary connection to US-50 for western El Dorado County. It extends from US 50, where it continues as El Dorado Hills Boulevard, to State Route 16. It is a six-lane urban arterial road between US 50 and White Rock Road. Latrobe Road is a four-lane urban arterial road between White Rock Road and Golden Foothill Parkway (south). It is a two-lane urban road from Golden Foothill Parkway (south) to Investment Boulevard and a two-lane rural road south of Investment Boulevard. North of White Rock Road, Latrobe Road carries approximately 32,500 vehicles per day with three through travel lanes in each direction. South of US 50, El Dorado Hills Boulevard becomes Latrobe Road.

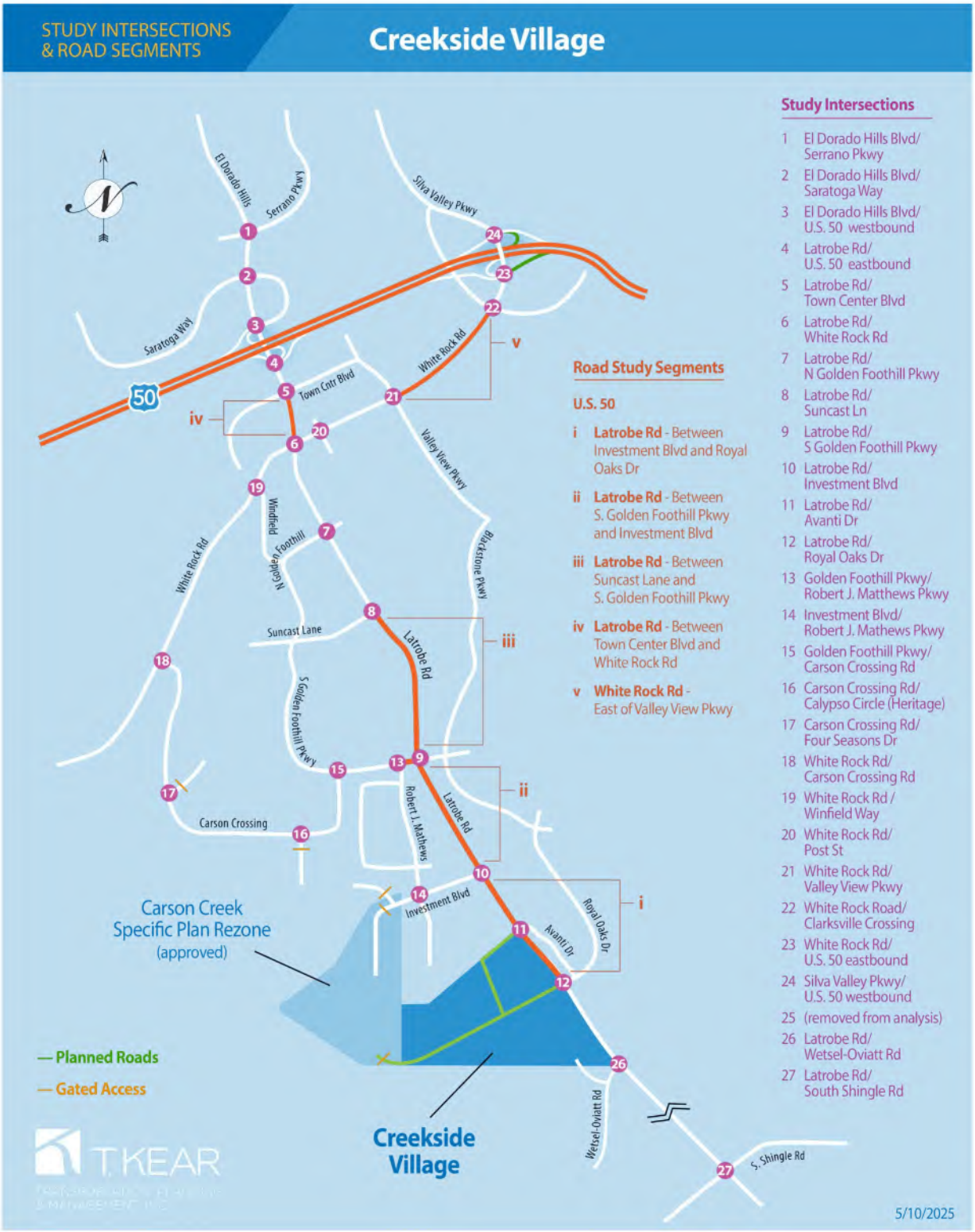


Figure 3. Study area

- **Park Drive** is a two-lane local roadway serving the shopping center located north of US 50 at the El Dorado Hills Boulevard interchange. Park Drive intersects El Dorado Hills Boulevard at two locations, opposite the reconstructed US 50 westbound ramps and then approximately 1000 feet to the north where Saratoga Way intersects El Dorado Hills Boulevard. Park Drive serves about 12,000 vehicles per day east of El Dorado Hills Boulevard.

- **Silva Valley Parkway** is a north-south roadway that generally runs parallel to El Dorado Hills Boulevard north of US 50. The General Plan identifies Silva Valley Parkway as a four-lane divided road. A new US 50 interchange at Silva Valley/White Rock Road opened in 2016, which provides a realigned Silva Valley Parkway that connects to the existing four-lane Silva Valley Parkway to the north and the existing two-lane White Rock Road on the south. The new interchange is located east of the existing underpass, which will be preserved for bike and pedestrian access. Silva Valley Parkway serves about 17,000 vehicles per day north of US 50.

- **White Rock Road** is an east-west arterial that extends through several jurisdictions from Silva Valley Parkway in El Dorado County to International Drive in Rancho Cordova. Within El Dorado County, it is a two-lane urban arterial road from the Sacramento County – El Dorado County line to Manchester Drive, a four-lane urban arterial between Manchester Drive and Post Street, and a two-lane urban arterial road between Post Street and Silva Valley Parkway. White Rock Road carries approximately 8,000 vehicles per day at the Sacramento County – El Dorado County Line and 17,000 vehicles per day just west (south) of the Silva Valley Parkway Interchange.

- **Investment Boulevard:** Is a two-lane local road, running east-west within the El Dorado Hills Business Park. It connects the eastern edge of the CCSP to Robert J. Mathews Parkway and Latrobe Road. Curb and gutter are provided. There are no bike lanes or sidewalks. Twenty-five-foot Lane widths are provided within the business park.

- **Robert J Mathews Parkway:** Is a two-lane local road, running north-south within the El Dorado Hills Business Park. It connects Investment Boulevard to Golden Foothill Parkway on the north. Curb and gutter are provided. There are no bike lanes or sidewalks. Twenty-five-foot Lane widths are provided within the business park. The Project includes an access connecting to Robert J Mathews Parkway, to encourage residents to walk and bike to the plethora of schools, gyms, service and retail businesses and to minimize local traffic's use of Latrobe Road.

- **Royal Oaks Drive:** is a two-lane collector road within the Blackstone neighborhood of the Valley View Specific Plan. It provides the southernmost access for Blackstone to Latrobe Road. Royal Oaks Drive includes class 2 bike lanes, curb and gutter, and sidewalks fronting developed parcels.

2.2 Transit Service

El Dorado Transit is the primary public transit service provider in El Dorado County and provides local transit services within and between community areas of the county including Placerville and

Cameron Park. Within the study area, El Dorado Transit provides commuter service connecting a park-and-ride lot, located at the intersection of Latrobe Road and White Rock Road, with downtown Sacramento employment ("Sac Commuter"), and several locations in Folsom including the Iron Point Light Rail Station, Ingersoll Way & Parker Drive, Intel, Kaiser Permanente, and Folsom Lake College ("50X – 50 Express"). Dial-a-ride services are also provided within many portions of El Dorado County, including El Dorado Hills. A transit map provided as **Figure 4** shows the Sac Commuter and 50X-50 Express service.

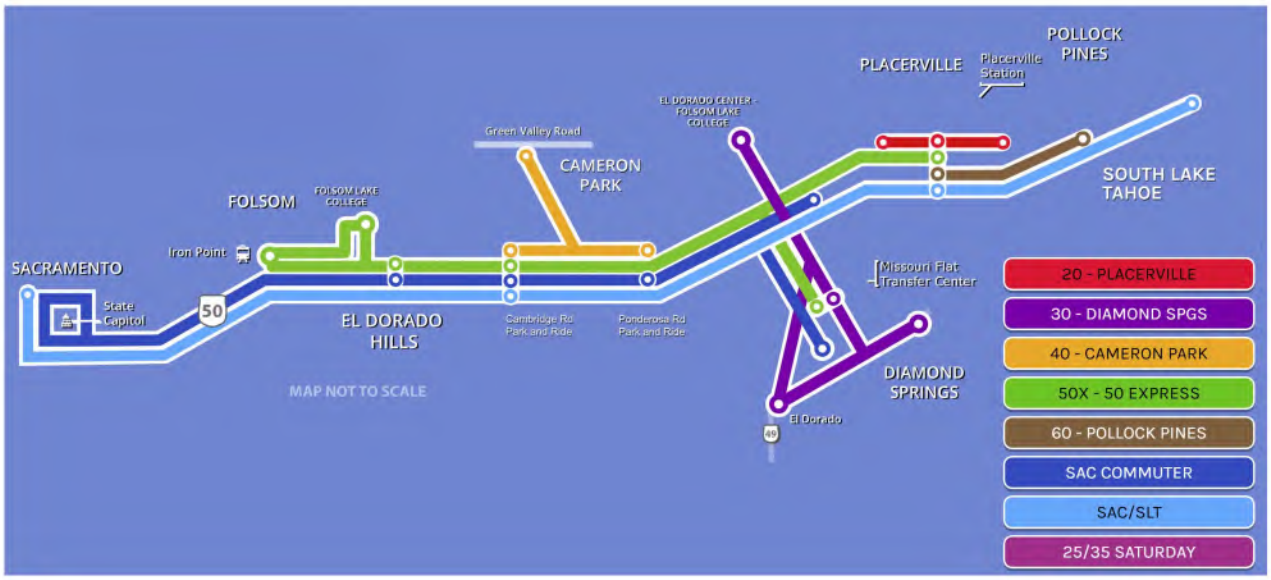


Figure 4. El Dorado County Transit Map

2.3 Bicycle Facilities

There are existing class II bike lanes along White Rock Road, Silva Valley Parkway, Latrobe Road, Valley View Parkway, and Blackstone Parkway. A class 1 bike trail fronts the east side of Latrobe Road within the Valley View Specific Plan area between Royal Oaks Drive and the El Dorado Irrigation water treatment plant (4625 Latrobe Road). A short section of Class I trail also connects the Carson Crossing specific plan area to the El Dorado Hills Business Park.

The 2020 Active Transportation Plan[2] calls for a pedestrian overcrossing of US 50 connecting Class 1 bike and pedestrian trails through the Town Center shopping district with the bike and pedestrian trails adjacent to the Raley's shopping center north of US 50. There are also plans for a class 1 shared use path along the Placerville & Sacramento Valley Railroad rail line running to the Southeast from the City of Folsom and skirting the southwestern edge of the Carson Creek Specific Plan area.

[2] El Dorado County Transportation Commission (2020) El Dorado County Active Transportation Plan, https://www.edctc.org/atp-plans.

2.4 Study Intersections and Segments

The following intersections are included in this evaluation and are marked in the preceding **Figure 3**:

1. El Dorado Hills Blvd/Serrano Pkwy
2. El Dorado Hills Blvd/Saratoga Way
3. El Dorado Hills Blvd/US 50 WB
4. El Dorado Hills Blvd/US 50 EB
5. Latrobe Road/Town Center Boulevard
6. Latrobe Road/White Rock Road
7. Latrobe Road/Golden Foothill Parkway (N)
8. Latrobe Road/Suncast Lane
9. Latrobe Road/ Golden Foothill Parkway (S)
10. Latrobe Road/Investment Boulevard
11. Latrobe Road/Avanti Drive
12. Latrobe Road/Royal Oaks Drive
13. Golden Foothill Pkwy/Robert J Mathews Pkwy
14. Investment Boulevard/Robert J Mathews Pkwy
15. Golden Foothill Parkway/Carson Crossing Road
16. Carson Crossing Road/Calypso Circle
17. Carson Crossing Road/Four Seasons Drive
18. White Rock Road/Carson Crossing Road
19. White Rock Road/Windfield Way
20. White Rock Road/Post Street
21. White Rock Road/Valley View Parkway
22. White Rock Road/Clarksville Crossing
23. Silva Valley Parkway/US 50 EB ramps
24. Silva Valley Parkway/US 50 WB ramps
25. (not used)[3]
26. Latrobe Road/Wetsel-Oviatt Road
27. Latrobe Road/South Shingle Road

Merge/diverge/weave analysis for traffic entering and exiting US 50 will be conducted on US 50 at the following locations:

<u>Westbound US 50</u>

1. Bass Lake Rd to Silva Valley Pkwy (basic)
2. Silva Valley Pkwy offramp (diverge)
3. Silva Valley Pkwy offramp to the (future) loop onramp (basic)
4. (Future) Silva Valley loop onramp (merge)
5. Silva Valley Pkwy slip onramp to El Dorado Hills Blvd offramp (weave)

[3] Intersection 25 represented a commercial driveway accessing Latrobe Road, just north of Royal Oaks Drive. The "Reduced Impact Alternative" described in this report eliminated the commercial land use and driveway, thus intersection 25 was removed.

6. El Dorado Hills Blvd offramp to onramp (basic)
7. El Dorado Hills Blvd onramp (merge)
8. El Dorado Hills Blvd to EDC line (basic)

Eastbound US 50

9. EDC line to Latrobe Rd (basic)
10. Latrobe Rd slip offramp (diverge)
11. Latrobe Rd loop offramp (diverge)
12. Latrobe Rd offramp to onramp (basic)
13. Latrobe Rd to Silva Valley Pkwy (weave)
14. Silva Valley Pkwy offramp to loop onramp (basic)
15. Silva Valley Pkwy onramp (merge)
16. (Future) Silva Valley slip onramp (merge)
17. Silva Valley Pkwy to Bass Lake Rd (basic)

Arterial segment analysis was conducted for the portion of Latrobe Road and White Rock Road:

i. Latrobe Rd between Royal Oaks Dr and Investment Blvd
ii. Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south)
iii. Latrobe Rd between Golden Foothill Pkwy (south) and Suncast Ln
iv. Latrobe Rd between White Rock Rd and Town Center Blvd
v. White Rock Rd between Valley View Pkwy to Silva Valley Pkwy

2.5 Study Scenarios

Six scenarios were identified for inclusion in this traffic impact study through consultation with the development team and El Dorado County staff. The study determines the weekday AM peak hour and PM peak hour level-of-service at the study intersections and segments under the following scenarios:

1. Existing 2023 (without Project);
2. Existing 2023 Plus Proposed Project;
3. Existing Plus Approved Projects (EPAP) 2033 (without project);
4. EPAP 2033 Plus Proposed Project;
5. Cumulative 2040 (without project); and
6. Cumulative 2040 Plus Proposed Project.

Existing 2023, and Existing 2023 Plus Proposed Project Scenarios

An analysis of the existing condition, which reflects the traffic volumes and roadway geometry at the time the study was initiated. This scenario is analyzed both with and without Project traffic to identify any Project related traffic deficiencies.

EPAP 2033, and EPAP 2033 Plus Proposed Project Scenarios

These scenarios, with and without the Project, will analyze conditions ten years from the current year calculated using a straight-line interpolation from existing traffic levels to the General Plan's 2040 traffic projections. These scenarios will expressly include an interpolated level of traffic from all projects with development agreements and approved tentative maps.

Cumulative 2040, and Cumulative 2040 Plus Proposed Scenarios

The Cumulative 2040 scenario reflects market rate buildout of the nearby specific plan areas and approved tentative maps in the El Dorado Hills area. This scenario was analyzed both with and without Project traffic to identify any Project related traffic deficiencies.

CEQA VMT analysis was performed for the existing and cumulative analysis scenarios.

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3.0 TRAFFIC IMPACT ANALYSIS METHODOLOGY

This section provides a process overview, discusses traffic forecasting, and describes the methods/criteria used to evaluate level-of-service. A discussion of the criteria for conformity with General Plan level-of-service policies is included. California Environmental Quality Act (CEQA) analysis of transportation is limited to vehicle miles of travel (VMT). A discussion of CEQA significance thresholds for VMT is also included.

3.1 Process Overview

The overall analysis process was structured to identify potential adverse Project traffic effects relative to either conformity to General Plan level-of-service policies, or CEQA VMT impacts.

- Traffic counts collected in 2023 were crosschecked against historic 2017 and 2018 counts. Counts reflect the 6-9 AM peak period and 4-7 PM peak period.
- Traffic volumes and turning movements for the Existing 2023 conditions were determined from traffic counts. Future-year volume forecasts were based on growth estimates from the El Dorado County travel demand mode (TDM)[4] applied to the observed count data. The NCHRP 255 procedure[5] was used to refine forecasted turning movements.
- Study intersections, arterial segments, and the US 50 segments were analyzed both with and without the proposed Project to identify potential Project impacts.
- General Plan level-of-service thresholds were based on El Dorado County General Plan, Transportation and Circulation Element policies TC-Xa (Measure Y and Measure E policies), TC-Xd and TC-Xe.
- CEQA thresholds of significance for VMT are based on guidance adopted by the Board of Supervisors on October 6, 2020.

3.2 Traffic Forecasting Methodology

The TDM catalog "EDC_CAT_082118" was used to generate existing and future traffic volume estimates for calculation of growth factors, and to estimate the distribution for trips generated by the Project. The TDM includes a 2018 baseline and 2040 cumulative scenario. Straight line interpolation was applied to estimate incremental growth from the base year through 2023, 2030, and 2040.

TDM Segment Level Calibration

The TDM was calibrated to local roadways by estimating and applying link level adjustment factors based on the difference between traffic counts and a 2023 TDM scenario. That calibration factor is applied to the 2023, 2033, and 2040 TDM results to improve the accuracy of the volume forecasts at each intersection. The NCHRP 255 process was used in combination with observed

[4] El Dorado Travel Demand Model version "EDC_CAT_082118".
[5] Transportation Research Board (1982) National Cooperative Highway Research Program Report 255, Washington D.C.; as cited by Transportation Research Board (2014) National Cooperative Highway Research Program Report 765, Washington D.C.

turning movements, and the calibrated 2020, 2030, and 2040 model volumes, to refine turning movements for no-Project conditions.

Baseline 2016 TDM Network

The TDM network within the Folsom Ranch area for the 2018 baseline model runs assumed that traffic crossing the El Dorado County Line on White Rock Road would use Scott Road (AKA East Bidwell Street) for US 50 access. Placerville Road and Alder Creek Parkway to East Bidwell Street provides a more direct path. This shorter route exists today and Folsom's General Plan update (adopted 8/28/2018) preserves that Placerville Road-Alder Creek Parkway route through the Folsom Plan Area. Therefore, these network links were connected and turned on for the baseline 2018 model runs.

2040 Traffic Forecasts and Interpolation of 2030 Link Volumes

Growth in traffic for the EPAP scenario was based on linear interpolation of segment volumes between the Baseline 2018 scenario (with the Saratoga Way extension), and a cumulative (2040) TDM scenario. Land use was checked to ensure that it reflected a reasonable degree of buildout of the nearby specific plan areas and to ensure that interpolation of that land use would account for all approved tentative maps in the El Dorado Hills area.

- The model reflects buildout of the Carson Creek Specific Plan housing. There are 1,700 age-restricted dwelling units currently allowed within the CCSP. Age restricted dwelling units have lower trip generation than traditional homes[6] and the TDM reflects this by coding the land use as a smaller number of traditional homes. The 1,700 age-restricted homes would be reflected as 765 traditional single-family homes in the TDM. The model includes 1,042 homes in the CCSP area (reflecting approximately 2315 age-restricted homes). The County's buildout estimate is conservatively high and was not adjusted.
- Buildout of the El Dorado Hills Specific Plan is included in the 2040 model land use.
- Buildout of Promontory is included in the 2040 model land use.
- Buildout of Valley View Specific Plan (VVSP) (Blackstone) White Rock Village and West Valley Village is included in the 2040 model land use.
- Bass Lake Hills is a little under 85% built out (1,217 DUs out of 1,448) by 2040. Based on the rate of buildout of the Bass Lake Hills Specific Plan area the assumption of 85% buildout appears conservative and was not increased.

The 2040 model network was also updated to include the Mangini Parkway connection between Placerville Road and East Bidwell Street in the Folsom Plan area.

3.3 Intersection Turn Movement Forecast Methodology

Directional link level volume estimates from the 2018 and 2040 TDM model forecasts were used to scale traffic counts using the NCHRP 255 methodology. The methodology was applied through

[6] Age restricted housing generates about 45% of the daily trips of traditional housing, 33% of the AM peak hour trips, and 30% of the PM peak hour trips (Source: ITE Trip Generation Manual, 11th edition).

the TurnsW32 v2.0 software[7]. TDM result plots are provided in **Appendix C**. The Furness reports for the AM and PM peak hour turn movement forecasts under EPAP 2033 and Cumulative 2040 conditions are provided in **Appendix D**.

3.4 VMT Modeling Methodology and CEQA Significance Thresholds

VMT was analyzed based on extracting information from an unmodified version of the El Dorado County TDM. Before discussing the specific approach, background information on how the El Dorado County TDM works is appropriate. The TDM is a traditional trip based four-step travel demand model (trip generation, distribution, mode choice and assignment) with a 2018 base year and 2040 horizon year. Trip productions and attractions are estimated at the transportation analysis zone (TAZ) level. Within developed portions of the County, TAZs are roughly neighborhood size areas for which population socioeconomic data is tabulated. (TAZs are larger in less populated rural portions of the County). Trips are estimated by trip purpose based on eight purposes:

- Home based work,
- Home based shop,
- Home based school,
- Home based other,
- Work other,
- Other-other,
- Commercial two axle, and
- Commercial 3+ axle

As trips are estimated and processed by the model, they are converted from productions and attractions by purpose to origins and destinations by class (single occupancy, shared ride, commercial two-axle and commercial three-plus-axle). Trips are then assigned to the network by class using the origin-destination data. Through trips are also assigned based on an external origin-destination table. Both the production-attraction and origin-destination data are preserved in large matrices which can be leveraged to disaggregate the model's VMT estimates into VMT by trip purpose for evaluating the residential portion of the Project.

There are 674 TAZs in the model (25 of which represent external gateways) connected by 7,171 road segments. Each TAZ is represented by a centroid corresponding to the approximate center of travel activity with the TAZ. Each road segment includes relevant characteristics (location, uncongested speed, number of lanes, capacity, etc.) that allow the model to estimate travel times as trips are assigned to the network. **Figure 5** depicts the model road network with dots reflecting the centroid of each TAZ and red dots reflecting the model gateways. TAZ 612 where the Project is located is represented by a red star. **Figure 6** then shows the shape and extent of TAZ's near the Project site, with TAZ 612 (where the Project is located) and adjacent residential TAZ's which are predominantly residential (167 and 611) labeled.

[7] Dowling Associates (2002), http://sites.kittelson.com/kittelsondownloads/Downloads/Download/12544.

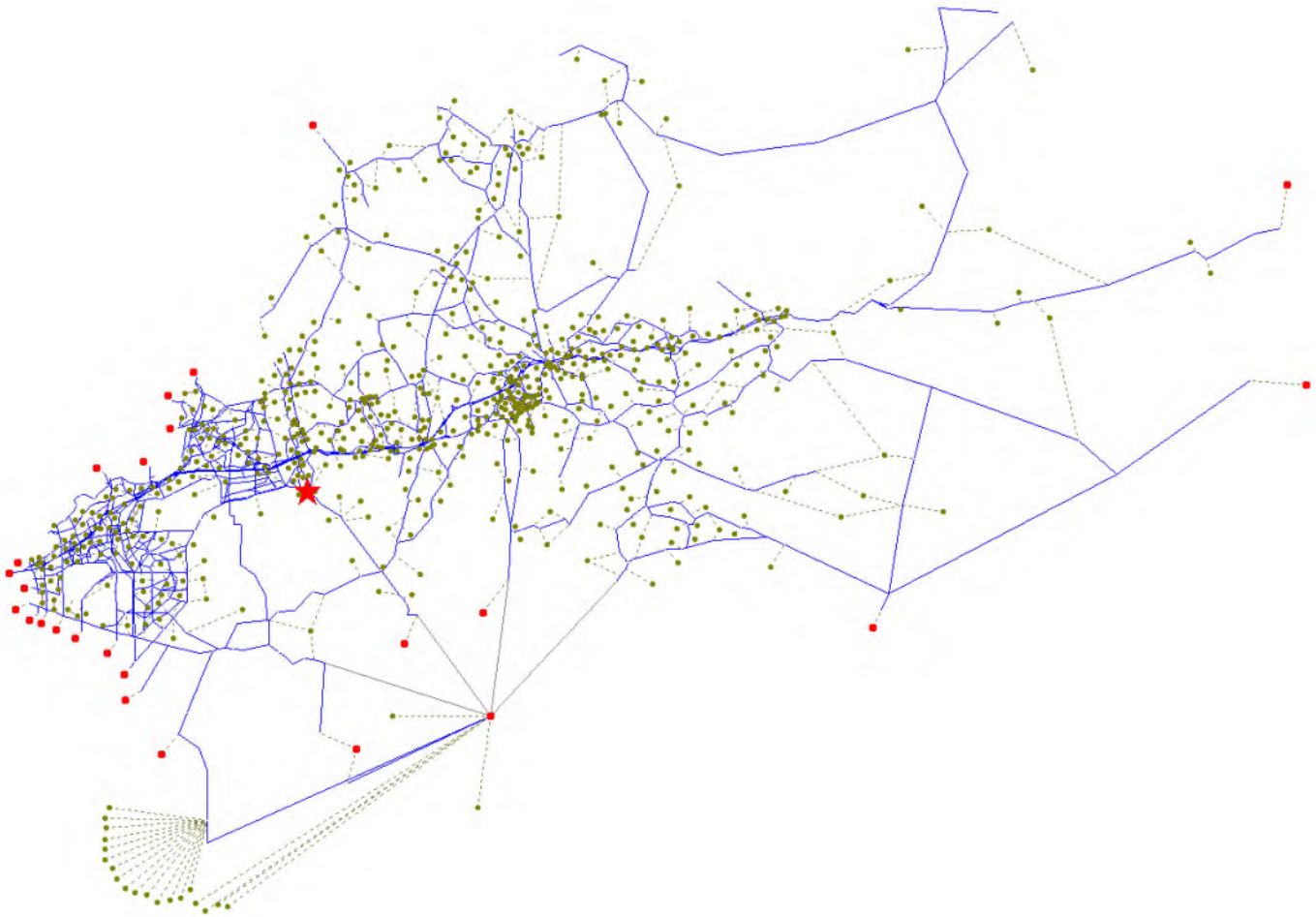


Figure 5. Travel demand model network and zone layout, Project TAZ (#612) shown as a star

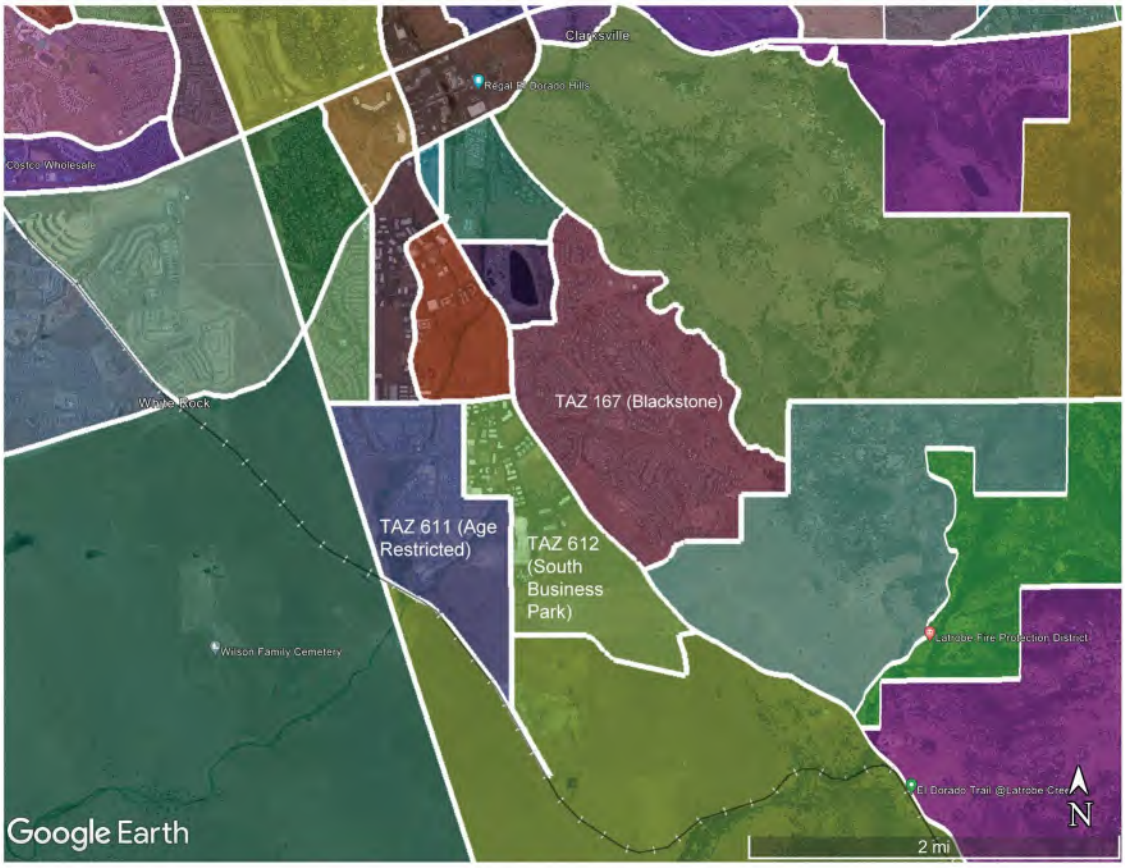


Figure 6. TAZ layout in the Project vicinity.

A three-step process for the baseline and cumulative analysis years was used to estimate per capita home based VMT.

Step 1. This step estimated TAZ[8]-to-TAZ distances from TDM skims, then combined those data with the number of TAZ-to-TAZ trips from the model's OD tables to estimate TAZ-to-TAZ VMT for drive along, shared ride, and commercial vehicles. Using the loaded networks accounts for any increases in trip distance that may result from congestion. In this step, model gateway trip lengths were adjusted based on **Table 1**. Those adjustments reflect the anticipated trip lengths for travel to/from El Dorado County from other parts of the region and state. This adjustment ensures that the TDM accounts for the full length of trips entering and exiting the County. The lengths for intrazonal trips (which have their origin and destination within the same TAZ) were estimated as half of the length of the

[8] TAZs are "transportation analysis zones", which are typically neighborhood size regions for which land use and demographic details, such as housing, employment, and population data are tabulated. The El Dorado County TDM has 674 TAZs.

TAZ's shortest centroid connector, which is the industry standard practice, and consistent with the County's VMT estimates.

Table 1. Average trip-length adjustments for TDM gateways

ID	Gateway Location	Average Additional Travel Distance (miles)	
		Internal to External (IX) Trips	External to Internal (XI) Trips
650	US 50 (to/from the west)	12.41	13.08
651	Dillard Rd	4.11	3.96
652	Sloughhouse Rd	0.00	0.00
653	Grant Line Rd/Sunrise Blvd	31.33	20.39
654	Excelsior Rd	11.07	10.38
655	Bradshaw Rd	11.32	8.80
656	Mayhew Rd	0.00	0.00
657	Jackson Rd (SR 16)	6.91	6.40
658	Local access between Bradshaw Rd and Excelsior Rd	0.00	0.00
659	Eagles Nest Rd	0.00	0.00
660	Folsom Blvd	7.73	7.19
661	Kiefer Blvd	8.88	8.54
662	Sunrise Blvd	5.47	6.14
663	Hazel Ave	8.16	5.41
664	Folsom Auburn Rd	10.17	12.66
665	Greenback Ln	5.43	5.17
666	Oak Ave	6.97	7.44
667	SR 49 (to/from the south)	0.00	0.00
668	Jackson Rd/Latrobe Rd/SR 49/Omo Ranch Rd	15.96	14.21
669	Jackson Rd	0.00	0.00
670	Latrobe Rd	0.00	0.00
671	SR 49 (to/from the north)	18.61	16.28
672	SR 88	0.00	0.00
673	N. South Rd	3.73	3.82
674	US 50 (to/from the east)	19.21	18.38

Note: Internal to External (IX) trips are trips that begin inside the El Dorado County model area and end outside. External to Internal (XI) trips are trips that begin outside the El Dorado County model area and end inside. Source: California Statewide Travel Demand Model.

Source: California Statewide Travel Demand Model as cited by Fehr and Peers in the Central El Dorado Hills Specific Plan VMT Analysis Memorandum dated January 5, 2021.

Step 2 This step estimated drive along, shared ride, and commercial vehicle trips by trip purpose from TDM trip production and attraction matrices. Then converted those data to the fraction of trip origins and destinations by trip purpose for each TAZ.

Step 3 The final step used the trip purpose data for each TAZ from task 2 to disaggregate the VMT data for each TAZ from task 1 into TAZ-to-TAZ VMT by trip purpose. Home based trips were assumed to consist of "home-based work", "home-based shop", "home-based school", "home-based other", and a portion of "other-other". Work-based trips were estimated as "work-other" and a portion of "other-other" trips. The other-other trips were allocated to the housing-based or work-based groups based on the ratio of home-other to work-other trips for each TAZ.

The resulting tables were summarized over unincorporated El Dorado County, and for TAZ 167 which was used as a surrogate for the Project[9]. TAZ 167 represents the Blackstone neighborhood across Latrobe Road from the Project. Blackstone was assumed to be the best available proxy for household size and income characteristics of the Project. It is likely a conservative comparison as the Project is envisioned to offer a wider variety of housing options with a diverse mix of housing styles and prices, where Blackstone was aimed at a higher income demographic. VMT per capita tends to increase as household income increases. The TDM is based in the CUBE software package by Bently Systems. Scripts used in each calculation step are provided **Appendix E**.

VMT Thresholds

The County's VMT thresholds set an identifiable metric by which the Project's effect on VMT will be determined to be significant or less-than-significant. Land use specific thresholds have been adopted as follows:

- Residential: 15% below baseline unincorporated countywide VMT per capita,
- Office: 15% below baseline unincorporated countywide VMT per capita,
- Retail: no net increase in VMT.

For Creekside Village, the residential use of the Project is evaluated based on the 15% reduction from baseline threshold listed above.

3.5 Level-of-Service Methodology

Level-of-service (LOS) is a qualitative indication of the level of delay and congestion experienced by motorists using an intersection. Levels-of-service are designated by the letters A through F, with "A" being the best conditions and "F" being the worst (high delay and congestion).

[9] Using a nearby TAZ as a surrogate avoids the need to artificially manipulate the socioeconomic distribution assumptions for the affected population. When a new TAZ is used, the distribution of socioeconomic characteristics for the households is copied and scaled from a similar nearby TAZ (i.e., TAZ 167). Using the existing TAZ as a surrogate maintains the County wide population and employment control totals that were adopted by the Board of Supervisors when the travel demand model and major TIF update are adopted. Artificially inflating the county wide population and employment can have nonsensical impacts on the resulting per capita VMT estimates.

Calculation methodologies, measures of performance, and thresholds for each letter grade differ for road segments, signalized intersections, and unsignalized intersections. LOS is analyzed only to demonstrate consistency with the General Plan. LOS is no longer the metric by which traffic impacts are analyzed for CEQA and the LOS discussion is not relevant to assessing impacts to the environment for purposes of CEQA.

Based on guidance from El Dorado County Community Development Agency staff, and the *County of El Dorado Department of Transportation – Traffic Impact Study Protocols and Procedures* (Dated November 2014), the following procedures described below for intersection traffic operations analysis were selected for this study.

Intersection Traffic Operations Analysis

Signalized Intersections

The methodology from Highway Capacity Manual (HCM) 7th Edition[10] are used to analyze signalized intersections. Level-of-service can be characterized for the entire intersection, each approach, or by lane group. Control delay alone (the weighted average delay for all vehicles entering the intersection) is used to characterize level-of-service for the entire intersection or an approach. Control delay and volume to capacity ratio are used to characterize level-of-service for lane groups. The average delay criteria used to determine the level-of-service at signalized intersections is presented in **Table 2**.

[10] TRB (2022) Highway Capacity Manual 7th Edition, Transportation Research Board, Washington D.C.

Table 2. Level-of-service criteria for signalized intersections

Level -of- Service	Description	Average Delay[1] (Sec. /Vehicle.)
A	Very Low Delay: This level-of-service occurs when progression is extremely favorable, and most vehicles arrive during a green phase. Most vehicles do not stop at all.	≤ 10.0
B	Minimal Delays: This level-of-service generally occurs with good progression, short cycle lengths, or both. More vehicles stop than at LOS A, causing higher levels of average delay.	10.1-20.0
C	Acceptable Delay: Delay increases due to only fair progression, longer cycle lengths, or both. Individual cycle failures (*to service all waiting vehicles*) may begin to appear at this level of service. The number of vehicles stopping is significant, though many still pass through the intersection without stopping.	20.1-35.0
D	Approaching Unstable/Tolerable Delays: The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	35.1-55.0
E	Unstable Operation/Significant Delays: This is considered by many agencies the upper limit of acceptable delays. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.	55.1-80.0
F	Excessive Delays: This level, considered to be unacceptable to most drivers, often occurs with oversaturation (i.e., when arrival flow rates exceed the capacity of the intersection). It may also occur at high v/c ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also contribute to such delay levels.	> 80.0 or v/c >1.0

Note 1: Weighted average of delay on all approaches. This is the measure used by the Highway Capacity Manual to determine level-of-service. Any movement with a volume to capacity ratio (v/c) greater than 1.0 is considered to be level-of-service "F".

Source: Transportation Research Board (2022) Highway Capacity Manual, 6th Edition, Washington D.C., Chapter 19;

Unsignalized Intersections

The methodology from HCM 7th Edition is used for the analysis of unsignalized intersections. For unsignalized intersections, most of the main street traffic is un-delayed, and, by definition, have acceptable conditions. The main street left-turn movements and the minor street movements are all susceptible to delay of varying degrees. Generally, the higher the main street traffic volumes, the higher the delay for the minor movements. Separate methods are utilized for two-way stop-controlled (TWSC) intersections, and all-way stop-controlled (AWSC) intersections.

- **TWSC**: The methodology for analysis of two-way stop-controlled intersections calculates an average total delay per vehicle for each minor street movement and for the major

street left-turn movements, based on the availability of adequate gaps in the main street through traffic. A level-of-service designation is assigned to individual movements or to combinations of movements (in the case of shared lanes) based upon delay, it is not defined for the intersection as a whole. Unsignalized intersection level-of-service reported herein is for each movement (or group of movements) based upon the respective average delay per vehicle. **Table 3** presents the average delay criteria used to determine the level-of-service at TWSC and at AWSC intersections.

- **AWSC:** At all-way stop-controlled intersections, the level-of-service is determined by the weighted average delay for all vehicles entering the intersection. The methodologies for these types of intersections calculate a single weighted average delay and level-of-service for the intersection, as a whole. The average delay criteria used to determine the level-of-service at all-way stop intersections is the same as that presented in **Table 3**. Level-of-service for specific movements can also be determined based on the TWSC methodology.

It is not unusual for some of the minor street movements at unsignalized intersections to have level-of-service D, E, or F conditions while the major street movements have level-of-service A, B, or C conditions. In such a case, the minor street traffic experiences delay that can be substantial for individual minor street vehicles, but the majority of vehicles using the intersection have very little delay. Usually in such cases, the minor street traffic volumes are relatively low. If the minor street volume is large enough, improvements to reduce the minor street delay may be justified, such as channelization, widening, roundabout, or signalization.

Table 3. Level-of-service criteria for unsignalized intersections

Level of Service (LOS)	Description	TWSC[1] Average Delay by Movement (seconds / vehicle)	AWSC[2] Intersection Wide Average Delay (seconds / vehicle)
A	Little or no delay	< 10	< 10
B	Short traffic delay	> 10 and < 15	> 10 and < 15
C	Average traffic delays	> 15 and < 25	> 15 and < 25
D	Long traffic delays	> 25 and < 35	> 25 and < 35
E	Very long traffic delays	> 35 and < 50	> 35 and < 50
F	Extreme delays potentially affecting other traffic movements in the intersection	> 50 (or, v/c >1.0)	> 50

Note 1: Two-way stop-control (TWSC) level-of-service is calculated separately for each minor street movement (or shared movement) as well as major street left turns using these criteria. Any movement with a volume to capacity ratio (v/c) greater than 1.0 is considered to be level-of-service F.

Note 2: All-way stop-control (AWSC) assessment of level-of-service at the approach and intersection levels is based solely on control delay.

Source: Transportation Research Board (2022) Highway Capacity Manual, 7th Edition, Washington D.C., Chapter 20 (TWSC) and Chapter 21 (AWSC).

Signal Warrants

At each unsignalized intersection, the potential need for a traffic signal was evaluated. Traffic signal warrants are a series of standards that provide guidelines for determining if a traffic signal is appropriate. Signal warrant analyses are typically conducted at intersections of uncontrolled major streets and stop sign-controlled minor streets. If one or more signal warrants are met, signalization of the intersection may be appropriate. However, a signal should not be installed if none of the warrants are met, since the installation of signals would increase delays on the previously uncontrolled major street and may increase the occurrence of particular types of accidents.

As stated in revision 8 of the 2014 California Edition of the Manual on Uniform Traffic Control Devices (California MUTCD 2014)[11], "*The investigation of the need for a traffic control signal shall include an analysis of factors related to the existing operation and safety at the study location and the potential to improve these conditions, and the applicable factors contained in the following traffic signal warrants:*

- *Warrant 1, Eight-Hour Vehicular Volume*
- *Warrant 2, Four-Hour Vehicular Volume*
- *Warrant 3, Peak Hour*
- *Warrant 4, Pedestrian Volume*
- *Warrant 5, School Crossing*
- *Warrant 6, Coordinated Signal System*
- *Warrant 7, Crash Experience*
- *Warrant 8, Roadway Network*
- *Warrant 9, Intersection Near a Grade Crossing*

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal."

Consistent with the industry standard of practice, this Traffic Impact Analysis did not evaluate the full panoply of warrants for traffic signals, but instead focused on the peak hour warrant. The MUTCD states that, "*This [peak hour] signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.*" So, the peak hour warrant is being used in this impact analysis study as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed the peak hour warrant are considered (for the purposes of this impact analysis) to be likely to meet one or more of the other signal warrants (such as the 4-hour or 8-hour warrants). This peak hour analysis is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction.

[11] Caltrans (2024) California Manual on Uniform Traffic Control Devices - FHWA's MUTCD 2009 Edition as amended for use in California - 2014 Edition - Revision 8, January 11, 2024. Section 4C.

Unsignalized intersections were evaluated using the Peak Hour Volume Warrant (Warrant No. 3) in the California MUTCD 2014. The Peak Hour Volume Warrant was applied where the minor street experiences long delays in entering or crossing the major street for at least one hour in a day.

Even if the Peak Hour Volume Warrant is met, a more detailed signal warrant study is recommended before a signal is installed. The more detailed study should consider volumes during the daily peak hours of roadway traffic, pedestrian traffic, and accident histories.

El Dorado County Roadway Segments

Several methods are available to evaluate roadway segments. The methodology selected for this analysis was chosen to be consistent with the 2014 El Dorado County Transportation Impact Study Guidelines.

Table 1 of that document contains the maximum flow rates for each level-of-service grade as a function of roadway classification. Those level-of-service criteria are shown in **Table 4**.

Table 4. Level-of-service criteria for county roadway segments

		HCM 2010 Planning Level Volumes[1]				
Code	**Functional Class Codes (Updated to HCM 2010)**	**A**	**B**	**C**	**D**	**E**
2A	Two-Lane Arterial	-	-	850	1,540	1,650
4AU	Four-Lane Arterial, Undivided	-	-	1,760	3,070	3,130
4AD	Four-Lane Arterial, Divided	-	-	1,850	3,220	3,290
6AD	Six-Lane Arterial, Divided	-	-	2,760	4,680	4,710
4M	Four-Lane Multi-Highway (Two Dir.)	-	2,240	3,230	4,250	4,970
2F	Two Freeway Lanes (One Dir.)	-	2,070	2,880	3,590	4,150
2FA	Two Freeway Lanes + Auxiliary Lane (One Dir.)	-	2,610	3,630	4,520	5,230
3F	Three Freeway Lanes (One Dir.)	-	3,100	4,320	5,380	6,230
3FA	Three Freeway Lanes + Auxiliary Lane (One Dir.)	-	3,640	5,070	6,320	7,310
4F	Four Freeway Lanes (One Dir.)	-	4,140	5,760	7,180	8,310

1 *Freeway LOS based on HCM 2010, Exhibit 10-8, Urban Area, Rolling Terrain, K-factor of 0.09, and D-factor of 0.60*

2-lane highway (and arterial 2-lane) LOS based on HCM 2010, Exhibit 15-30, Class II Rolling, .09 K-factor, and D-factor of 0.6

Arterial LOS based on HCM 2010, Exhibit 16-14, K-factor of 0.09, posted speed 45 mi/h

Volumes are for both directions unless noted

Caltrans Merge/Diverge/Weave Level-of-Service Analysis

Freeway merge/diverge segments, basic segments, and weaving segments were analyzed utilizing the methodologies outlined in Chapters 12-14 of the Highway Capacity Manual, 7th Edition (HCM 2016)[12]. Freeway operations and level-of-service is defined by density (passenger cars per mile per lane) which depends upon traffic volumes and the ramp characteristics. These characteristics include the length and type of acceleration/deceleration lanes; free-flow speeds; number of lanes;

[12] Transportation Research Board (2022) Highway Capacity Manual, 7th Edition, Washington, D.C.

grade; and types of facilities. **Table 5** through **Table 7** shows the relationship of level-of-service to freeway density. Note that the Leisch Method[13], which Caltrans prefers for weaving segments, was not applied because the State of California no longer considers level-of-service under CEQA, and the Leisch Method is not relevant to adopted General Plan policies.

Table 5. Level-of-Service Criteria – Basic freeway segment

Level of Service	Maximum Density (passenger vehicles per mile per lane)
A	0-11
B	>11-18
C	>18-26
D	>26-35
E	>35-45
F	>45, or demand exceeds capacity

Source: Transportation Research Board (2022) Highway Capacity Manual, Chapters 12, Washington, D.C.

Table 6. Level-of-Service Criteria - Freeway ramp merge/diverge areas

Level of Service	Maximum Density (passenger vehicles per mile per lane)
A	0-10
B	>10-20
C	>20-28
D	>28-35
E	> 35
F	Demand exceeds capacity

Source: Transportation Research Board (2022) Highway Capacity Manual, Chapters 14, Washington, D.C.

Table 7. Level-of-service criteria - freeway weaving areas

Level of Service	Maximum Density (passenger vehicles per mile per lane)
A	0-10
B	>10-20
C	>20-28
D	>28-35
E	> 35-43
F	>43, or demand exceeds capacity

Source: Transportation Research Board (2022) Highway Capacity Manual, Chapters 13, Washington, D.C.

[13] Caltrans (2012) Highway Design Manual, Index 504.7

3.6 General Plan Level-of-Service Standards

Conformity to General Plan level-of-service policies for the Project were determined based on the methods described above and identified as "deficient" in accordance with El Dorado County protocols and procedures[14] . Level-of-service is only applicable to General Plan conformity. Delay and level-of-service is not a significant impact under CEQA.

General Plan Circulation Policy TC-Xd provides that level-of-service for county-maintained roads and state highways within the unincorporated areas of the county shall not be worse than level-of-service E in the community regions or level-of-service D in the rural centers and rural regions, unless specifically exempted as shown in **Table 8**.

Table 8. General plan exceptions to level-of-service standards

El Dorado County Roads Allowed to Operate at Level-of-Service F[a] (Through December 31, 2029)		
Road Segments		**Max. v/c[b]**
Cambridge Road	Country Club Drive to Oxford Road	1.07
Cameron Park Drive	Robin Lane to Coach Lane	1.11
Missouri Flat Road	US 50 to Mother Lode Drive	1.12
	Mother Lode Drive to China Garden Road	1.20
Pleasant Valley Road	El Dorado Road to State Route 49	1.28
US 50	Canal Street to junction of State Route 49 (Spring Street)	1.25
	Junction of State Route 49 (Spring Street) to Coloma Street	1.59
	Coloma Street to Bedford Avenue	1.61
	Bedford Avenue to beginning of freeway	1.73
	Beginning of freeway to Washington overhead	1.16
	Ice House Road to Echo Lake	1.16
State Route 49	Pacific/Sacramento Street to new four-lane section	1.31
	US 50 to State Route 193	1.32
	State Route 193 to county line	1.51

Note a: Roads improved to their maximum width given right-of-way and physical limitations
Note b: Volume-to-capacity ratio.
Source: 2004 General Plan (amended January 2009) Table TC-2

All but two study intersections are within the El Dorado Hills community region and shall operate at level-of-service E or better. Intersection #22 (White Rock Rd/Clarksville Crossing) and #23 (White Rock Road/US 50 EB) are outside of the community region and shall operate at level-of-service D or better. If a project causes the peak hour level-of-service or volume/capacity ratio on a county road or state highway that would otherwise meet the county standards (without the project) to exceed the values listed in the above tables and text, then the impact shall be considered significant. Because this Traffic Impact Analysis is not a CEQA document, facilities and intersections will be noted as having deficient level-of-service rather than an impact.

If any county road or state highway fails to meet the above listed county standards for peak hour level-of-service or volume/capacity ratios under without Project conditions, and the Project will

[14] Traffic Impact Study Protocols and Procedures, County of El Dorado, Department of Transportation, 2008.

"significantly worsen" conditions on the road or highway, then the impact shall be considered significant. The term, "significantly worsen" is defined for the purpose of this paragraph according to General Plan Policy TC-Xe as follows:

A. A two percent increase in traffic during the AM peak hour, PM peak hour, or daily; or,

B. The addition of 100 or more daily trips; or,

C. The addition of 10 or more trips during the AM peak hour or the PM peak hour.

Though not explicitly stated in the General Plan policies, 95% left turn queues that exceed available storage lengths are considered to operate deficiently. The highway capacity manual calculations assume that left turn queues do not typically spill out of turn pockets to block through traffic. In keeping with the state of the practice, where the Project adds less than one car length (25 feet) to 95% left turn queues that exceed available storage, that addition is considered to de minimis.

3.7 Analysis Tools

El Dorado County Travel Demand Model (TDM)

As noted in prior sections, The El Dorado County Travel Demand Model (version EDC_CAT_082118) was utilized to estimate VMT and forecast growth in traffic volumes on study area roadways.

NCHRP 255 Adjustment

The NCHRP 255[15] adjustment procedure was used to improve turning movement forecasts for EPAP 2030 and Cumulative 2040 conditions.

Macroscopic Intersection Analysis

Control delay and level-of-service for study intersections were calculated using PTV Vistro[16] traffic analysis software (Version 2024, SP 0-2). Vistro is a complete traffic analysis software package used for evaluating development impacts, optimizing traffic signal timings, and evaluating intersection levels of service. It implements the methodologies of the HCM 2000, 2010, and 6th Ed. for signalized and unsignalized intersections, and requires data on road characteristics (geometric), traffic counts, and the signal timing data for each analysis intersection.

When calculating intersection control delay and level-of-service for all study intersections, default parameters were used, except for locations where specific field data were available (e.g., peak-hour factors). Heavy vehicle percentages during the peak-hour of 2% were assumed.

[15] Transportation Research Board (1982) National Cooperative Highway Research Program Report 255, Washington D.C.
[16] PTV Vistro (2017), Portland OR.

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4.0 EXISTING (2023) CONDITIONS

4.1 Data Sources

The analysis tools require a variety of data to generate the evaluation criteria. The following sections describe data collection procedures for Existing Conditions. There were three primary data elements (roadway characteristics, intersection turning movement counts, and traffic control data); and two supplementary elements (other recent studies, and field data) that comprised the data collection program for this traffic analysis.

Roadway Geometry and Usage Characteristics

The geometry and usage data for the analysis were collected using aerial photographs, field visits, and prior studies. Current intersection geometry was field validated. **Table 9** shows the key items included in the geometric data and the source for each item.

Table 9. Key items and sources for geometry and usage data

Key Item	Source
Lane configurations & width	Aerial photographs and field visits
Lane utilization	Prior studies, aerial photographs, and field visits
Intersection spacing	Aerial photographs and field visits
Length of storage bays	Aerial photographs and field visits
Transit stops and routes	Transit schedules, aerial photographs, and field visits
Turn prohibitions or allowance	Aerial photographs and field visits
Right Turn on Red (RTOR)	Turn movement counts
Signal timing	Timing sheets provided by El Dorado County

Lane configurations and width – These data specify the number of lanes and the width of the roadway in each direction, and the directional turns that are allowed from each lane.

Lane utilization – These data specify how lanes are used by drivers, such as traffic distribution between lanes on a multi-lane roadway.

Intersection spacing – These data refer to the distance between intersections, which is recorded in feet.

Length of storage bays – These data refer to the length (feet) of available storage for left- or right-turning vehicles where exclusive turn lanes are available. These data are collected for right-turn lanes when the parking lane is used as a right- turn lane.

Transit stops and routes – A transit stop is an area where passengers await, board, alight, and transfer between transit vehicles. A transit route is the roadway that transit vehicles operate on.

Turn prohibitions or allowance – This data specifies if right turns on red (RTOR) are allowed on the roadway.

Right Turn on Red – Volumes making a right turn on red were based on observed traffic counts.

Intersection Turning Movement Counts

Existing morning and evening peak-period vehicle and pedestrian turning movement counts collected in April 2023 were used for this study. Historic 2017 and 2018 counts were also used as a "floor" to ensure that there were no COVID related reductions in the 2023 counts. Traffic count data sheets are provided in **Appendix A** of this report. Traffic volumes between intersections were balanced where differences could not reasonably be attributed to a vehicle platoon being held at one of the lights, driveway access between intersections, or shifts in the time of the peak hour from one intersection to another. All balancing was done by adding vehicle trips to the 2023 turning movements. Observed intersection peak hour factors (PHF) were applied. **Figure 7** provides a summary of the intersection lane geometry and peak period turning movements under Existing 2023 conditions.

Segment Counts

Turning movement counts can significantly overstate segment volumes. The practice of balancing traffic flows between adjacent intersections when counts may have been collected on different days and/or the corresponding intersections experience slightly different peak-hours can make those counts too conservative to apply to the segments.

Segment counts collected by El Dorado County on multiple days in 2023 and the development team were used to analyze road segments. Segment counts are summarized in **Table 12** below. Raw count data can be found in **Appendix A.**

4.2 Existing Condition Intersection and Segment Level-of-Service

Table 10 through **Table 12** present a summary of level-of-service results for the study intersections and segments under Existing 2023 conditions. Intersection control is listed as signal, two-way stop-controlled (TWSC), or all-way stop-control (AWSC). Both the estimated delay and level-of-service (LOS) are provided. At TWSC intersections, the movement with the worst delay is shown in parentheses. Ninety-fifth percentile left turn queues are also listed. Entries shown in **bold black** typeface denote deficient traffic operations, and unsignalized intersections that meet the peak hour signal warrant are denoted with an asterisk and shading.

The results indicate thirteen study intersections operate deficiently with level-of-service F conditions and/or 95% left turn queues that exceed available storage lengths.

- (1) El Dorado Hills Blvd/Serrano Pkwy AM;
- (2) El Dorado Hills Blvd/Saratoga Way: AM and PM;
- (3) El Dorado Hills Blvd/US 50 WB AM and PM;
- (5) Latrobe Road/Town Center Boulevard: PM;
- (6) Latrobe Road/White Rock Road AM and PM;
- (7) Latrobe Road/Golden Foothill Parkway (N): PM;
- (8) Latrobe Rd/Suncast Ln PM;
- (9) Latrobe Road/ Golden Foothill Parkway (S): AM and PM;
- (10) Latrobe Road/Investment Boulevard: PM;
- (13) Golden Foothill Parkway (S)/Robert J. Mathews Pkwy PM;
- (19) White Rock Road/Windfield Way AM and PM;

- (20) White Rock Road/Post Street: AM and PM; and
- (21) White Rock Road/Valley View Parkway: AM and PM.

Calculation sheets for delay and level-of-service are provided in **Appendix B**. The remainder of the study intersections, all of the US 50 study segments, and arterial study segments were found to operate acceptably.

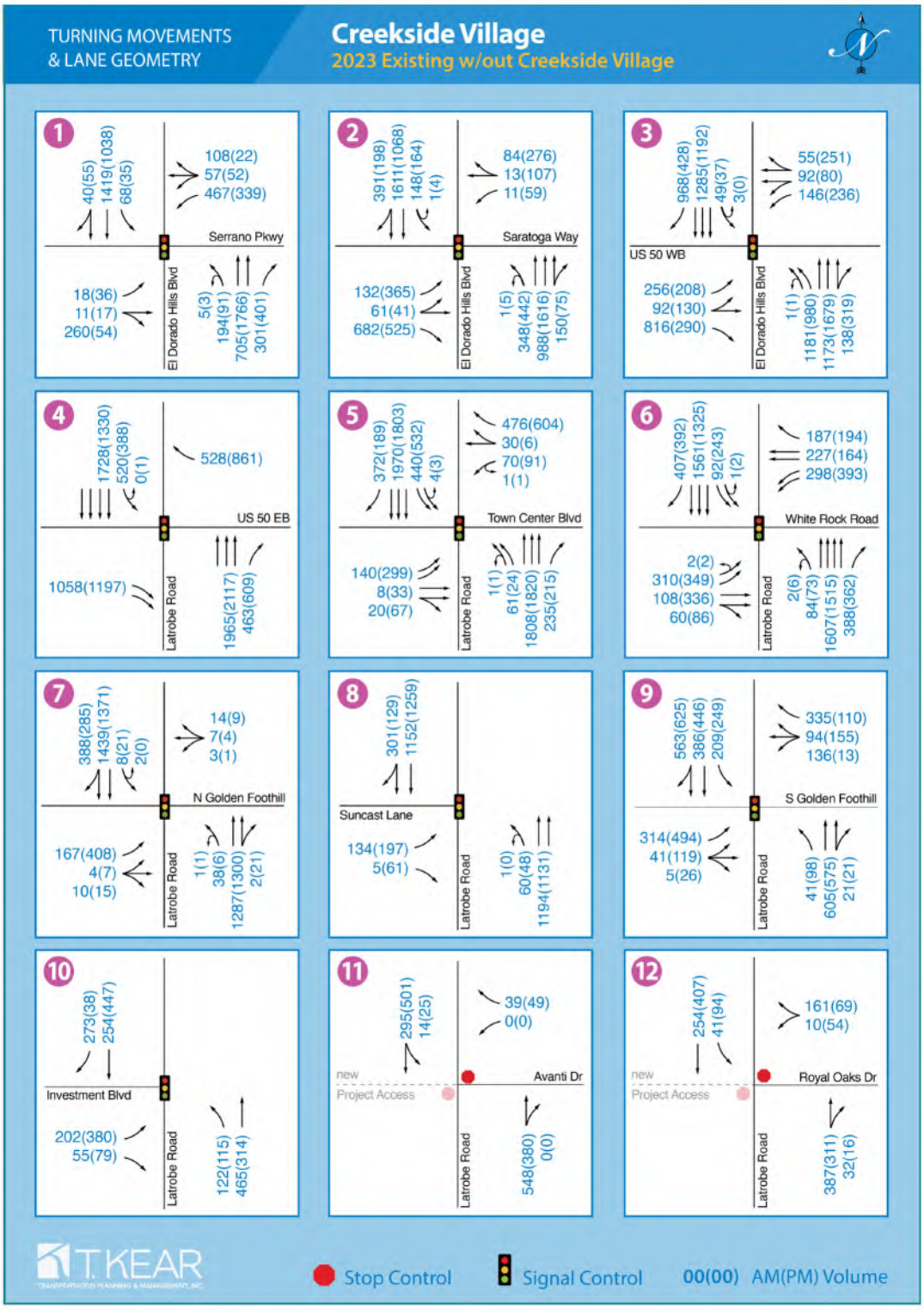


Figure 7. Existing 2023 conditions lane geometry and turning movements

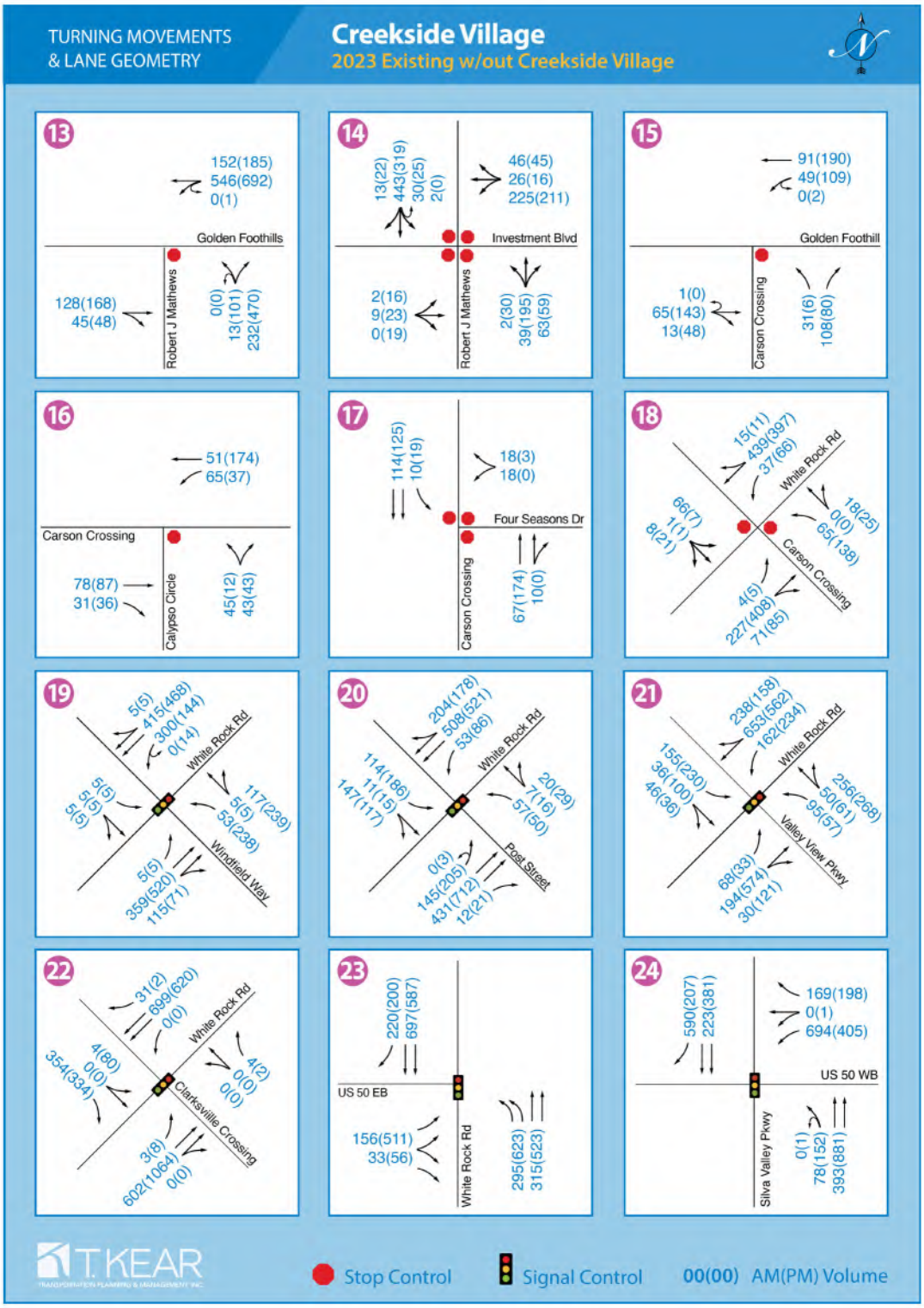


Figure 7. Existing 2023 conditions lane geometry and turning movements (continued)

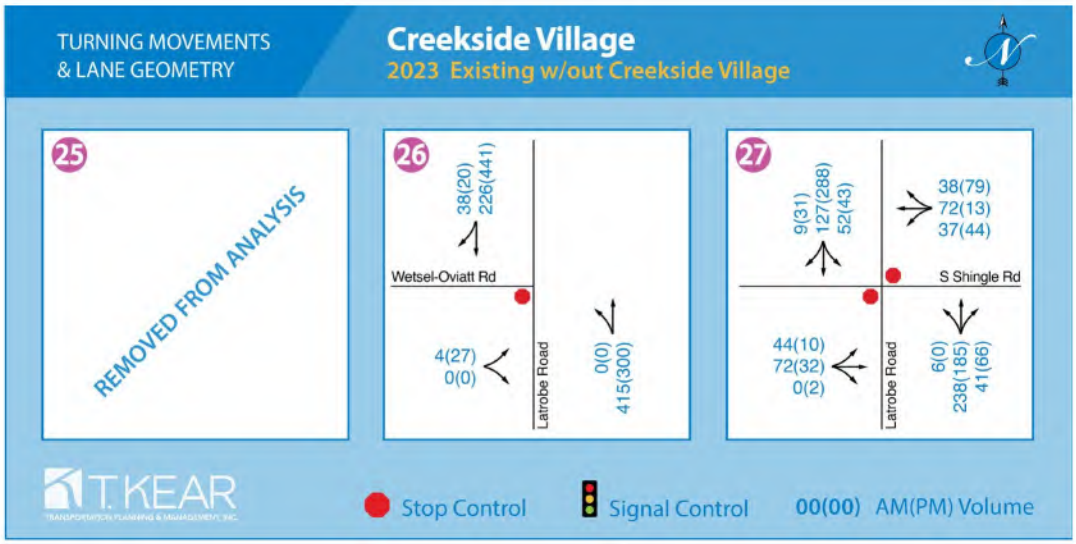


Figure 7. Existing 2023 conditions lane geometry and turning movements (continued)

Table 10. Existing 2023 intersection delay and level-of-service without the Project

ID	Intersection	Control	Left Turn Storage	2023 AM Peak No Project				2023 PM Peak No Project			
				Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)
1	El Dorado Hills Blvd/Serrano Pkwy	Signal	NB 260 SB 110 EB 100 WB 430	**112.9**	**F**	NB SB EB WB	**296** 110 25 423	46.8	D	NB SB EB WB	91 38 34 197
2	El Dorado Hills Blvd/Saratoga Way	Signal	NB 230 SB 100 EB 150 WB N/A	**147.8**	**F**	NB SB EB WB	**712** **202** 116 N/A	**107.8**	**F**	NB SB EB WB	**1334** **252** **290** N/A
3	El Dorado Hills Blvd/US 50 WB (Note EBL queueing reported even though there is not a left-turn pocket, it is 250' to end of right-turn pocket.)	Signal	NB N/A SB 220 EB N/A WB 150	**94.1**	**F**	NB SB EB WB	N/A 95 262 **175**	47.9	D	NB SB EB WB	N/A 68 297 **277**
4	El Dorado Hills Blvd/US 50 EB (Note: EB and WB right queue reported as EB and WB. EB slip offramp is 1725 feet long)	Signal	NB N/A SB 570 EB N/A WB N/A	23.0	C	NB SB EB WB	N/A 363 271 0	22.8	C	NB SB EB WB	N/A 298 445 0
5	Latrobe Road/Town Center Boulevard	Signal	NB 220 SB 330 EB 300 WB 100	21.1	C	NB SB EB WB	29 198 65 59	38.1	D	NB SB EB WB	13 **472** 156 86
6	Latrobe Road/White Rock Road	Signal	NB 270 SB 260 EB 360 WB 160	33.0	C	NB SB EB WB	172 86 275 **266**	51.0	D	NB SB EB WB	157 227 306 **507**
7	Latrobe Road/Golden Foothill Parkway (N)	Signal	NB 200 SB 200 EB 100 WB N/A	20.9	C	NB SB EB WB	35 11 79 N/A	20.9	C	NB SB EB WB	7 24 **180** N/A
8	Latrobe Road/Suncast Lane	Signal	NB 280 SB N/A EB 100	9.3	A	NB SB EB	39 N/A 91	10.8	B	NB SB EB	32 N/A **127**
9	Latrobe Road/ Golden Foothill Parkway (S)	Signal	NB 220 SB 530 EB 100 WB N/A	26.0	C	NB SB EB WB	32 157 **130** N/A	37.5	D	NB SB EB WB	86 253 **309** N/A
10	Latrobe Road/Investment Boulevard	Signal	NB 180 SB N/A EB 100	10.8	B	NB SB EB	35 N/A 68	18.0	B	NB SB EB	66 N/A **232**
11	Latrobe Road/Avanti Drive	TWSC	NB N/A SB N/A EB N/A WB N/A	(WB) 12.7	B	NB SB EB WB	N/A N/A N/A N/A	(WB) 11.1	B	NB SB EB WB	N/A N/A N/A N/A
12	Latrobe Road/Royal Oaks Drive	TWSC	NB 320 SB 320 EB N/A WB N/A	(WB) 14.0	B	NB SB EB WB	0 4 N/A N/A	(WB) 21.8	C	NB SB EB WB	0 7 N/A N/A
13	Golden Foothill Pkwy/Robert J. Mathews Pkwy	TWSC	NB N/A SB N/A EB N/A WB N/A	(NB) 18.3	C	NB SB EB WB	N/A N/A N/A N/A	**(NB) 2479.7 ***	**F**	NB SB EB WB	N/A N/A N/A N/A

Table 10. Existing 2023 intersection delay and level-of-service without the Project (continued)

ID	Intersection	Control	Left Turn Storage		2023 AM Peak No Project				2023 PM Peak No Project			
					Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)
14	Investment Boulevard/Robert J. Mathews Pkwy	AWSC	NB	N/A	25.0	C	NB	N/A	19.6	C	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A
15	Golden Foothill Parkway/Carson Crossing Road	TWSC	NB	N/A	(NBL) 10.5	B	NB	N/A	(NBL) 14.8	B	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
			WB	220			WB	3			WB	8
16	Carson Crossing Road/Calypso Circle	TWSC	NB	N/A	(NB) 10.2	B	NB	N/A	(NB) 9.5	A	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
			WB	190			WB	4			WB	2
17	Carson Crossing Road/4 Seasons Drive	AWSC	NB	N/A	7.9	A	NB	N/A	8.1	A	NB	N/A
			SB	100			SB	1			SB	2
			WB	N/A			WB	N/A			WB	N/A
18	White Rock Road/Carson Crossing Road	TWSC	NB		(NBL) 22.0	C	NB	N/A	**(NBL) 69.3**	**F**	NB	N/A
			SB				SB	N/A			SB	N/A
			EB				EB	0			EB	0
			WB				WB	2			WB	5
19	White Rock Road/Windfield Way	Signal	NB	150	25.8	C	NB	80	29.1	C	NB	**331**
			SB	100			SB	10			SB	10
			EB	200			EB	10			EB	10
			WB	200			WB	**363**			WB	**222**
20	White Rock Road/Post Street	Signal	NB	N/A	39.2	D	NB	N/A	70.4	E	NB	N/A
			SB	100			SB	**319**			SB	**683**
			EB	100			EB	**245**			EB	**327**
			WB	120			WB	99			WB	**158**
21	White Rock Road/Valley View Parkway	Signal	NB	100	75.0	E	NB	**106**	54.2	D	NB	70
			SB	100			SB	206			SB	**304**
			EB	100			EB	92			EB	50
			WB	100			WB	**206**			WB	**321**
22	White Rock Road/Clarksville Crossing	Signal	NB	N/A	25.8	C	NB	N/A	29.1	C	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	460			EB	6			EB	10
			WB	290			WB	0			WB	0
23	Silva Valley Parkway/US 50 EB ramps	Signal	NB	500	16.9	B	NB	172	31.7	C	NB	316
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A
24	Silva Valley Parkway/US 50 WB ramps	Signal	NB	550	34.2	C	NB	98	19.3	B	NB	192
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A
25	not used				not used							
26	Latrobe Road/Wetsel-Oviatt Road	TWSC	NB	150	(EB) 13.5	B	NB	N/A	(EB) 15.2	C	NB	N/A
			SB	100			SB	N/A			SB	N/A
			EB	200			EB	N/A			EB	N/A
			WB	200								
27	Latrobe Road/S. Shingle Road	TWSC	NB	N/A	(EB) 18.1	C	NB	N/A	(EB) 16.4	C	NB	N/A
			SB	100			SB	N/A			SB	N/A
			EB	100			EB	N/A			EB	N/A
			WB	120			WB	N/A			WB	N/A

* Denotes intersections where the peak-hour signal warrant is met.

Table 11. Existing 2023 freeway facility density and level-of-service without the Project

No	Segment	Segment Type	Method	2023 No Project AM	2023 No Project PM
Westbound US 50					
1	Bass Lake Rd to Silva Valley Pkwy	basic	HCM 7th Ed.	22.1/C	16.8/B
2	Silva Valley offramp	diverge	HCM 7th Ed.	18.7/B	13.2/B
3	Silva Valley offramp to future loop onramp	basic	HCM 7th Ed.	15.2/B	12.6/B
4	Future Silva Valley loop onramp	merge	HCM 7th Ed.	n/a	n/a
5	Silva Valley Pkwy to Latrobe Rd	weave	HCM 7th Ed.	15.1/B	11.1/B
6	El Dorado Hills Blvd offramp to onramp	basic	HCM 7th Ed.	11.8/B	10.8/A
7	El Dorado Hills Blvd onramp	merge	HCM 7th Ed.	28.4/D	22.9/C
8	El Dorado Hills Blvd to EDC Line *	basic	HCM 7th Ed.	29.5/D	21.9/B
Eastbound US 50					
9	EDC Line to Latrobe Rd	basic	HCM 7th Ed.	10.9/A	18.4/C
10	Latrobe slip offramp	diverge	HCM 7th Ed.	20.8/C	29.6/D
11	Latrobe loop offramp	diverge		20.0/C	28.8/D
12	El Dorado Hills Blvd offramp to Latrobe Rd onramp	basic	HCM 7th Ed.	3.7/A	8.8/A
13	Latrobe Rd onramp to Silva Valley Pkwy offramp	weave	HCM 7th Ed.	7.2/A	11.8/B
14	Silva Valley Pkwy offramp to onramp	basic	HCM 7th Ed.	7.3/A	10.7/A
15	Silva Valley Pkwy onramp	merge	HCM 7th Ed.	13.8/B	19./B
16	Future Silva Valley Pkwy slip onramp	merge	HCM 7th Ed.	n/a	n/a
17	Silva Valley Pkwy to Bass Lake Rd	basic	HCM 7th Ed.	9.7/A	14.5/B

Density in units of passenger cars per mile per lane.

*Prior to the opening of the Saratoga Way extension, Caltrans has reported occasional LOS F conditions during the morning peak for this segment based on planning methods rather than counts.

Table 12. Existing 2023 arterial level-of-service check without the Project

Arterial Segment	**Description (and level-of-service E threshold)**	**2023 AM No Project** (vehicle trips)	**2023 PM No Project** (vehicle trips)
Latrobe Rd between Royal Oaks Dr and Investment Blvd	2-lane arterial (threshold 1650 vehicle trips)	593 (Better than LOS E)	655 (Better than LOS E)
Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south)	2-lane arterial (threshold 1650 vehicle trips)	1015 (Better than LOS E)	932 (Better than LOS E)
Latrobe Rd between Golden Foothill Pkwy (south) and Suncast Ln)	4-lane divided arterial (threshold 3290 vehicle trips)	1998 (Better than LOS E)	2030 (Better than LOS E)
Latrobe Rd between White Rock Rd and Town Center Blvd	8-lane divided arterial (threshold 6280 vehicle trips, extrapolated from 6-lane divided arterial)	2931 (Better than LOS E)	3018 (Better than LOS E)
White Rock Rd between Valley View Pkwy to Silva Valley Pkwy	2-lane arterial (threshold 1650 vehicle trips)	1194 (Better than LOS E)	1440 (Better than LOS E)

5.0 ASSESSMENT OF PROPOSED CREEKSIDE VILLAGE PROJECT

5.1 Proposed Project Trip Generation

Anticipated Traffic generation by the Project reflects both trips generated by the Project itself, and, avoided trips in 2033 and 2040 from the commercial land uses that the El Dorado County TDM assumes will take place on the Project parcels.

Project Trips

Anticipated trips are based on Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition (2021). **Table 13** shows anticipated Project Trip Generation. To be conservative, trip generation estimates are generally based on the higher rates for the peak hour of the generator rather than the peak hour of adjacent street traffic. The higher of either the average trip generation rate or equation-based trip generation rate was also used. Use of these higher rates has historically been preferred by El Dorado County.

Table 13. Trip generation

Land Use	Quantity	Metric	Daily	AM Peak Hour			PM Peak Hour		
				Total	Inbound	Outbound	Total	Inbound	Outbound
Single Family Detached Housing (ITE Use 210)	150 DU (1)	Notes	Equation Rate	Equation Rate for Peak Hour of Generator			Equation Rate for Peak Hour of Generator		
		Rate	9.77	0.76	26%	74%	1.01	64%	36%
		Trips	1465	114	30	84	151	97	54
Age Restricted Single Family Detached Housing (ITE Use 251)	613 DU (1)	Notes	Equation Rate	Average Rate for Peak Hour of Generator			Average Rate for Peak Hour of Generator		
		Rate	4.51	0.34	43%	57%	0.39	56%	44%
		Trips	2767	208	90	118	239	134	105
Total residential trips			4232	322	120	202	390	231	159
Less 2% internalization based on Travel Demand Model			-85	-6	-2	-4	-8	-5	-3
Total New Project Trips			**4147**	**316**	**118**	**198**	**382**	**226**	**156**

(1) DU = Dwelling unit
Source: ITE (2021) Trip Generation Manual, 11th Ed., Institute of Transportation Engineers, Washington DC.
(Dated October 25, 2024)

Trip Distribution with Adjustment for Latrobe Elementary

Project trip distribution was based on the El Dorado County TDM, observed counts, prior studies in the vicinity of the Project, and consultation with El Dorado County staff. Additional adjustments were made to reflect school trips to Latrobe Elementary based on student generation statistics published by the school district. Trip distribution is shown in **Figure 8**. Assignment of the Project trips to study intersections is shown in **Figure 9**.



Figure 8. Creekside Village Project trip distribution

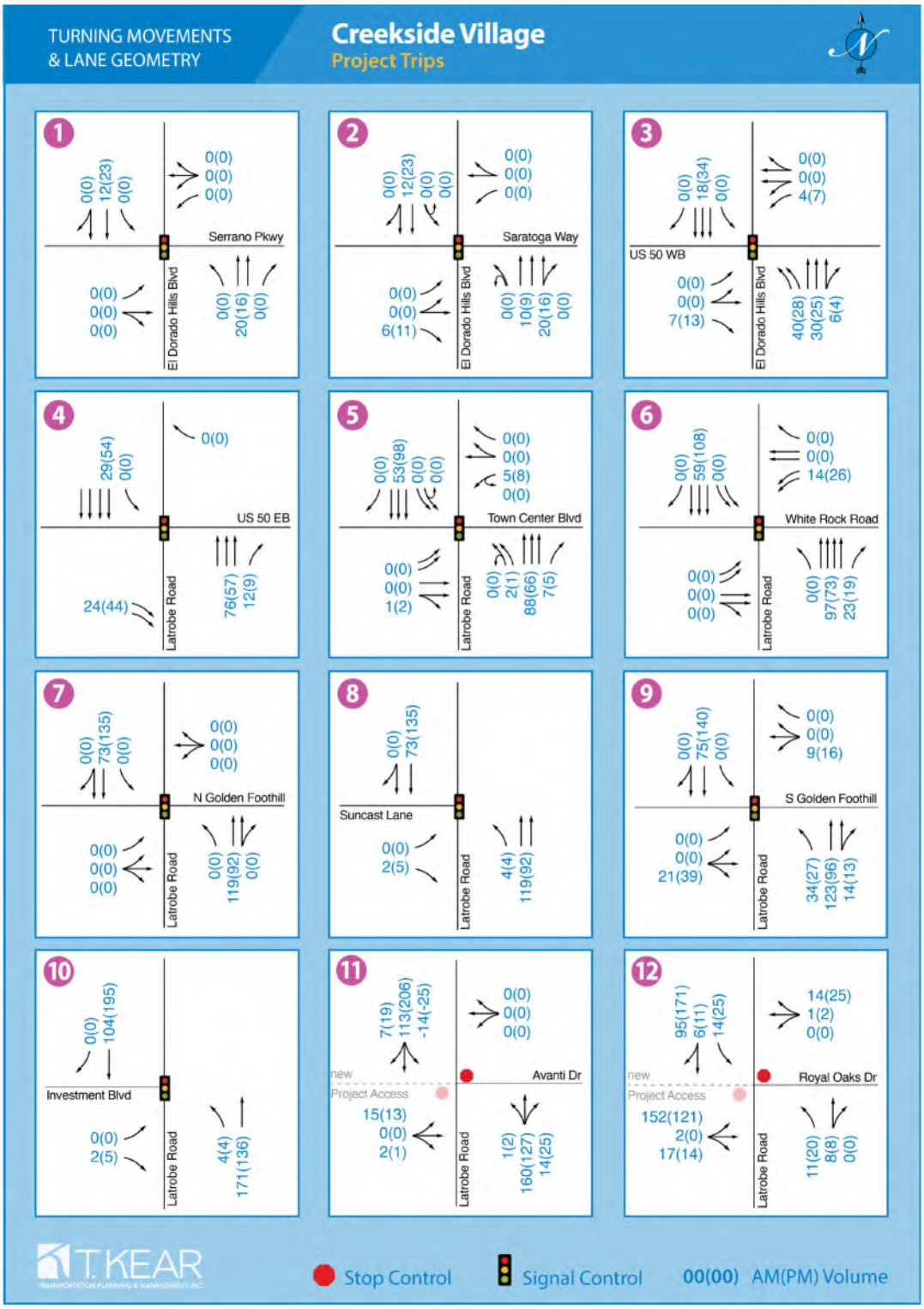


Figure 9. Project trip assignment for 763 dwelling units

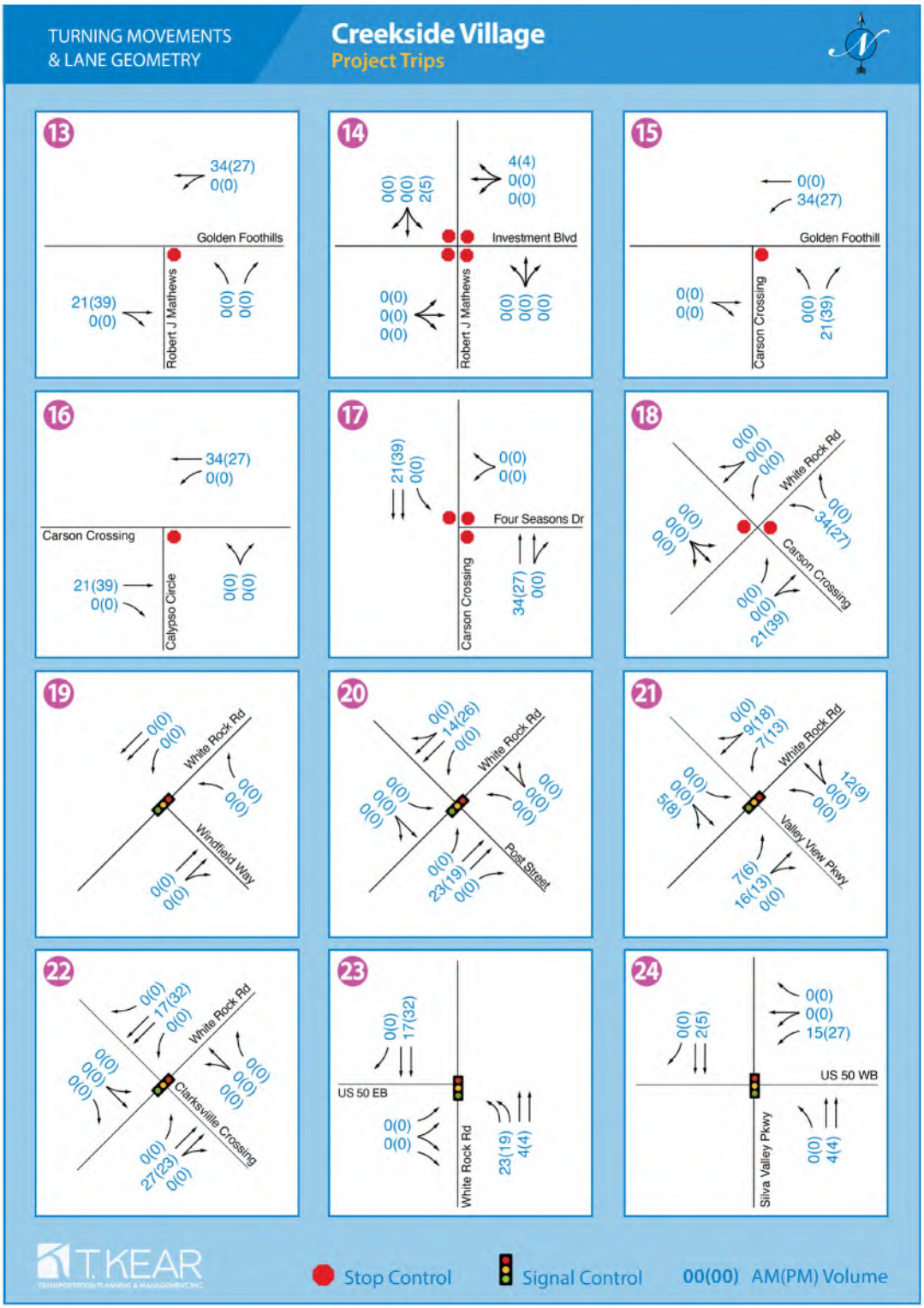


Figure 9. Project trip assignment for 763 dwelling units (continued)

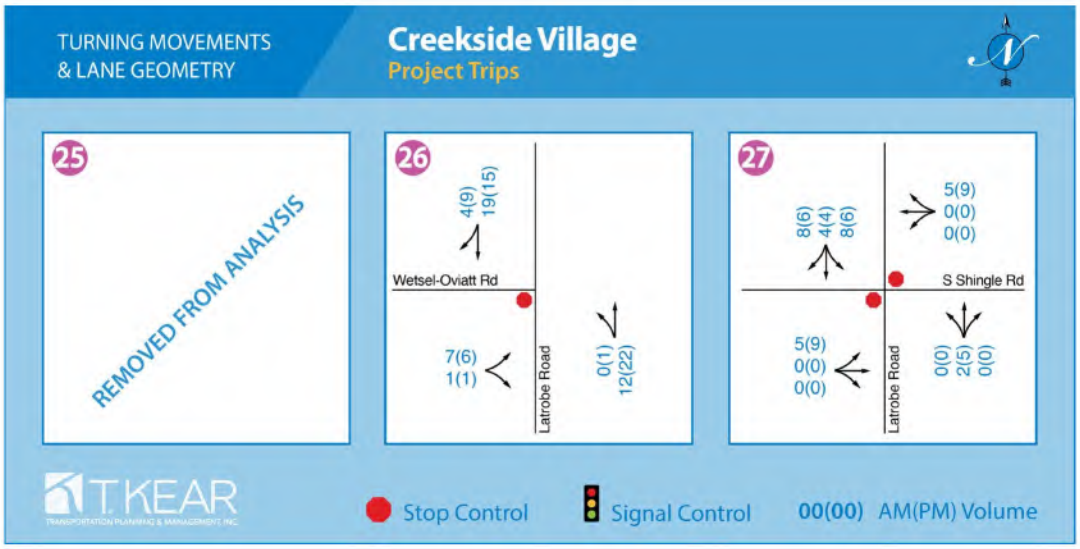


Figure 9. Project trip assignment for 763 dwelling units (continued)

Avoided Trips

Avoided trips are additional peak hour trips that the TDM assumes in the future from growth within the Project TAZ. These avoided trips were estimated by running the TDM with and without assumed 2020[17] through 2040 employment growth for the effected portion of the Project's transportation analysis zone (TAZ 612). Creekside Village replaces 62% of the available land in TAZ 612 (**Figure 10**), therefore 62% of the employment growth was eliminated from TAZ 612 when estimating the number of avoided trips using the TDM. TDM employment assumptions for TAZ 612 are shown in **Table 14** below, along with the resulting avoided trips. Avoided trips for 2040 are shown in **Figure 11**. Using straight line interpolation, 2033 avoided trips reflect the 13 years of unrealized growth from 2020. These avoided trips in this report for the Reduced Impact Alternative match those in the April 25, 2024 report for the Preferred Project.

[17] 2020 is used rather than 2023 because the process of purchasing the land and de-annexing it from the business park meant that no new employment on this portion of the model TAZ occurred as of that year.



Figure 10. Creekside Village is 62% of available land in TAZ 612

Table 14. TDM employment assumptions and avoided trips

	2020	2040 without Project	2040 with Project	Notes
Employment				
Retail	224	433	304	Creekside Village is 62% of remaining land in TAZ 612. Housing is assumed to replace 62% of employment growth. (With Project there are 2097 fewer employees.)
Non-Retail	2115	5355	3387	
Total	2339	5788	3691	
Avoided Trips AM (PM) [Daily]				
In			526 (311) [4735]	
Out			207 (518) [4680]	

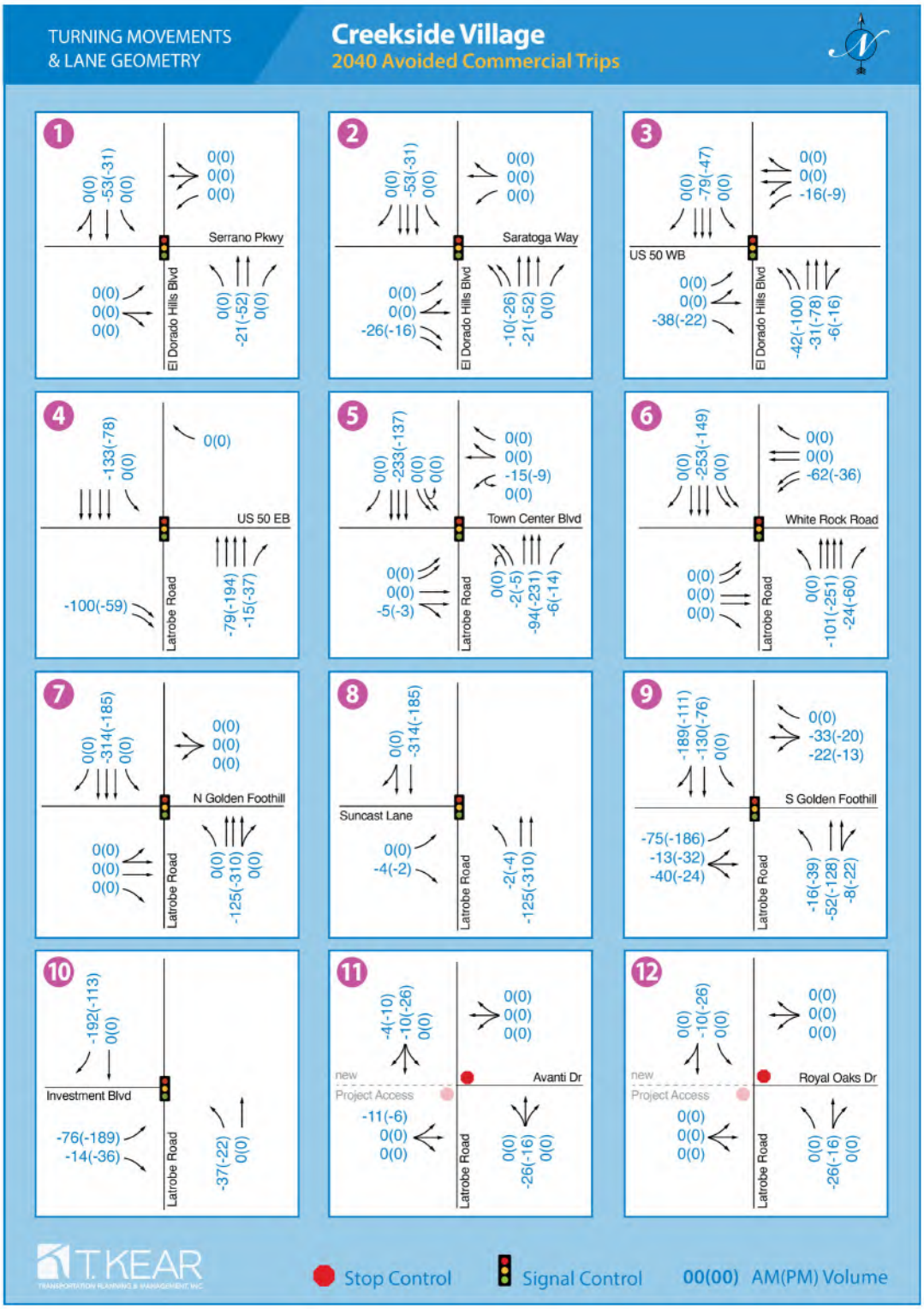


Figure 11. Creekside Village avoided industrial and R&D trips in 2040

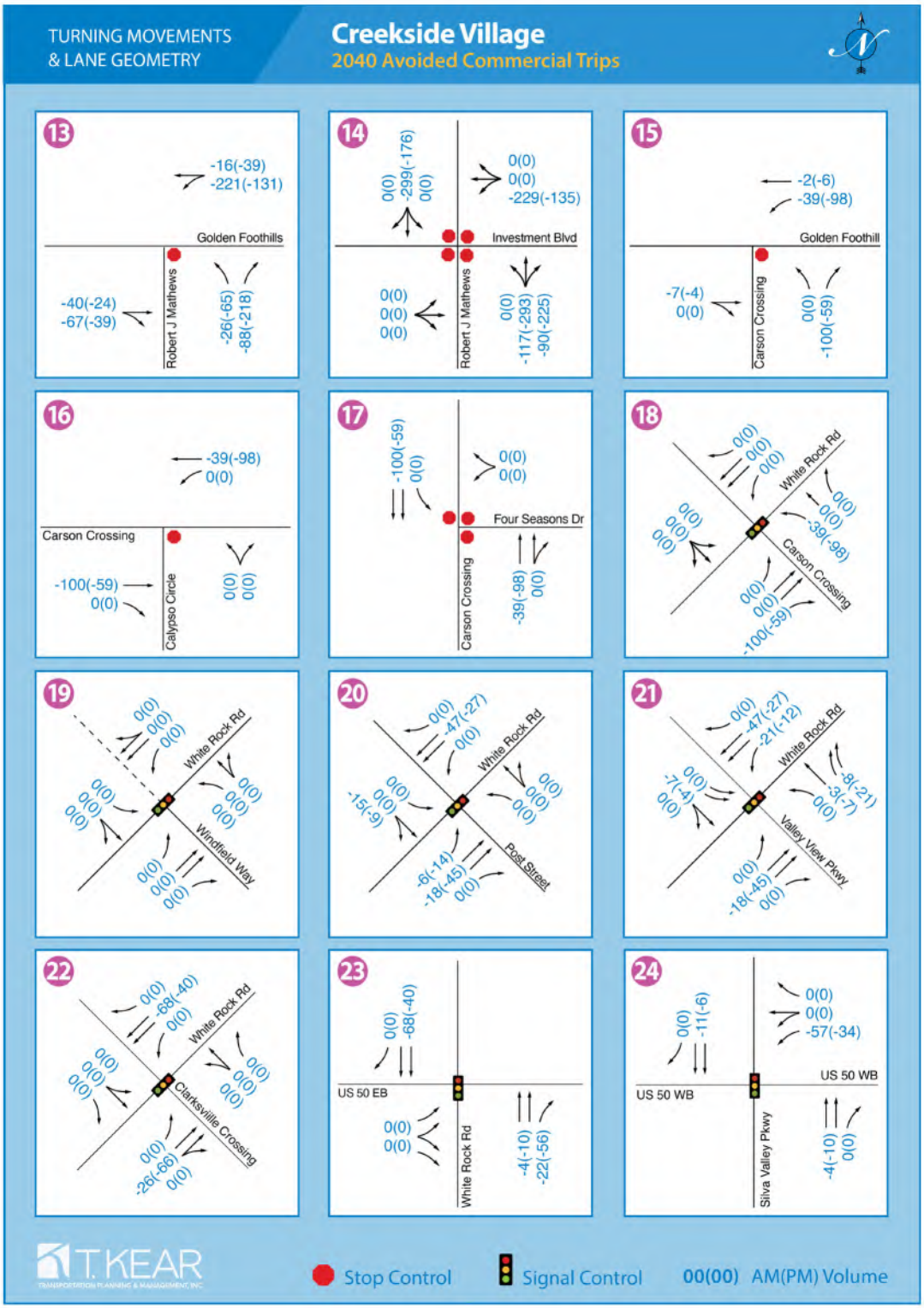


Figure 11. Creekside Village avoided industrial and R&D trips in 2040 (continued)

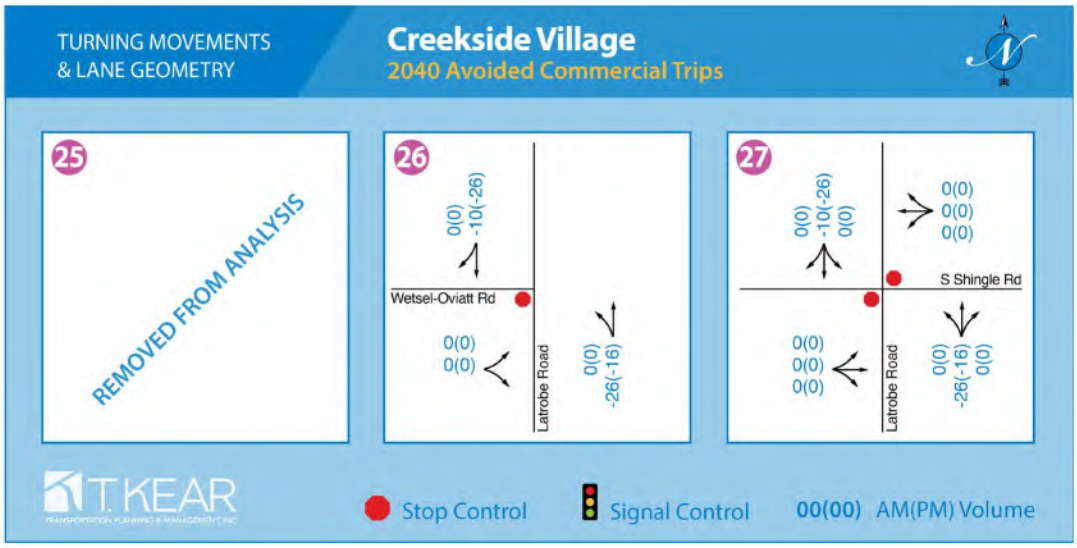


Figure 11. Creekside Village avoided industrial and R&D trips in 2040 (continued)

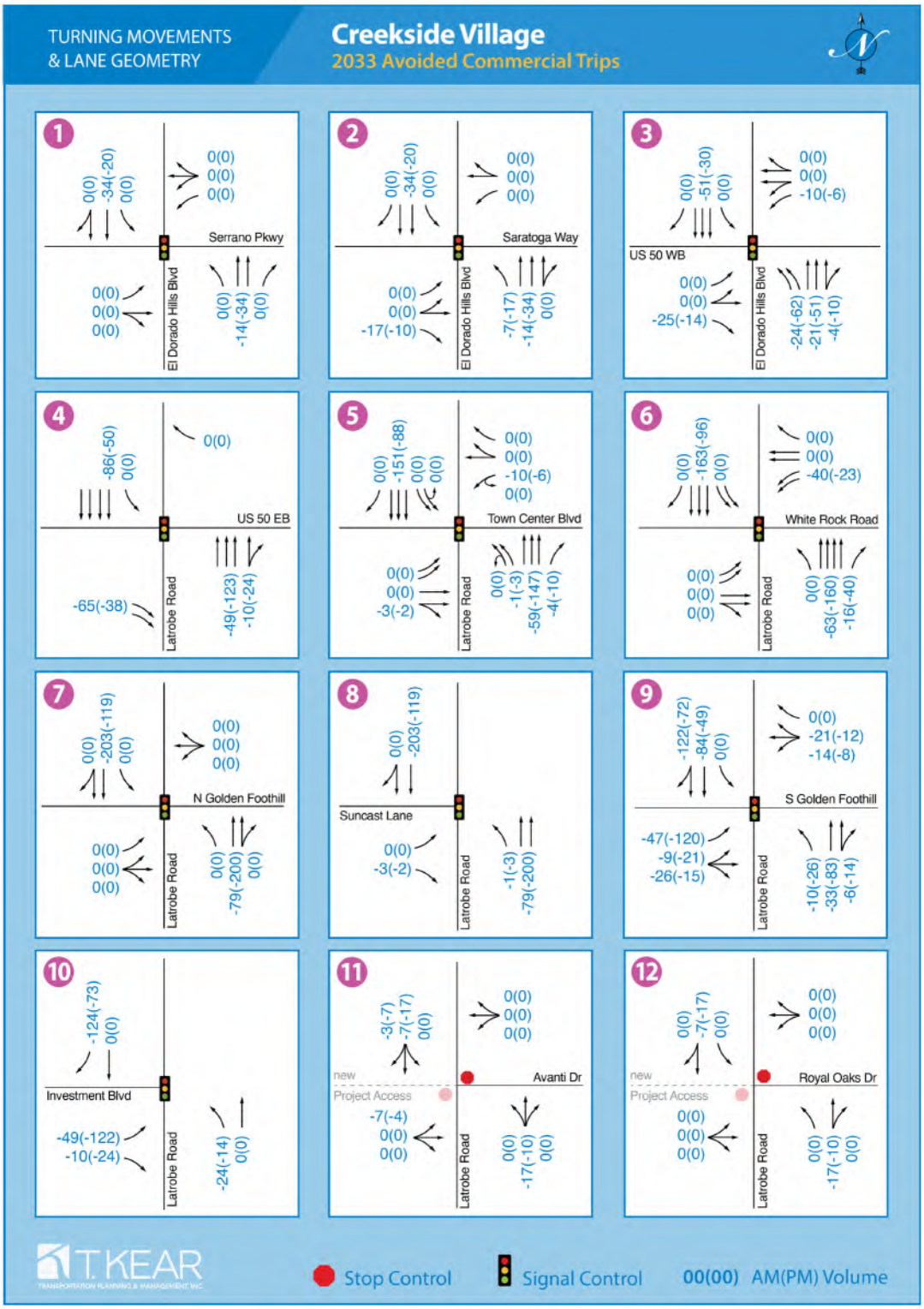


Figure 12. Creekside Village avoided industrial and R&D trips in 2033

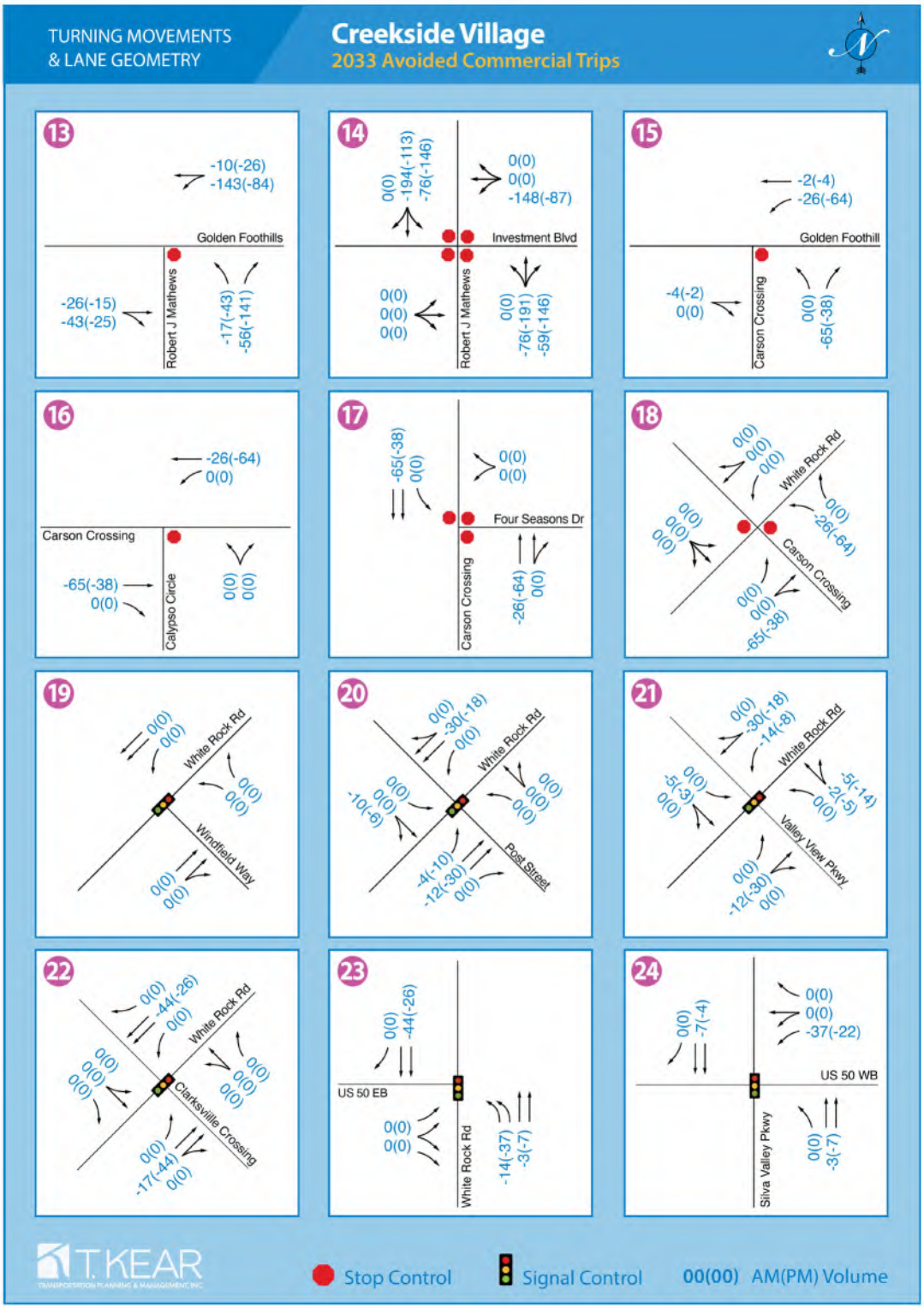


Figure 12. Creekside Village avoided industrial and R&D trips in 2033 (continued)

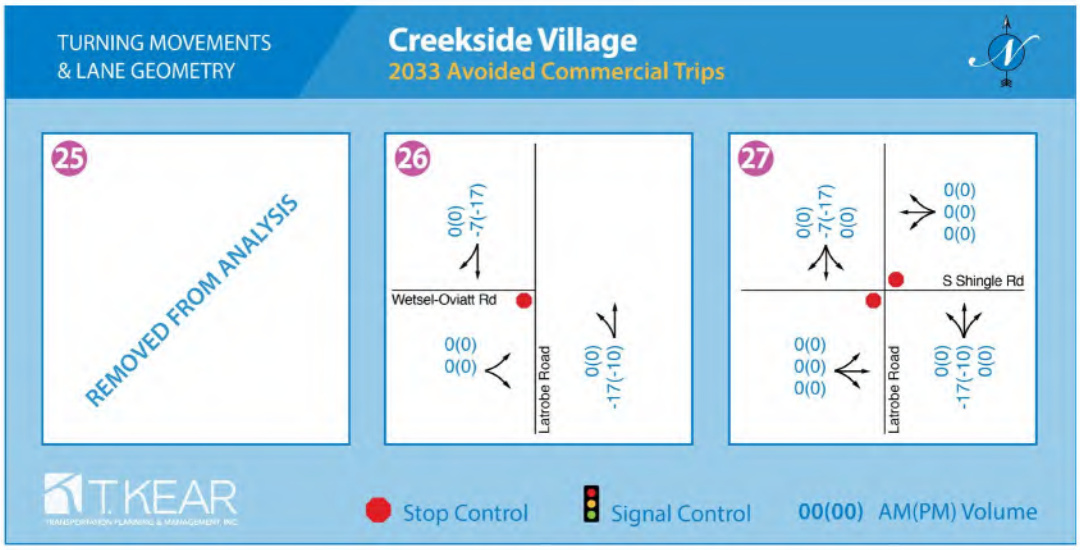


Figure 12. Creekside Village avoided industrial and R&D trips in 2033 (continued)

6.0 EXISTING 2023 PLUS PROPOSED PROJECT CONDITIONS

6.1 Traffic Volumes

Peak hour traffic associated with the proposed Project was added to the Existing 2023 condition scenario's traffic volumes, delay and level-of-service were determined at the study intersections and segments. **Figure 13** summarizes the turning movements and lane configurations for the Existing 2023 Plus Proposed Project scenario.

6.2 Level-of-Service

Table 15 through **Table 17** present a summary of level-of-service results for the study intersections and segments under Existing 2023 conditions with and without Project traffic. Intersection control is listed as signal, two-way stop-controlled (TWSC), or all-way stop-control (AWSC). Both the estimated delay and level-of-service (LOS) are provided. At TWSC intersections, the movement with the worst delay is shown in parentheses. Ninety-fifth percentile left turn queues are also listed. Entries shown in **Bold black** text in **Table 15** through **Table 17** denote locations with preexisting deficiencies that the Project is not anticipated to worsen. **Bold red** text denotes locations where the Project is anticipated to create new or worsen preexisting deficiencies. Unsignalized intersections that meet the peak hour signal warrant are shaded and denoted with an asterisk.

Fifteen intersections are anticipated to have level-of-service and/or queue spillback deficiencies.

4 Locations that are deficient with or without the Project that are not worsened:

- (5) Latrobe Road/Town Center Boulevard: PM;
- (7) Latrobe Road/Golden Foothill Parkway (N): PM;
- (19) White Rock Road/Windfield Way AM and PM; and
- (20) White Rock Road/Post Street: AM and PM.

10 Locations that are deficient with or without the Project that are worsened:

- (1) El Dorado Hills Blvd/Serrano Pkwy AM;
- (2) El Dorado Hills Blvd/Saratoga Way: AM and PM;
- (3) El Dorado Hills Blvd/US 50 WB AM;
- (6) Latrobe Road/White Rock Road PM;
- (8) Latrobe Rd/Suncast Ln AM and PM;
- (9) Latrobe Road/ Golden Foothill Parkway (S): AM and PM;
- (10) Latrobe Road/Investment Boulevard: PM;
- (13) Golden Foothill Parkway (S)/Robert J. Mathews Pkwy PM;
- (18) White Rock Road/Carson Crossing Road PM; and
- (21) White Rock Road/Valley View Parkway: AM and PM.

1 Location where the Project is anticipated to cause new deficiencies:

- (12) Latrobe Road/Royal Oaks Drive AM and PM.

Calculation sheets for delay and level-of-service are provided in **Appendix B**. the remainder of the study intersections, all of the US 50 study segments, and arterial study segments were found to operate acceptably.

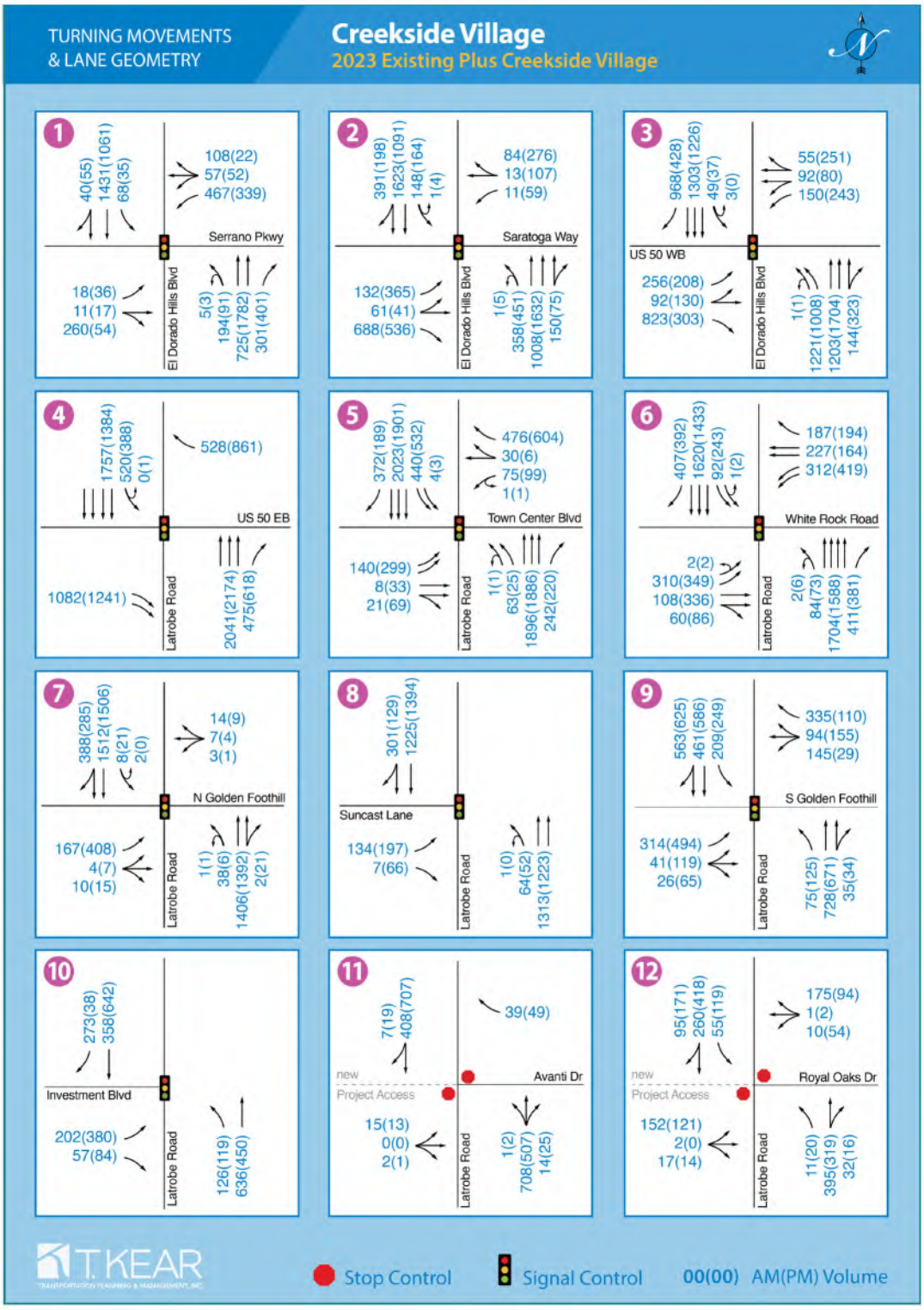


Figure 13. Existing 2023 plus project lane geometry and turning movements

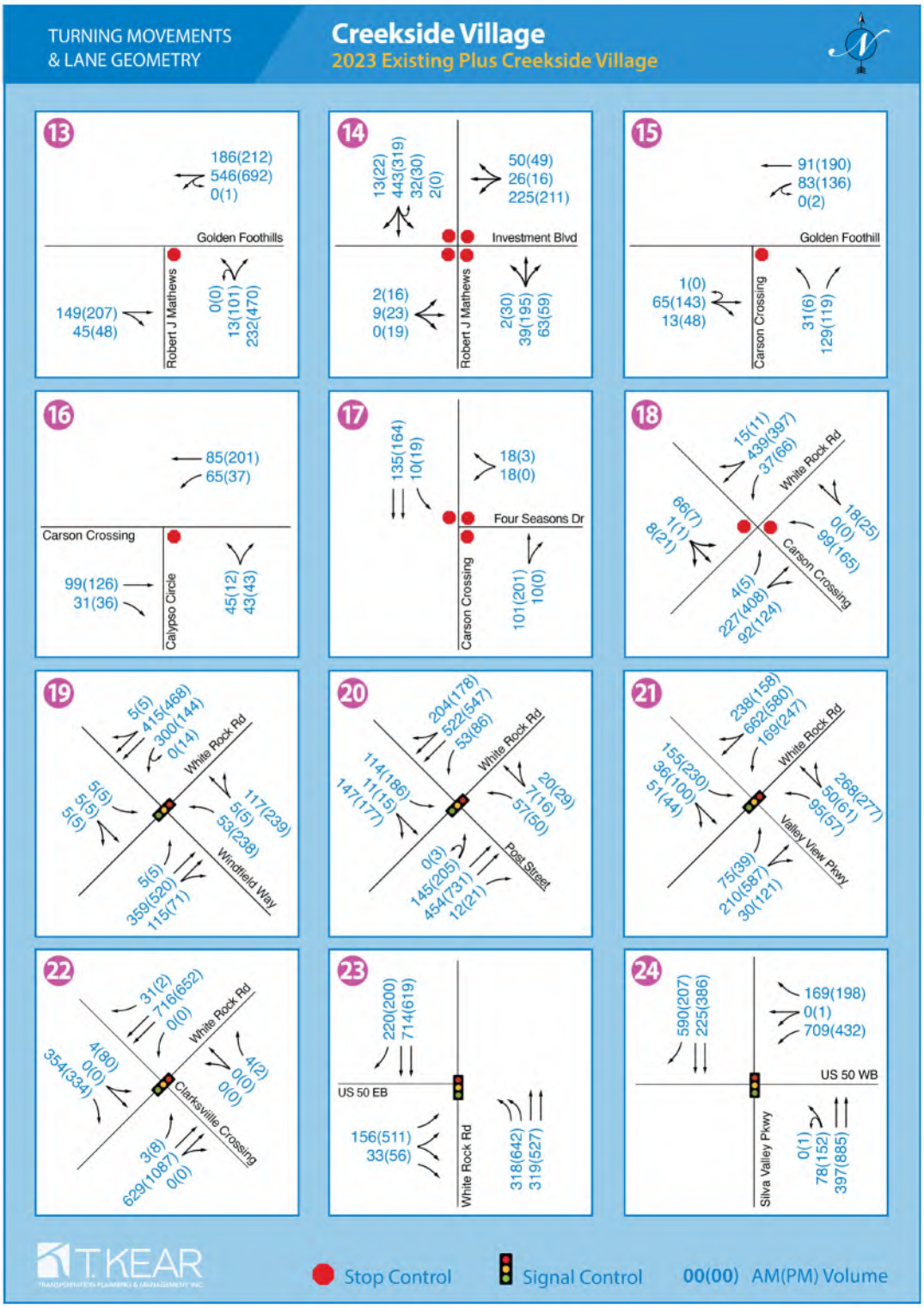


Figure 13. Existing 2023 plus project lane geometry and turning movements (continued)

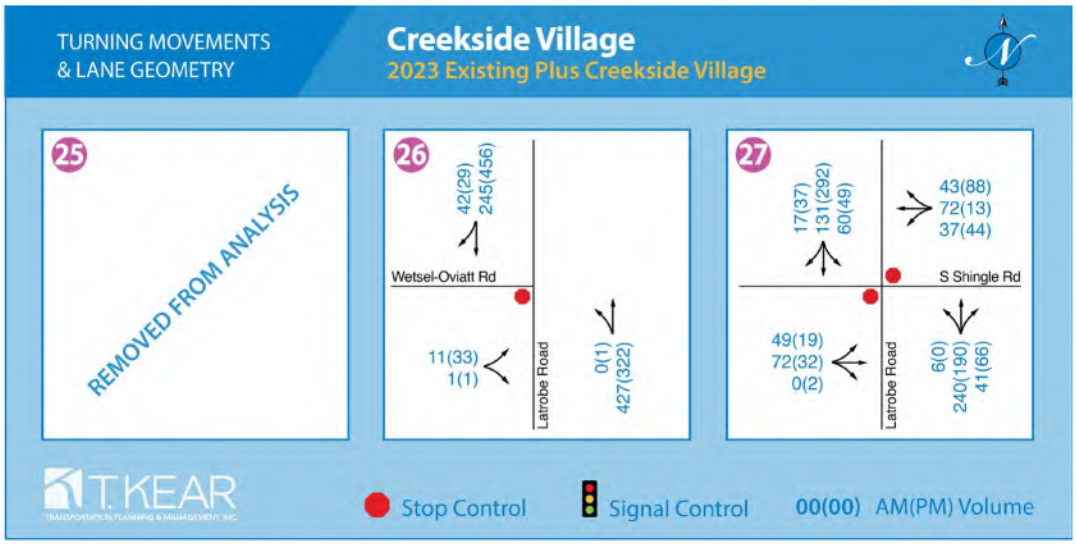


Figure 13. Existing 2023 plus project lane geometry and turning movements (continued)

Table 15. Existing 2023 intersection delay and level-of-service with and without the Project

ID	Intersection	Control	Left Turn Storage	2023 AM Peak No Project				2023 PM Peak No Project				2023 AM Peak with Project				2023 PM Peak with Project			
				Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)
1	El Dorado Hills Blvd/Serrano Pkwy	Signal	NB 260 SB 110 EB 100 WB 430	**112.9**	**F**	NB **296** SB 110 EB 25 WB 423		46.8	D	NB 91 SB 38 EB 34 WB 197		**114.8**	**F**	NB **296** SB 110 EB 25 WB 423		49.0	D	NB 91 SB 38 EB 34 WB 197	
2	El Dorado Hills Blvd/Saratoga Way	Signal	NB 230 SB 100 EB 150 WB N/A	**147.8**	**F**	NB **712** SB **202** EB 116 WB N/A		**107.8**	**F**	NB **1334** SB **252** EB **290** WB N/A		**151.2**	**F**	NB **760** SB **202** EB 116 WB N/A		**112.4**	**F**	NB **1392** SB **254** EB **292** WB N/A	
3	El Dorado Hills Blvd/US 50 WB (Note EBL queueing reported even though there is not a left-turn pocket, it is 250' to end of right-turn pocket.)	Signal	NB N/A SB 220 EB N/A WB 150	**94.1**	**F**	NB N/A SB 95 EB 262 WB **175**		47.9	D	NB N/A SB 68 EB 297 WB **277**		**101.4**	**F**	NB N/A SB 95 EB 267 WB **177**		51.2	E	NB N/A SB 68 EB 305 WB **285**	
4	El Dorado Hills Blvd/US 50 EB (Note: EB and WB right queue reported as EB and WB. EB slip offramp is 1725 feet long)	Signal	NB N/A SB 570 EB N/A WB N/A	23.0	C	NB N/A SB 363 EB 271 WB 0		22.8	C	NB N/A SB 298 EB 445 WB 0		26.7	C	NB N/A SB 363 EB 284 WB 0		26.3	C	NB N/A SB 298 EB 528 WB 0	
5	Latrobe Road/Town Center Boulevard	Signal	NB 220 SB 330 EB 300 WB 100	21.1	C	NB 29 SB 198 EB 65 WB 59		38.1	D	NB 13 SB **472** EB 156 WB 86		21.9	C	NB 32 SB 210 EB 71 WB 69		39.2	D	NB 14 SB **492** EB 159 WB 96	
6	Latrobe Road/White Rock Road	Signal	NB 270 SB 260 EB 360 WB 160	33.0	C	NB 172 SB 86 EB 275 WB **266**		51.0	D	NB 157 SB 227 EB 306 WB **507**		33.0	C	NB 172 SB 86 EB 275 WB **276**		54.1	D	NB 157 SB 227 EB 306 WB **578**	
7	Latrobe Road/Golden Foothill Parkway (N)	Signal	NB 200 SB 200 EB 100 WB N/A	20.9	C	NB 35 SB 11 EB 79 WB N/A		20.9	C	NB 7 SB 24 EB **180** WB N/A		24.9	C	NB 35 SB 11 EB 80 WB N/A		25.80	C	NB 7 SB 23 EB **188** WB N/A	
8	Latrobe Road/Suncast Lane	Signal	NB 280 SB N/A EB 100	9.3	A	NB 39 SB N/A EB 91		10.8	B	NB 32 SB N/A EB **127**		9.9	A	NB 45 SB N/A EB **97**		12.1	B	NB 38 SB N/A EB **142**	
9	Latrobe Road/ Golden Foothill Parkway (S)	Signal	NB 220 SB 530 EB 100 WB N/A	26.0	C	NB 32 SB 157 EB **130** WB N/A		37.5	D	NB 86 SB 253 EB **309** WB N/A		30.9	C	NB 68 SB 195 EB 158 WB N/A		54.1	D	NB 115 SB 305 EB 425 WB N/A	
10	Latrobe Road/Investment Boulevard	Signal	NB 180 SB N/A EB 100	10.8	B	NB 35 SB N/A EB 68		18.0	B	NB 66 SB N/A EB **232**		11.2	B	NB 40 SB N/A EB 74		24.6	C	NB 110 SB N/A EB 351	
11	Latrobe Road/Avanti Drive	TWSC	NB N/A SB N/A EB N/A WB N/A	(WB) 12.7	B	NB N/A SB N/A EB N/A WB N/A		(WB) 11.1	B	NB N/A SB N/A EB N/A WB N/A		(EB) 32.4	D	NB N/A SB N/A EB N/A WB N/A		(EB) 40.0	E	NB N/A SB N/A EB N/A WB N/A	
12	Latrobe Road/Royal Oaks Drive	TWSC	NB 320 SB 320 EB N/A WB N/A	(WB) 14.0	B	NB 0 SB 4 EB N/A WB N/A		(WB) 21.8	C	NB 0 SB 7 EB N/A WB N/A		**(EB) 188.5 ***	**F**	NB 1 SB 4 EB N/A WB N/A		**(EB) 213.1.1 ***	**F**	NB 2 SB 9 EB N/A WB N/A	
13	Golden Foothill Pkwy/Robert J. Mathews Pkwy	TWSC	NB N/A SB N/A EB N/A WB N/A	(NB) 18.3	C	NB N/A SB N/A EB N/A WB N/A		**(NB) 2479.7 ***	**F**	NB N/A SB N/A EB N/A WB N/A		(NB) 20.4	D	NB N/A SB N/A EB N/A WB N/A		**(NB) 3030.5 ***	**F**	NB N/A SB N/A EB N/A WB N/A	

Table 15. Existing 2023 intersection delay and level-of-service with and without the Project (continued)

ID	Intersection	Control	Left Turn Storage	2023 AM Peak No Project				2023 PM Peak No Project				2023 AM Peak with Project				2023 PM Peak with Project			
				Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)
14	Investment Boulevard/Robert J. Mathews Pkwy	AWSC	NB N/A SB N/A EB N/A WB N/A	25.0	C	NB N/A SB N/A EB N/A WB N/A		19.6	C	NB N/A SB N/A EB N/A WB N/A		25.7	D	NB N/A SB N/A EB N/A WB N/A		20.2	C	NB N/A SB N/A EB N/A WB N/A	
15	Golden Foothill Parkway/Carson Crossing Road	TWSC	NB N/A SB N/A EB N/A WB 220	(NBL) 10.5	B	NB N/A SB N/A EB N/A WB 3		(NBL) 14.8	B	NB N/A SB N/A EB N/A WB 8		(NBL) 12.9	B	NB N/A SB N/A EB N/A WB 5		(NBL) 16.1	C	NB N/A SB N/A EB N/A WB 11	
16	Carson Crossing Road/Calypso Circle	TWSC	NB N/A SB N/A EB N/A WB 190	(NB) 10.2	B	NB N/A SB N/A EB N/A WB 4		(NB) 9.5	A	NB N/A SB N/A EB N/A WB 2		(NB) 10.5	B	NB N/A SB N/A EB N/A WB 4		(NB) 9.8	A	NB N/A SB N/A EB N/A WB 2	
17	Carson Crossing Road/4 Seasons Drive	AWSC	NB N/A SB 100 WB N/A	7.9	A	NB N/A SB 1 WB N/A		8.1	A	NB N/A SB 2 WB N/A		8.0	A	NB N/A SB 1 WB N/A		8.2	A	NB N/A SB 2 WB N/A	
18	White Rock Road/Carson Crossing Road	TWSC	NB SB EB WB	(NBL) 22.0	C	NB N/A SB N/A EB 0 WB 2		**(NBL) 69.3**	**F**	NB N/A SB N/A EB 0 WB 5		(NBL) 35.7	E	NB N/A SB N/A EB 0 WB 2		**(NBL) 107.4**	**F**	NB N/A SB N/A EB 0 WB 6	
19	White Rock Road/Windfield Way	Signal	NB 150 SB 100 EB 200 WB 200	25.8	C	NB 80 SB 10 EB 10 WB **363**		29.1	C	NB **331** SB 10 EB 10 WB **222**		25.8	C	NB 80 SB 10 EB 10 WB **363**		29.1	C	NB **331** SB 10 EB 10 WB **222**	
20	White Rock Road/Post Street	Signal	NB N/A SB 100 EB 100 WB 120	39.2	D	NB N/A SB **319** EB **245** WB 99		70.4	E	NB N/A SB **683** EB **327** WB **158**		38.6	D	NB N/A SB **318** EB **245** WB 99		69.3	E	NB N/A SB **683** EB **327** WB **158**	
21	White Rock Road/Valley View Parkway	Signal	NB 100 SB 100 EB 100 WB 100	75.0	E	NB **106** SB 206 EB 92 WB **206**		54.2	D	NB 70 SB **304** EB 50 WB **321**		**81.2**	**F**	NB **107** SB **210** EB **102** WB **216**		59.8	E	NB 71 SB **309** EB 61 WB **349**	
22	White Rock Road/Clarksville Crossing	Signal	NB N/A SB N/A EB 460 WB 290	25.8	C	NB N/A SB N/A EB 6 WB 0		29.1	C	NB N/A SB N/A EB 10 WB 0		23.7	C	NB N/A SB N/A EB 6 WB 0		23.7	C	NB N/A SB N/A EB 10 WB 0	
23	Silva Valley Parkway/US 50 EB ramps	Signal	NB 500 SB N/A EB N/A WB N/A	16.9	B	NB 172 SB N/A EB N/A WB N/A		31.7	C	NB 316 SB N/A EB N/A WB N/A		17.3	B	NB 185 SB N/A EB N/A WB N/A		31.8	C	NB 324 SB N/A EB N/A WB N/A	
24	Silva Valley Parkway/US 50 WB ramps	Signal	NB 550 SB N/A EB N/A WB N/A	34.2	C	NB 98 SB N/A EB N/A WB N/A		19.3	B	NB 192 SB N/A EB N/A WB N/A		35.1	D	NB 98 SB N/A EB N/A WB N/A		19.7	B	NB 192 SB N/A EB N/A WB N/A	
25	not used			not used								not used							
26	Latrobe Road/Wetsel-Oviatt Road	TWSC	NB 150 SB 100 EB 200 WB 200	(EB) 13.5	B	NB N/A SB N/A EB N/A		(EB) 15.2	C	NB N/A SB N/A EB N/A		(EB) 14.0	B	NB N/A SB N/A EB N/A		(EB) 16.0	C	NB N/A SB N/A EB N/A	
27	Latrobe Road/S. Shingle Road	TWSC	NB N/A SB 100 EB 100 WB 120	(EB) 18.1	C	NB N/A SB N/A EB N/A WB N/A		(EB) 16.4	C	NB N/A SB N/A EB N/A WB N/A		(EB) 19.5	C	NB N/A SB N/A EB N/A WB N/A		(EB) 18.0	C	NB N/A SB N/A EB N/A WB N/A	

* Denotes intersections where the peak-hour signal warrant is met.

October 9, 2024

Table 16. Existing 2023 freeway facility density and level-of-service with and without the Project

No	Segment	Segment Type	Method	2023 No Project AM	2023 No Project PM	2023 Plus Project AM	2023 Plus Project PM
Westbound US 50							
1	Bass Lake Rd to Silva Valley Pkwy	Basic	HCM 7th Ed.	22.1/C	16.8/B	22.5/C	17.7/B
2	Silva Valley offramp	Diverge	HCM 7th Ed.	18.7/B	13.2/B	19.2/B	14.1/B
3	Silva Valley offramp to future loop onramp	Basic	HCM 7th Ed.	15.2/B	12.6/B	15.3/B	12.8/B
4	Future Silva Valley loop onramp	Merge	HCM 7th Ed.	n/a	n/a	n/a	n/a
5	Silva Valley Pkwy to Latrobe Rd	Weave	HCM 7th Ed.	15.1/B	11.1/B	15.2/B	11.3/B
6	El Dorado Hills Blvd offramp to onramp	Basic	HCM 7th Ed.	11.8/B	10.8/A	11.8/B	10.8/A
7	El Dorado Hills Blvd onramp	Merge	HCM 7th Ed.	28.4/D	22.9/C	28.4/D	23.4/C
8	El Dorado Hills Blvd to EDC Line *	Basic	HCM 7th Ed.	29.5/D	21.9/B	29.5/D	22.5/C
Eastbound US 50							
9	EDC Line to Latrobe Rd	Basic	HCM 7th Ed.	10.9/A	18.4/C	11.2/B	19.1/C
10	Latrobe slip offramp	Diverge	HCM 7th Ed.	20.8/C	29.6/D	21.3/C	30.6/D
11	Latrobe loop offramp	Diverge		20.0/C	28.8/D	20.3/C	29.3/D
12	El Dorado Hills Blvd offramp to Latrobe Rd onramp	Basic	HCM 7th Ed.	3.7/A	8.8/A	3.7/A	8.8/A
13	Latrobe Rd onramp to Silva Valley Pkwy offramp	Weave	HCM 7th Ed.	7.2/A	11.8/B	7.3/A	11.9/B
14	Silva Valley Pkwy offramp to onramp	Basic	HCM 7th Ed.	7.3/A	10.7/A	7.5/A	10.8/A
15	Silva Valley Pkwy onramp	Merge	HCM 7th Ed.	13.8/B	19./B	14.5/B	20.0/C
16	Future Silva Valley Pkwy slip onramp	Merge	HCM 7th Ed.	n/a	n/a	n/a	n/a
17	Silva Valley Pkwy to Bass Lake Rd	Basic	HCM 7th Ed.	9.7/A	14.5/B	10.1/A	14.7/B

Density in units of passenger cars per mile per lane.
*Prior to the opening of the Saratoga Way extension, Caltrans has reported occasional LOS F conditions during the morning peak for this segment based on planning methods rather than counts.

Table 17. Existing 2023 arterial level-of-service check with and without the Project

Arterial Segment	**Description (and level-of-service E threshold)**	**2023 AM No Project** (vehicle trips)	**2023 PM No Project** (vehicle trips)	**2023 AM Plus Project** (vehicle trips)	**2023 PM Plus Project** (vehicle trips)
Latrobe Rd between Royal Oaks Dr and Investment Blvd	2-lane arterial (threshold 1650 vehicle trips)	593 (Better than LOS E)	655 (Better than LOS E)	874 (Better than LOS E)	995 (Better than LOS E)
Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south)	2-lane arterial (threshold 1650 vehicle trips)	1015 (Better than LOS E)	932 (Better than LOS E)	1290 (Better than LOS E)	1263 (Better than LOS E)
Latrobe Rd between Golden Foothill Pkwy (south) and Suncast Ln)	4-lane divided arterial (threshold 3290 vehicle trips)	1998 (Better than LOS E)	2030 (Better than LOS E)	2195 (Better than LOS E)	2266 (Better than LOS E)
Latrobe Rd between White Rock Rd and Town Center Blvd	8-lane divided arterial (threshold 6280 vehicle trips, extrapolated from 6-lane divided arterial)	2931 (Better than LOS E)	3018 (Better than LOS E)	3087 (Better than LOS E)	3198 (Better than LOS E)
White Rock Rd between Valley View Pkwy to Silva Valley Pkwy	2-lane arterial (threshold 1650 vehicle trips)	1194 (Better than LOS E)	1440 (Better than LOS E)	1237 (Better than LOS E)	1494 (Better than LOS E)

6.3 Existing 2023 Plus Project General Plan Deficiency Findings

Level-of-service and queueing impacts are not considered significant under CEQA. Intersections and/or segments where Project traffic creates new or worsens existing exceedances of General Plan policy thresholds are referred to as having a "Project deficiency." There are ten intersections where the Project is anticipated to create new or worsen existing deficiencies under existing 2023 conditions. All study segments are anticipated to operate acceptably with or without the Project.

Throughout this document, segment deficiencies are numbered using the segment number (i through v) and a year code (2023 = "A", 2033 = "B", and 2040 = "C"). Intersection abatement measures are numbered using the intersection number (1-27) and the year code (A, B, or C).

All deficiencies and abatements described below include the deficiency number/abatement number and location as a title, followed by a description of the deficiency, the abatement, findings, responsibility, and timing. For certain abatements (Abatement 10A), a building permit trigger has been analyzed and included to determine the necessary timing for the improvement. For all other abatements, it is assumed the timing would be prior to issuance of the first building permit. If desired, a building permit trigger could also be determined for those abatements.

2023 Intersection Deficiencies and Abatement Measures

1A. El Dorado Hills Blvd/Serrano Pkwy in 2023

Deficiency: Level-of-service is F prior to addition of Project traffic, with northbound left-turn queues spilling out of the turn pocket. Project traffic is anticipated to worsen level-of-service.

Abatement: Adjust signal timing by changing the "vehicle extension" setting for the westbound approach from 4 seconds to 2 seconds.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 18** at the end of this section presents intersection level-of-service results with this abatement.

Project Responsibility: Project is responsible for its fair-share of signal timing adjustment. The CIP includes funding for intersection and safety improvements at "to be determined" locations. The Project may satisfy this requirement through payment of applicable fees under the El Dorado County traffic impact Fee (TIF) program.

Timing: Prior to issuance of 1st building permit.

2A. El Dorado Hills Blvd/Saratoga Way in 2023

Deficiency: Level-of-service is F prior to addition of Project traffic, with northbound left-turn queues spilling out of the turn pocket. Project traffic is anticipated to worsen level-of-service and northbound left-turn queues.

Abatement: Construct a 300-foot southbound right turn pocket and adjust signal timing.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 18** at the end of this section presents intersection level-of-service results with this abatement.

Project Responsibility: This abatement partially implements Project #36105076 in the 10-year Capital Improvement Program (CIP). The Project may satisfy this requirement through payment of applicable fees under the El Dorado County traffic impact Fee (TIF) program.

Timing: Prior to issuance of 1st building permit.

3A. El Dorado Hills Blvd/US 50 WB in 2023

Deficiency: Existing AM peak-hour level-of-service is F prior to addition of Project traffic. Project traffic is anticipated to worsen level-of-service.

Abatement: Adjust signal timing by optimizing splits.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 18** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: Project is responsible for its fair-share of signal timing adjustment. The CIP includes funding for intersection and safety improvements at "to be determined" locations. The Project may satisfy this requirement through payment of applicable fees under the El Dorado County traffic impact Fee (TIF) program.

Timing: Prior to issuance of 1st building permit.

Cross reference: See abatement 3B.

6A. Latrobe Road/White Rock Road in 2023

Deficiency: The westbound left-turn queue spills back out of its turn pocket under existing conditions without the Project. Project traffic is anticipated to worsen that queue spillback.

Abatement: Adjust signal timing by optimizing splits.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 18** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: This abatement partially implements Project #36105069 in the 20-year Capital Improvement Program (CIP). The Project is responsible for its fair share of modification of signal timing, which may be addressed through payment of fees if the CIP project is moved to the 10-year CIP.

Timing: Prior to issuance of 1st building permit.

Cross reference: See abatement 6B.

9A. Latrobe Road/ Golden Foothill Parkway (south) in 2023

Deficiency: Project traffic is anticipated to worsen existing queue spillback from the eastbound left turn during both the AM and PM peak-hours.

Abatement: Adjust signal timing by optimizing splits.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 18** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: The Project is responsible for its fair share of the cost of these off-site improvements which would be addressed by payment of fees after CIP project 36105055 (AKA "72Latrobe") is added to the 10-year CIP.

Timing: Prior to issuance of 1st building permit.

Cross reference: See abatement 9B, which builds on abatement 9a.

10A. Latrobe Road/Investment Boulevard in 2023

Deficiency: Project traffic is anticipated to worsen the existing east bound (Investment Blvd) left turn queue spillback during the PM peak-hour.

Abatement: Stripe eastbound approach as left, shared left-right in 190-foot pocket. Adjust cycle length and splits. Construction of a 300-foot receiving lane is required on northbound Latrobe Road to accommodate the left turn from the shared eastbound left-right turn lane. These improvements are consistent with intersection improvements that would be constructed under CIP project 36105055 (AKA "72Latrobe"). Therefore, addition of CIP project 36105055to the 10-year CIP would address the Project's fair share cost of these improvements as well.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 18** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: The Project is responsible for its fair share of the cost of these off-site improvements which would be addressed by payment of fees after CIP project 36105055 (AKA "72Latrobe") is added to the 10-year CIP.

Timing: A phasing analysis determined that 90 traditional dwelling units, or 260 age restricted dwelling units, could be constructed prior to the project deficiency being triggered. Therefore, this abatement is required by the 90th traditional dwelling unit or the 260th age restricted dwelling unit.

Cross reference: See abatement 10B and 10C.

12A. Latrobe Road/Royal Oaks Drive in 2023

Deficiency: Project traffic is anticipated to worsen the intersection to level-of-service F.

Abatement: Signalize the intersection using the "with Project" geometry (north and southbound approaches having a shared through right lane and protected left turns in 320' pockets; east and west bound approaches as shared left-through-right lanes.)

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 18** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: The Project is responsible for construction of these intersection improvements.

Timing: Prior to issuance of 1st building permit.

Cross reference: See abatement 12B and 12C.

13A. Golden Foothill Pkwy/Robert J. Mathews Pkwy in 2023

Deficiency: Project traffic is anticipated to worsen existing level-of-service F conditions.

Abatement: Reconstruct as a single lane roundabout.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 18** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: The Project is responsible for its fair share of the cost of these off-site improvements which would be addressed by payment of fees after the roundabout is added to the 10-year CIP.

Timing: Prior to issuance of 1st building permit.

18A. White Rock Road/Carson Crossing Road in 2023

Deficiency: Project traffic is anticipated to worsen existing level-of-service F.

Abatement: Install all-way-stop-control with existing intersection geometry.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 18** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: This off-site improvement partially implements 20-year CIP project 36105041 (White Rock Road Widening 2 to 4 Lanes - Windfield Way to Sacramento County Line) and it should be advanced to the 10-year CIP. The Project is responsible for its fair share of cost, which would be met through payment of the TIF program fee.

Timing: Prior to issuance of 1st building permit.

21A. White Rock Road/Valley View Parkway in 2023

Deficiency: Project traffic is anticipated to worsen level-of-service to F during the AM peak hour and worsen existing westbound left-turn queue spillback on White Rock Rd.

Abatement: Add a 100-foot westbound right-turn pocket and extend the westbound left turn pocket to 350 feet. Note that due to the location of utilities on the northside of White Rock Rd, any required widening will likely be on the south side of White Rock Road, and eastbound lane alignment shall be adjusted to the satisfaction of the County Engineer.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 18** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: CIP Project 36105042 (White Rock Road Widening 2 to 4 lanes - Post Street to South of Silva Valley Parkway) includes funding for improvements to this intersection in both the 10-year and 20-year CIPs and all components should be advanced to 10-year CIP. The Project's fair share responsibility for this improvement can be met through payment of TIF program fees.

Timing: Payment of TIF at issuance of each building permit.

Cross reference: See abatement 21B, which builds on abatement 21a.

Table 18. Existing 2023 intersection delay and level-of-service with and without the abated Project

ID	Intersection	Control	Left Turn Storage	2023 AM Peak No Project				2023 PM Peak No Project				2023 AM Peak with Project				2023 PM Peak with Project				Abatement Strategy	Left Turn Storage	Abated AM Peak (+ Proj)				Abated PM Peak (+ Proj)				Existing or Anticipated CIP Project
				Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)			Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	
1	El Dorado Hills Blvd/Serrano Pkwy	Signal	NB 260 SB 110 EB 100 WB 430	**112.9**	**F**	NB **296** SB 110 EB 25 WB 423		46.8	D	NB 91 SB 38 EB 34 WB 197		**114.8**	**F**	NB **296** SB 110 EB 25 WB 423		49.0	D	NB 91 SB 38 EB 34 WB 197		Adjust WB vehicle extention from 4 seconds to 2 seconds	NB 260 SB 110 EB 100 WB 430	**108.8**	**F**	NB **288** SB 108 EB 24 WB 417		42.6	D	NB 89 SB 37 EB 34 WB 189	"Traffic Signals Intersection"
2	El Dorado Hills Blvd/Saratoga Way	Signal	NB 230 SB 100 EB 150 WB N/A	**147.8**	**F**	NB **712** SB **202** EB 116 WB N/A		**107.8**	**F**	NB **1334** SB **252** EB **290** WB N/A		**151.2**	**F**	NB **760** SB **202** EB 116 WB N/A		**112.4**	**F**	NB **1392** SB **254** EB **292** WB N/A		Construct 300' SBR Pocket. Adjust SBT/NBL splits	NB 230 SB 100 EB 150 WB N/A	**130.6**	**F**	NB 222 SB 79 EB 26 WB N/A		**94.1**	**F**	NB **1085** SB **257** EB **297** WB N/A	36105076 and 36105035
3	El Dorado Hills Blvd/US 50 WB (Note EBL queueing reported even though there is not a left-turn pocket, it is 250' to end of right-turn pocket.)	Signal	NB N/A SB 220 EB N/A WB 150	**94.1**	**F**	NB N/A SB 95 EB 262 WB **175**		47.9	D	NB N/A SB 68 EB 297 WB **277**		**101.4**	**F**	NB N/A SB 95 EB 267 WB **177**		51.2	E	NB N/A SB 68 EB 305 WB **285**		Adjust splits for AM only	NB N/A SB 220 EB N/A WB 150	79.9	F	NB N/A SB 94 EB 297 WB **176**		No Changes					"Traffic Signals Intersection"
6	Latrobe Road/White Rock Road	Signal	NB 270 SB 260 EB 360 WB 160	33.0	C	NB 172 SB 86 EB 275 WB **266**		51.0	D	NB 157 SB 227 EB 306 WB **507**		33.0	C	NB 172 SB 86 EB 275 WB **276**		54.1	D	NB 157 SB 227 EB 306 WB **578**		Adjust splits for PM only	NB 270 SB 260 EB 360 WB 140	no changes				41.9	D	NB 160 SB 229 EB 310 WB **358**	36105069
9	Latrobe Road/ Golden Foothill Parkway (S)	Signal	NB 220 SB 530 EB 100 WB N/A	26.0	C	NB 32 SB 157 EB **130** WB N/A		37.5	D	NB 86 SB 253 EB **309** WB N/A		30.9	C	NB 68 SB 195 EB **158** WB N/A		54.1	D	NB 115 SB 305 EB **425** WB N/A		Adjust cycle length and splits.	NB 220 SB 530 EB 100 WB N/A	29.9	C	NB 67 SB 162 EB N/A WB N/A		47.6	D	NB 121 SB 212 EB **277** WB 176	"Latrobe 72"
10	Latrobe Road/Investment Boulevard	Signal	NB 180 SB N/A EB 100	10.8	B	NB 35 SB N/A EB 68		18.0	B	NB 66 SB N/A EB **232**		11.2	B	NB 40 SB N/A EB 74		24.6	C	NB 110 SB N/A EB **351**		EB: Stripe EB approach as left, shared left-right in 190' pocket. Construct 300+ foot receiving lane on NB Latrobe. Adjust cycle length and splits.	NB 180 SB N/A EB 190	10.3	B	NB 36 SB N/A EB 44		17.0	B	NB 71 SB N/A EB 155	"Latrobe 72"
12	Latrobe Road/Royal Oaks Drive	TWSC	NB 320 SB 320 EB N/A WB N/A	(WB) 14.0	B	NB 0 SB 4 EB N/A WB N/A		(WB) 21.8	C	NB 0 SB 7 EB N/A WB N/A		**(EB) 188.5 ***	**F**	NB 1 SB 4 EB N/A WB N/A		**(EB) 213.1.1 ***	**F**	NB 2 SB 9 EB N/A WB N/A		Signalize	NB 320 SB 320 EB N/A WB N/A	19.1	B	NB 7 SB 29 EB N/A WB N/A		20.4	C	NB 12 SB 50 EB N/A WB N/A	n/a
13	Golden Foothill Pkwy/Robert J. Mathews Pkwy	TWSC	NB N/A SB N/A EB N/A WB N/A	(NB) 18.3	C	NB N/A SB N/A EB N/A WB N/A		**(NB) 2479.7 ***	**F**	NB N/A SB N/A EB N/A WB N/A		(NB) 20.4	D	NB N/A SB N/A EB N/A WB N/A		**(NB) 3030.5 ***	**F**	NB N/A SB N/A EB N/A WB N/A		Construct single lane roundabout	NB N/A EB N/A WB N/A	(EB) 9.8	A	NB N/A EB N/A WB N/A		(WB) 21.9	C	NB N/A EB N/A WB N/A	36105083
18	White Rock Road/Carson Crossing Road	TWSC	NB SB EB WB	(NBL) 22.0	C	NB N/A SB N/A EB 0 WB 2		**(NBL) 69.3**	**F**	NB N/A SB N/A EB 0 WB 5		(NBL) 35.7	E	NB N/A SB N/A EB 0 WB 2		**(NBL) 107.4**	**F**	NB N/A SB N/A EB 0 WB 6		AWSC	NB N/A SB N/A EB 200 WB 300	17.2	C	NB **N/A** SB **N/A** EB **1** WB **6**		29.0	D	NB N/A SB N/A EB 1 WB 12	36105041
21	White Rock Road/Valley View Parkway	Signal	NB 100 SB 100 EB 100 WB 100	75.0	E	NB **106** SB 206 EB 92 WB **206**		54.2	D	NB 70 SB **304** EB 50 WB **321**		**81.2**	**F**	NB **107** SB **210** EB **102** WB **216**		59.8	E	NB 71 SB **309** EB 61 WB **349**		Add 100' WB right turn ocket and restript the existing shared thru-right as an exclusive Thru lane, extend WB left pocket to 350'	NB 100 SB 100 EB 100 WB 350	39.2	D	NB **102** SB **202** EB 98 WB 208		57.0	E	NB 71 SB **309** EB 61 WB 349	36105042

* Denotes intersections where the peak-hour signal warrant is met.

October 9, 2024

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7.0 EPAP 2033 CONDITIONS

The EPAP 2033 conditions analysis started with lane configurations from Existing 2023 conditions, turning movements derived from existing traffic counts, growth factors from the Travel Demand Model, and the NCHRP 255 adjustment procedure[18].

Several volume and network adjustments were then made.

Two Capital Improvement Program (CIP) projects that effect study intersection geometry were accounted for:

- CIP Project 36105076: "El Dorado Hills Saratoga Way Turn Pockets" will construct a southbound right turn pocket and extend the northbound and southbound left turn pockets on El Dorado Hills Blvd. The southbound right pocket was modeled as a 300-foot right turn pocket. The northbound and southbound left turn pockets were modeled as 500-foot left turn pockets.
- CIP Project 36105083 "Robert J Mathews Pkwy/Golden foothill Pkwy Roundabout" will construct a roundabout at Robert J Mathews Pkwy/Golden foothill Pkwy.

Traffic volumes from 2023 without the Project were used as a floor before traffic from the avoided trips (see **Figure 12**, page 48) was shifted from where the TDM loads it directly onto Carson Crossing Drive to Investment Blvd.

Traffic for the approved Carson Creek/Heritage Project was added. Note that because the Creekside Village project also has avoided R&D and industrial vehicle trips, some turning movements are lower in 2033 than they were in 2023.

Figure *14* summarizes the turning movements and lane configurations for the EPAP 2033 conditions scenario.

Delay and level-of-service is presented in **Table 19** through **Table 21**. Intersection control is listed as signal, two-way stop-controlled (TWSC), or all-way stop-control (AWSC). Both the estimated delay and level-of-service (LOS) are provided. At TWSC intersections, the movement with the worst delay is shown in parentheses. Ninety-fifth percentile left turn queues are also listed. Entries shown in **bold black** typeface denote deficient traffic operations, and unsignalized intersections that meet the peak hour signal warrant are denoted with an asterisk and shading.

The results indicate that one study segment (White Rock Rd between Valley View Pkwy to Silva Valley Pkwy) and fifteen study intersections operate deficiency with level-of-service F conditions and/or 95% left turn queues that exceed available storage lengths.

[18] Transportation Research Board (1982) National Cooperative Highway Research Program Report 255, Washington D.C.

- (1) El Dorado Hills Blvd/Serrano Pkwy AM;
- (2) El Dorado Hills Blvd/Saratoga Way: AM and PM;
- (3) El Dorado Hills Blvd/US 50 WB AM and PM;
- (5) Latrobe Road/Town Center Boulevard: AM and PM;
- (6) Latrobe Road/White Rock Road AM and PM;
- (7) Latrobe Road/Golden Foothill Parkway (N): AM and PM;
- (8) Latrobe Road/Suncast Lane AM and PM;
- (9) Latrobe Road/ Golden Foothill Parkway (S): AM and PM;
- (10) Latrobe Road/Investment Boulevard: PM;
- (14) Investment Boulevard/Robert J. Mathews Pkwy AM and PM
- (18) White Rock Road/Carson Crossing Road PM;
- (19) White Rock Road/Windfield Way AM and PM;
- (20) White Rock Road/Post Street: AM and PM;
- (21) White Rock Road/Valley View Parkway: AM and PM; and
- (23) Silva Valley Parkway/US 50 EB ramps PM.

Calculation sheets for delay and level-of-service are provided in **Appendix B**. The remainder of the study intersections, all of the US 50 study segments, and arterial study segments were found to operate acceptably.

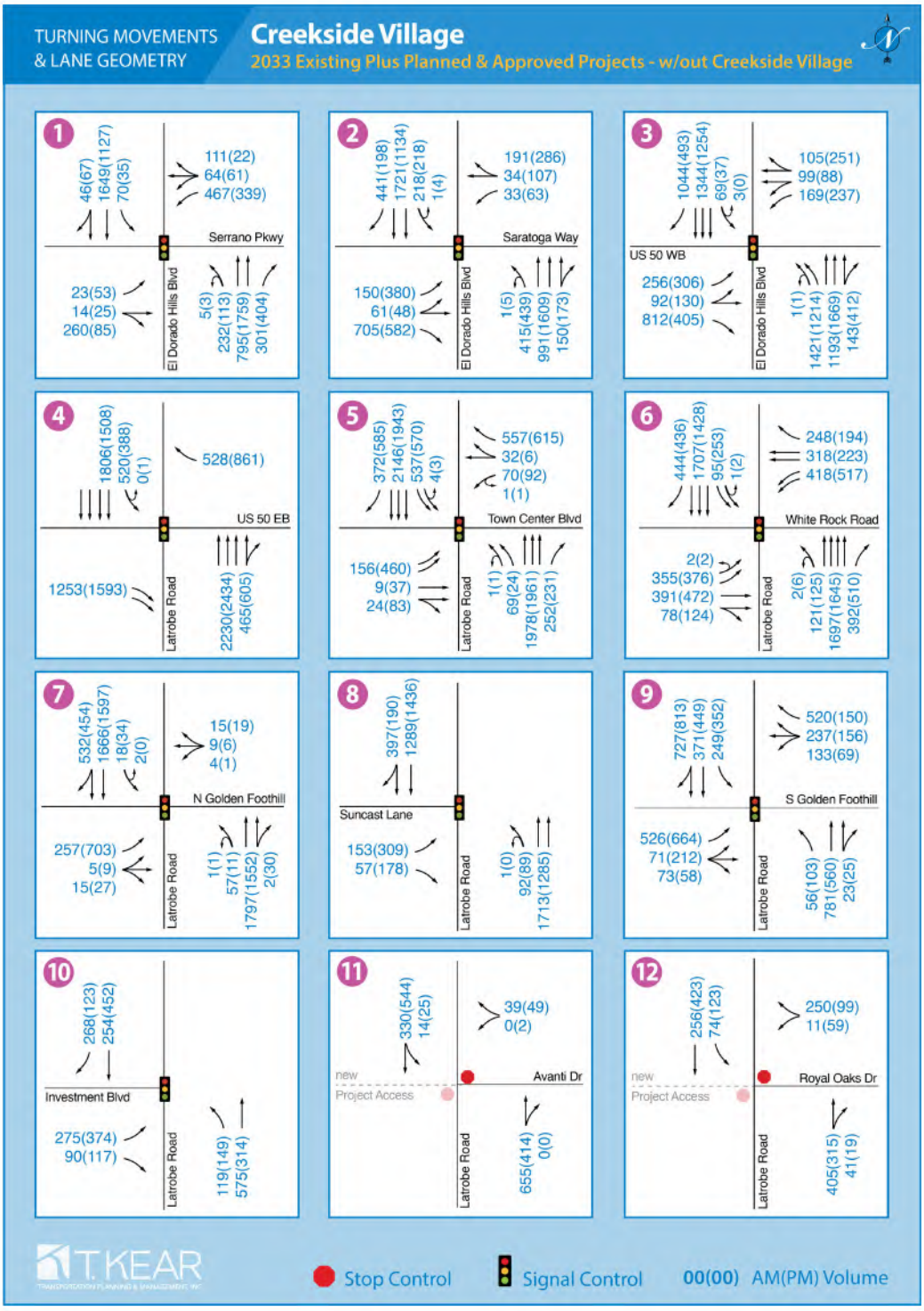


Figure 14. EPAP 2033 conditions lane geometry and turning movements

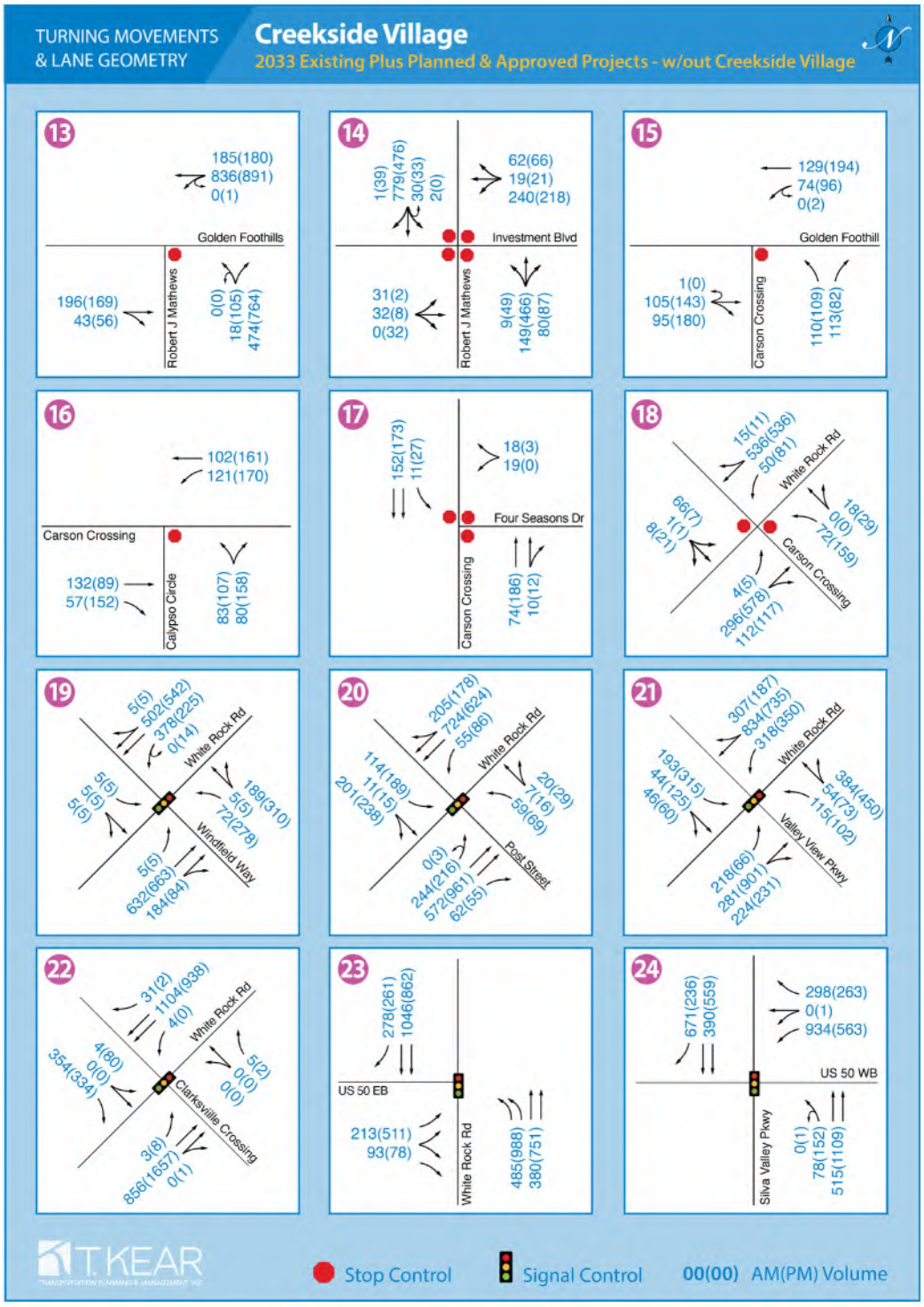


Figure 14. EPAP 2033 conditions lane geometry and turning movements (continued)

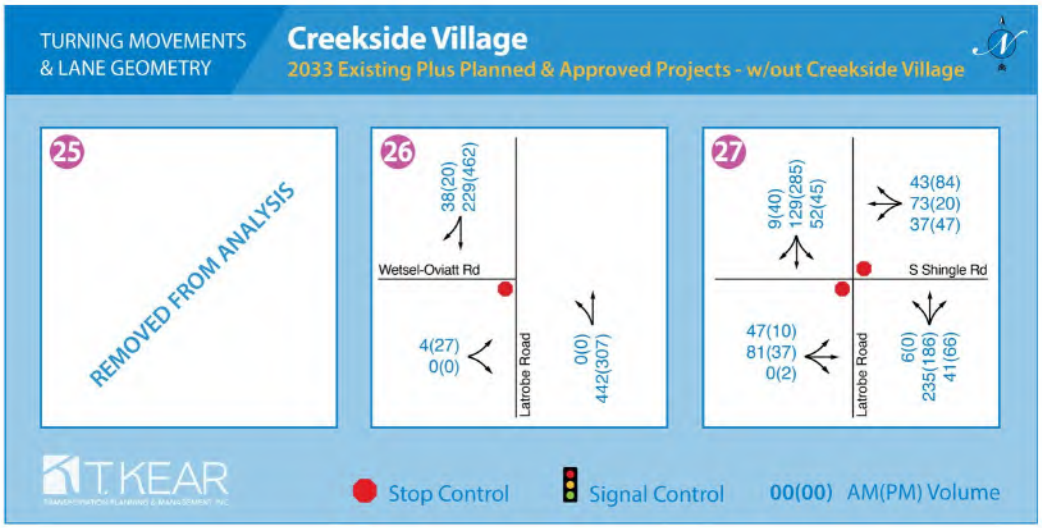


Figure 14. EPAP 2033 conditions lane geometry and turning movements (continued)

Table 19. EPAP 2033 intersection delay and level-of-service without the Project

ID	Intersection	Control	Left Turn Storage		2033 AM Peak No Project				2033 PM Peak No Project			
					Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)
1	El Dorado Hills Blvd/Serrano Pkwy	Signal	NB	260	**177.9**	**F**	NB	**382**	55.7	E	NB	115
			SB	110			SB	**119**			SB	40
			EB	100			EB	33			EB	52
			WB	430			WB	**457**			WB	207
2	El Dorado Hills Blvd/Saratoga Way	Signal	NB	500	**162.8**	**F**	NB	**1151**	**112.0**	**F**	NB	**1312**
			SB	500			SB	332			SB	341
			EB	150			EB	140			EB	**311**
			WB	N/A			WB	N/A			WB	N/A
3	El Dorado Hills Blvd/US 50 WB (Note EBL queueing reported even though there is not a left-turn pocket, it is 250' to end of right-turn pocket.)	Signal	NB	N/A	**92.6**	**F**	NB	N/A	50.7	D	NB	N/A
			SB	220			SB	113			SB	57
			EB	N/A			EB	227			EB	319
			WB	150			WB	**182**			WB	**238**
4	El Dorado Hills Blvd/US 50 EB (Note: EB and WB right queue reported as EB and WB. EB slip offramp is 1725 feet long)	Signal	NB	N/A	32.3	C	NB	N/A	58.1	E	NB	N/A
			SB	570			SB	363			SB	298
			EB	N/A			EB	549			EB	1251
			WB	N/A			WB	0			WB	0
5	Latrobe Road/Town Center Boulevard	Signal	NB	220	39.4	D	NB	41	52.3	D	NB	15
			SB	330			SB	**479**			SB	**679**
			EB	300			EB	93			EB	249
			WB	100			WB	74			WB	99
6	Latrobe Road/White Rock Road	Signal	NB	270	44.3	D	NB	253	79.6	E	NB	246
			SB	260			SB	89			SB	234
			EB	360			EB	306			EB	325
			WB	160			WB	**378**			WB	**840**
7	Latrobe Road/Golden Foothill Parkway (N)	Signal	NB	200	**84.0**	**F**	NB	56	80.0	E	NB	13
			SB	200			SB	22			SB	38
			EB	100			EB	**126**			EB	**416**
			WB	N/A			WB	N/A			WB	N/A
8	Latrobe Road/Suncast Lane	Signal	NB	280	13.7	B	NB	77	22.6	C	NB	85
			SB	N/A			SB	N/A			SB	N/A
			EB	100			EB	**127**			EB	**289**
9	Latrobe Road/ Golden Foothill Parkway (S)	Signal	NB	220	**90.2**	**F**	NB	66	**132.3**	**F**	NB	98
			SB	530			SB	475			SB	**786**
			EB	100			EB	**638**			EB	**1066**
			WB	N/A			WB	N/A			WB	N/A
10	Latrobe Road/Investment Boulevard	Signal	NB	180	12.2	B	NB	40	19.1	B	NB	93
			SB	N/A			SB	N/A			SB	N/A
			EB	100			EB	98			EB	**251**
11	Latrobe Road/Avanti Drive	TWSC	NB	N/A	(WB) 14.5	B	NB	N/A	(WB) 11.9	B	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A
12	Latrobe Road/Royal Oaks Drive	TWSC	NB	320	(WB) 17.4	B	NB	0	(WB) 26.5	D	NB	0
			SB	320			SB	6			SB	9
			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A
13	Golden Foothill Pkwy/Robert J. Mathews Pkwy	Rondabout	NB	N/A	(EB) 16.5	C	NB	N/A	(NB) 26.9	D	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A

Table 19. EPAP 2033 intersection delay and level-of-service without the Project (continued)

ID	Intersection	Control	Left Turn Storage	2033 AM Peak No Project				2033 PM Peak No Project			
				Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)
14	Investment Boulevard/Robert J. Mathews Pkwy	AWSC	NB N/A SB N/A EB N/A WB N/A	**203.9 ***	**F**	NB N/A SB N/A EB N/A WB N/A	N/A N/A N/A N/A	**135.9 ***	**f**	NB N/A SB N/A EB N/A WB N/A	N/A N/A N/A N/A
15	Golden Foothill Parkway/Carson Crossing Road	TWSC	NB N/A SB N/A EB N/A WB 220	(NBL) 13.7	B	NB N/A SB N/A EB N/A WB 5	N/A N/A N/A 5	(NBL) 21.4	C	NB N/A SB N/A EB N/A WB 8	N/A N/A N/A 8
16	Carson Crossing Road/Calypso Circle	TWSC	NB N/A SB N/A EB N/A WB 190	(NB) 13.2	B	NB N/A SB N/A EB N/A WB 8	N/A N/A N/A 8	(NB) 16.8	C	NB N/A SB N/A EB N/A WB 12	N/A N/A N/A 12
17	Carson Crossing Road/4 Seasons Drive	AWSC	NB N/A SB 100 WB N/A	8.0	A	NB N/A SB 1 WB N/A	N/A 1 N/A	8.2	A	NB N/A SB 3 WB N/A	N/A 3 N/A
18	White Rock Road/Carson Crossing Road	TWSC	NB N/A SB N/A EB 200 WB 300	(NBL) 34.5	D	NB N/A SB N/A EB 0 WB 4	N/A N/A 0 4	**(NBL) 411.5***	**F**	NB N/A SB N/A EB 0 WB 8	N/A N/A 0 8
19	White Rock Road/Windfield Way	Signal	NB 150 SB 100 EB 200 WB 200	29.2	C	NB 105 SB **10** EB 10 WB **452**	105 **10** 10 **452**	32.9	C	NB **393** SB 10 EB 10 WB **309**	**393** 10 10 **309**
20	White Rock Road/Post Street	Signal	NB N/A SB 100 EB 100 WB 120	40.1	D	NB N/A SB **318** EB **373** WB 102	N/A **318** **373** 102	67.2	E	NB N/A SB **702** EB **341** WB **158**	N/A **702** **341** **158**
21	White Rock Road/Valley View Parkway	Signal	NB 100 SB 100 EB 100 WB 100	**252.3**	**F**	NB **170** SB **324** EB **387** WB **708**	**170** **324** **387** **708**	**259.5**	**F**	NB **152** SB **505** EB **125** WB **827**	**152** **505** **125** **827**
22	White Rock Road/Clarksville Crossing	Signal	NB N/A SB N/A EB 460 WB 290	35.7	D	NB N/A SB N/A EB 7 WB 8	N/A N/A 7 8	37.9	D	NB N/A SB N/A EB 13 WB 0	N/A N/A 13 0
23	Silva Valley Parkway/US 50 EB ramps	Signal	NB 500 SB N/A EB N/A WB N/A	21.7	C	NB 257 SB N/A EB N/A WB N/A	257 N/A N/A N/A	49.9	D	NB **698** SB N/A EB N/A WB N/A	**698** N/A N/A N/A
24	Silva Valley Parkway/US 50 WB ramps	Signal	NB 550 SB N/A EB N/A WB N/A	69.7	E	NB 98 SB N/A EB N/A WB N/A	98 N/A N/A N/A	23.0	D	NB 192 SB N/A EB N/A WB N/A	192 N/A N/A N/A
25	not used			not used							
26	Latrobe Road/Wetsel-Oviatt Road	TWSC	NB N/A SB N/A EB N/A	(EB) 13.8	B	NB N/A SB N/A EB N/A	N/A N/A N/A	(EB) 15.7	C	NB N/A SB N/A EB N/A	N/A N/A N/A
27	Latrobe Road/S. Shingle Road	TWSC	NB N/A SB N/A EB N/A WB N/A	(EB) 18.7	B	NB N/A SB N/A EB N/A WB N/A	N/A N/A N/A N/A	(EB) 16.9	C	NB N/A SB N/A EB N/A WB N/A	N/A N/A N/A N/A

* Denotes intersections where the peak-hour signal warrant is met.

Table 20. EPAP 2033 freeway facility level-of-service without the Project

No	Segment	Segment Type	Method	2033 No Project AM	2333 No Project PM
Westbound US 50					
1	Bass Lake Rd to Silva Valley Pkwy	basic	HCM 7th Ed.	28.5/D	22.5/C
2	Silva Valley offramp	diverge	HCM 7th Ed.	24.1/C	19.1/B
3	Silva Valley offramp to future loop onramp	basic	HCM 7th Ed.	16.2/B	15.8/B
4	Future Silva Valley loop onramp	merge	HCM 7th Ed.	n/a	n/a
5	Silva Valley Pkwy to Latrobe Rd	weave	HCM 7th Ed.	16.5/B	13.7/B
6	El Dorado Hills Blvd offramp to onramp	basic	HCM 7th Ed.	13.3/B	12.6/B
7	El Dorado Hills Blvd onramp	merge	HCM 7th Ed.	30.1/D	27.5/C
8	El Dorado Hills Blvd to EDC Line *	basic	HCM 7th Ed.	32.5/D	28.0/D
Eastbound US 50					
9	EDC Line to Latrobe Rd	basic	HCM 7th Ed.	14.0/B	22.8/C
10	Latrobe slip offramp	diverge	HCM 7th Ed.	25.2/C	34.9/D
11	Latrobe loop offramp	diverge		23.7/C	32.2/D
12	El Dorado Hills Blvd offramp to Latrobe Rd onramp	basic	HCM 7th Ed.	5.9/A	10.4/A
13	Latrobe Rd onramp to Silva Valley Pkwy offramp	weave	HCM 7th Ed.	9.1/A	13.3/B
14	Silva Valley Pkwy offramp to onramp	basic	HCM 7th Ed.	9.0/A	12.3/B
B15	Silva Valley Pkwy onramp	merge	HCM 7th Ed.	17.3/B	24.5/C
16	Future Silva Valley Pkwy slip onramp	merge	HCM 7th Ed.	n/a	n/a
17	Silva Valley Pkwy to Bass Lake Rd	basic	HCM 7th Ed.	12.4/B	18.3/C

Notes:
Density in units of passenger cars per mile per lane.
*Prior to the opening of the Saratoga Way extension, Caltrans has reported occasional LOS F conditions during the morning peak for this segment based on planning methods rather than counts.

Table 21. EPAP 2033 arterial level-of-service check without the Project

Arterial Segment	**Description (and level-of-service E threshold)**	**2033 AM No Project** (vehicle trips)	**2033 PM No Project** (vehicle trips)
Latrobe Rd between Royal Oaks Dr and Investment Blvd	2-lane arterial (threshold 1650 vehicle trips)	736 (Better than LOS E)	734 (Better than LOS E)
Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south)	2-lane arterial (threshold 1650 vehicle trips)	1213 (Better than LOS E)	1035 (Better than LOS E)
Latrobe Rd between Golden Foothill Pkwy (south) and Suncast Ln	4-lane divided arterial (threshold 3290 vehicle trips)	2756 (Better than LOS E)	2549 (Better than LOS E)
Latrobe Rd between White Rock Rd and Town Center Blvd	8-lane divided arterial (threshold 6280 vehicle trips, extrapolated from 6-lane divided arterial)	3327 (Better than LOS E)	3354 (Better than LOS E)
White Rock Rd between Valley View Pkwy to Silva Valley Pkwy	2-lane arterial (threshold 1650 vehicle trips)	**1856 (LOS F)**	**2360 (LOS F)**

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8.0 EPAP 2033 PLUS PROPOSED PROJECT CONDITIONS

8.1 Traffic Volumes

Peak hour Project trips (**Figure 9** page 41) and avoided R&D and industrial trips (**Figure 12** page 48) were added to the EPAP 2033 conditions traffic volumes. Delay and level-of-service were determined at the study intersections and segments. **Figure 15** summarizes the turning movements and lane configurations for the EPAP 2033 Plus Proposed Project scenario.

8.2 Level-of-Service

Table 22 through **Table 24** present a summary of the level-of-service results for the study intersections and segments under EPAP 2033 Plus Proposed Project conditions. Intersection control is listed as signal, two-way stop-controlled (TWSC), or all-way stop-control (AWSC). Both the estimated delay and level-of-service (LOS) are provided. At TWSC intersections, the movement with the worst delay is shown in parentheses. Ninety-fifth percentile left turn queues are also listed. Entries shown in **Bold black** text in **Table 22** through **Table 24** denote locations with preexisting deficiencies that the Project is not anticipated to worsen. **Bold red** text denotes locations where the Project is anticipated to create new or worsen preexisting deficiencies. Unsignalized intersections that meet the peak hour signal warrant are shaded and denoted with an asterisk.

One arterial segment has a preexisting deficiency, which is not worsened by Project. sixteen intersections are anticipated to have level-of-service and/or queue spillback deficiencies.

1 Arterial segment has a preexisting deficiency, which is not worsened by Project:

- White Rock Rd between Valley View Pkwy to Silva Valley Pkwy PM;

9 Locations that are deficient with or without the Project that are not worsened:

- (1) El Dorado Hills Blvd/Serrano Pkwy AM;
- (2) El Dorado Hills Blvd/Saratoga Way AM and PM;
- (5) Latrobe Road/Town Center Boulevard AM and PM;
- (8) Latrobe Rd/Suncast Ln AM and PM;
- (14) Investment Boulevard/Robert J. Mathews Pkwy AM;
- (18) White Rock Road/Carson Crossing Road PM;
- (19) White Rock Road/Windfield Way AM and PM;
- (20) White Rock Road/Post Street AM and PM; and
- (23) Silva Valley Parkway/US 50 EB ramps PM.

6 Locations that are deficient with or without the Project that are worsened:

- (3) El Dorado Hills Blvd/US 50 WB AM;
- (6) Latrobe Road/White Rock Road PM;
- (7) Latrobe Road/Golden Foothill Parkway (N) PM;
- (9) Latrobe Road/ Golden Foothill Parkway (S) PM;
- (10) Latrobe Road/Investment Boulevard PM; and

- (21) White Rock Road/Valley View Parkway: PM.

1 Location where the Project is anticipated to cause new deficiencies:

- (12) Latrobe Road/Royal Oaks Drive AM and PM.

Calculation sheets for delay and level-of-service are provided in **Appendix B**. the remainder of the study intersections, all of the US 50 study segments, and arterial study segments were found to operate acceptably.

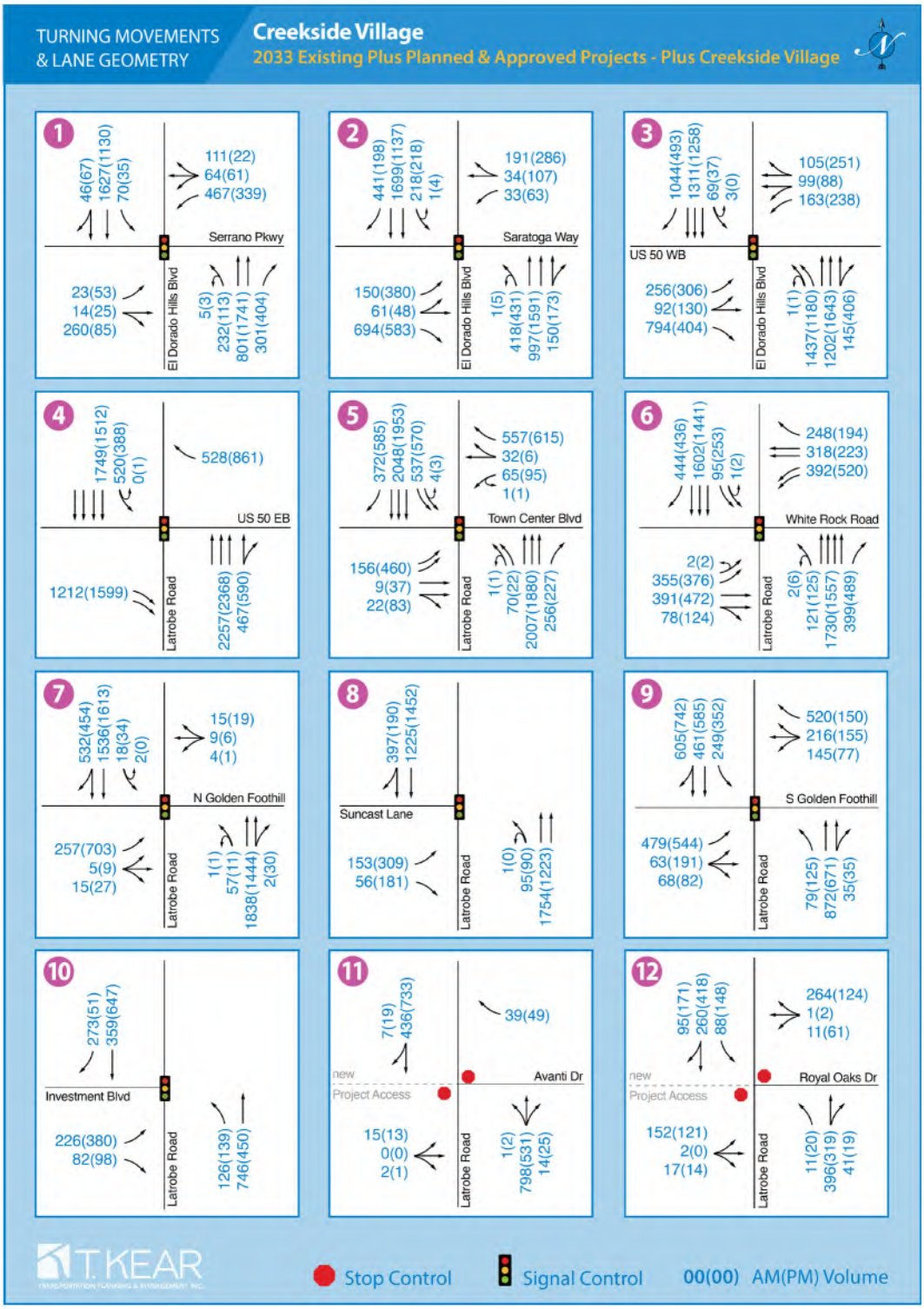


Figure 15. EPAP 2033 plus Project lane geometry and turning movements

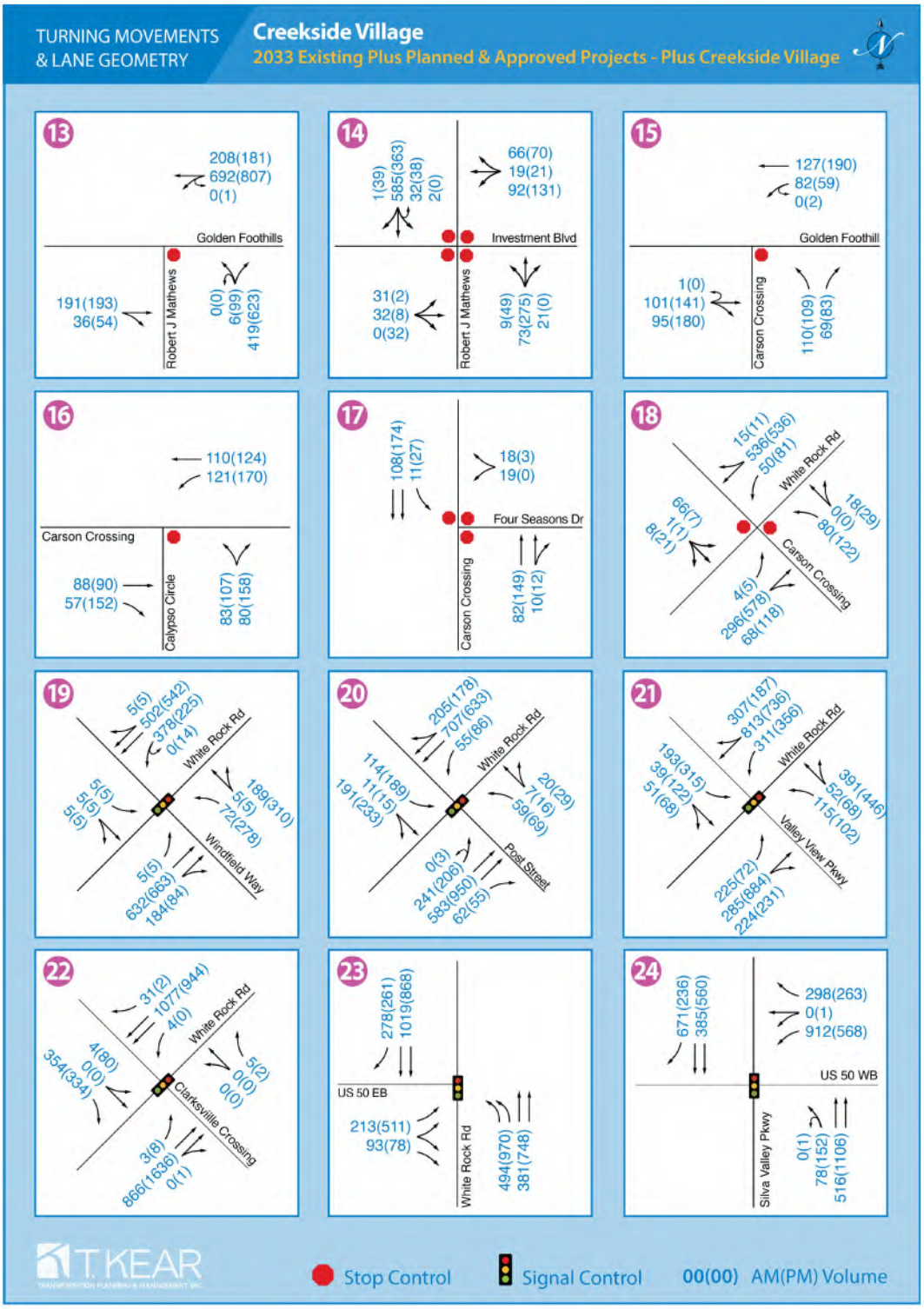


Figure 15. EPAP 2033 plus Project lane geometry and turning movements (continued)

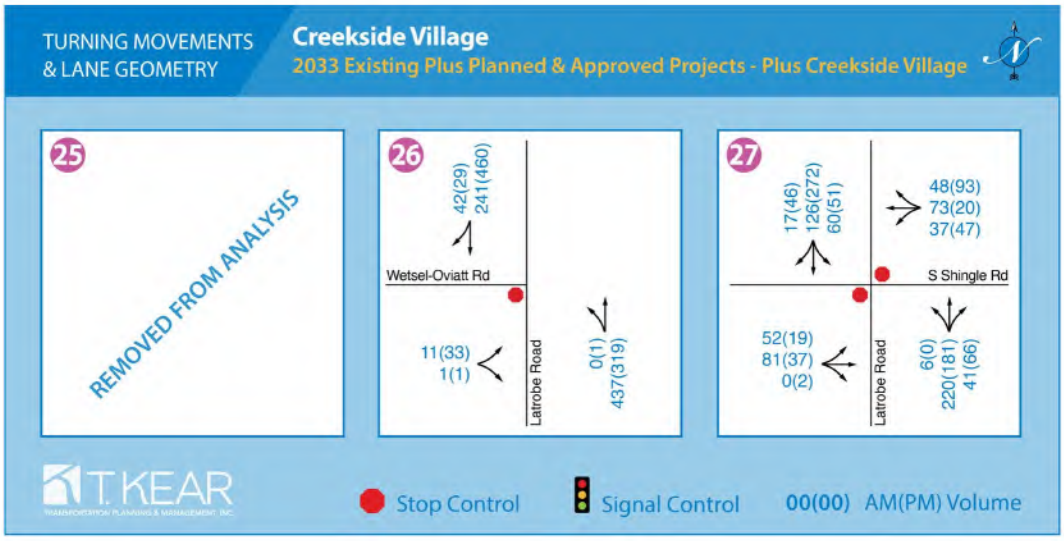


Figure 15. EPAP 2033 plus Project lane geometry and turning movements (continued)

Table 22. EPAP 2033 intersection delay and level-of-service with and without the Project

ID	Intersection	Control	Left Turn Storage	2033 AM Peak No Project				2033 PM Peak No Project				2033 AM Peak with Project				2033 PM Peak with Project			
				Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)
1	El Dorado Hills Blvd/Serrano Pkwy	Signal	NB 260 SB 110 EB 100 WB 430	**177.9**	**F**	NB **382** SB **119** EB 33 WB **457**		55.7	E	NB 115 SB 40 EB 52 WB 207		**172.7**	**F**	NB **382** SB 119 EB 33 WB 457		53.2	D	NB 115 SB 40 EB 52 WB 207	
2	El Dorado Hills Blvd/Saratoga Way	Signal	NB 500 SB 500 EB 150 WB N/A	**162.8**	**F**	NB **1151** SB 332 EB 140 WB N/A		**112.0**	**F**	NB **1312** SB 341 EB **311** WB N/A		**158.6**	**F**	NB **1165** SB 332 EB 140 WB N/A		**110.8**	**F**	NB **1271** SB 341 EB **311** WB N/A	
3	El Dorado Hills Blvd/US 50 WB (Note EBL queueing reported even though there is not a left-turn pocket, it is 250' to end of right-turn pocket.)	Signal	NB N/A SB 220 EB N/A WB 150	**92.6**	**F**	NB N/A SB 113 EB 227 WB **182**		50.7	D	NB N/A SB 57 EB 319 WB **238**		**94.7**	**F**	NB N/A SB 113 EB 227 WB **178**		48.4	D	NB N/A SB 57 EB 319 WB **239**	
4	El Dorado Hills Blvd/US 50 EB (Note: EB and WB right queue reported as EB and WB. EB slip offramp is 1725 feet long)	Signal	NB N/A SB 570 EB N/A WB N/A	32.3	C	NB N/A SB 363 EB 549 WB 0		58.1	E	NB N/A SB 298 EB 1251 WB 0		30.5	D	NB N/A SB 363 EB 472 WB 0		58.9	E	NB N/A SB 298 EB 1263 WB 0	
5	Latrobe Road/Town Center Boulevard	Signal	NB 220 SB 330 EB 300 WB 100	39.4	D	NB 41 SB **479** EB 93 WB 74		52.3	D	NB 15 SB **679** EB 249 WB 99		39.9	D	NB 42 SB **483** EB 93 WB 69		52.5	E	NB 14 SB **686** EB 250 WB **103**	
6	Latrobe Road/White Rock Road	Signal	NB 270 SB 260 EB 360 WB 160	44.3	D	NB 253 SB 89 EB 306 WB **378**		79.6	E	NB 246 SB 234 EB 325 WB **840**		43.0	D	NB 253 SB 89 EB 306 WB **338**		**80.8**	**F**	NB 246 SB 234 EB 325 WB **848**	
7	Latrobe Road/Golden Foothill Parkway (N)	Signal	NB 200 SB 200 EB 100 WB N/A	**84.0**	**F**	NB 56 SB 22 EB **126** WB N/A		80.0	E	NB 13 SB 38 EB **416** WB N/A		54.8	D	NB 56 SB 22 EB **126** WB N/A		**80.9**	**F**	NB **13** SB 37 EB **405** WB N/A	
8	Latrobe Road/Suncast Lane	Signal	NB 280 SB N/A EB 100	13.7	B	NB 77 SB N/A EB **127**		22.6	C	NB 85 SB N/A EB **289**		12.9	B	NB 76 SB N/A EB **124**		23.5	C	NB 86 SB N/A EB **290**	
9	Latrobe Road/ Golden Foothill Parkway (S)	Signal	NB 220 SB 530 EB 100 WB N/A	**90.2**	**F**	NB 66 SB 475 EB **638** WB N/A		**132.3**	**F**	NB 98 SB **786** EB **1066** WB N/A		**84.0**	**F**	NB 93 SB 497 EB **529** WB N/A		**112.8**	**F**	NB 120 SB **822** EB **788** WB N/A	
10	Latrobe Road/Investment Boulevard	Signal	NB 180 SB N/A EB 100	12.2	B	NB 40 SB N/A EB 98		19.1	B	NB 93 SB N/A EB **251**		12.3	B	NB 44 SB N/A EB 86		26.6	C	NB 138 SB N/A EB **375**	
11	Latrobe Road/Avanti Drive	TWSC	NB N/A SB N/A EB N/A WB N/A	(WB) 14.5	B	NB N/A SB N/A EB N/A WB N/A		(WB) 11.9	B	NB N/A SB N/A EB N/A WB N/A		(EB) 40.4	E	NB N/A SB N/A EB N/A WB N/A		(EB) 43.8	E	NB N/A SB N/A EB N/A WB N/A	
12	Latrobe Road/Royal Oaks Drive	TWSC	NB 320 SB 320 EB N/A WB N/A	(WB) 17.4	B	NB 0 SB 6 EB N/A WB N/A		(WB) 26.5	D	NB 0 SB 9 EB N/A WB N/A		**(EB) 526.1 ***	**F**	NB 1 SB 7 EB N/A WB N/A		**(EB) 237.6 ***	**F**	NB 2 SB 11 EB N/A WB N/A	
13	Golden Foothill Pkwy/Robert J. Mathews Pkwy	Rondabout	NB N/A SB N/A EB N/A WB N/A	(EB) 16.5	C	NB N/A SB N/A EB N/A WB N/A		(NB) 26.9	D	NB N/A SB N/A EB N/A WB N/A		(EB) 12.0	B	NB N/A SB N/A EB N/A WB N/A		(EB) 17.4	C	NB N/A SB N/A EB N/A WB N/A	

Table 22. EPAP 2033 intersection delay and level-of-service with and without the Project (continued)

ID	Intersection	Control	Left Turn Storage	2033 AM Peak No Project				2033 PM Peak No Project				2033 AM Peak with Project				2033 PM Peak with Project			
				Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)
14	Investment Boulevard/Robert J. Mathews Pkwy	AWSC	NB N/A SB N/A EB N/A WB N/A	**203.9 ***	**F**	NB N/A SB N/A EB N/A WB N/A		**135.9 ***	**f**	NB N/A SB N/A EB N/A WB N/A		**51.0**	**F**	NB N/A SB N/A EB N/A WB N/A		24.2	C	NB N/A SB N/A EB N/A WB N/A	
15	Golden Foothill Parkway/Carson Crossing Road	TWSC	NB N/A SB N/A EB N/A WB 220	(NBL) 13.7	B	NB N/A SB N/A EB N/A WB 5		(NBL) 21.4	C	NB N/A SB N/A EB N/A WB 8		(NBL) 13.8	B	NB N/A SB N/A EB N/A WB 5		(NBL) 17.8	C	NB N/A SB N/A EB N/A WB 5	
16	Carson Crossing Road/Calypso Circle	TWSC	NB N/A SB N/A EB N/A WB 190	(NB) 13.2	B	NB N/A SB N/A EB N/A WB 8		(NB) 16.8	C	NB N/A SB N/A EB N/A WB 12		(NB) 12.6	B	NB N/A SB N/A EB N/A WB 8		(NB) 16.1	C	NB N/A SB N/A EB N/A WB 12	
17	Carson Crossing Road/4 Seasons Drive	AWSC	NB N/A SB 100 WB N/A	8.0	A	NB N/A SB 1 WB N/A		8.2	A	NB N/A SB 3 WB N/A		7.9	A	NB N/A SB 1 WB N/A		8.1	A	NB N/A SB 3 WB N/A	
18	White Rock Road/Carson Crossing Road	TWSC	NB N/A SB N/A EB 200 WB 300	(NBL) 34.5	D	NB N/A SB N/A EB 0 WB 4		**(NBL) 411.5***	**F**	NB N/A SB N/A EB 0 WB 8		(NBL) 34.6	D	NB N/A SB N/A EB 0 WB 4		**(NBL) 260.1 ***	**F**	NB N/A SB N/A EB 0 WB 8	
19	White Rock Road/Windfield Way	Signal	NB 150 SB 100 EB 200 WB 200	29.2	C	NB 105 SB **10** EB 10 WB **452**		32.9	C	NB **393** SB 10 EB 10 WB **309**		29.2	C	NB 105 SB **10** EB 10 WB **452**		32.9	C	NB **393** SB 10 EB 10 WB **309**	
20	White Rock Road/Post Street	Signal	NB N/A SB 100 EB 100 WB 120	40.1	D	NB N/A SB **318** EB **373** WB 102		67.2	E	NB N/A SB **702** EB **341** WB **158**		39.5	D	NB N/A SB **318** EB **370** WB 102		66.9	E	NB N/A SB **702** EB **328** WB **158**	
21	White Rock Road/Valley View Parkway	Signal	NB 100 SB 100 EB 100 WB 100	**252.3**	**F**	NB **170** SB **324** EB **387** WB **708**		**259.5**	**F**	NB **152** SB **505** EB **125** WB **827**		**247.0**	**F**	NB **172** SB **328** EB **406** WB **686**		**254.8**	**F**	NB **152** SB **505** EB **136** WB **855**	
22	White Rock Road/Clarksville Crossing	Signal	NB N/A SB N/A EB 460 WB 290	35.7	D	NB N/A SB N/A EB 7 WB 8		37.9	D	NB N/A SB N/A EB 13 WB 0		34.5	D	NB N/A SB N/A EB 7 WB 8		37.1	D	NB N/A SB N/A EB 13 WB 0	
23	Silva Valley Parkway/US 50 EB ramps	Signal	NB 500 SB N/A EB N/A WB N/A	21.7	C	NB 257 SB N/A EB N/A WB N/A		49.9	D	NB **698** SB N/A EB N/A WB N/A		21.7	C	NB 261 SB N/A EB N/A WB N/A		46.8	D	NB **654** SB N/A EB N/A WB N/A	
24	Silva Valley Parkway/US 50 WB ramps	Signal	NB 550 SB N/A EB N/A WB N/A	69.7	E	NB 98 SB N/A EB N/A WB N/A		23.0	D	NB 192 SB N/A EB N/A WB N/A		65.9	E	NB 98 SB N/A EB N/A WB N/A		23.1	C	NB 192 SB N/A EB N/A WB N/A	
25	not used			not used								not used							
26	Latrobe Road/Wetsel-Oviatt Road	TWSC	NB N/A SB N/A EB N/A	(EB) 13.8	B	NB N/A SB N/A EB N/A		(EB) 15.7	C	NB N/A SB N/A EB N/A		(EB) 13.7	B	NB N/A SB N/A EB N/A		(EB) 16.0	C	NB N/A SB N/A EB N/A	
27	Latrobe Road/S. Shingle Road	TWSC	NB N/A SB N/A EB N/A WB N/A	(EB) 18.7	B	NB N/A SB N/A EB N/A WB N/A		(EB) 16.9	C	NB N/A SB N/A EB N/A WB N/A		(EB)19.4	C	NB N/A SB N/A EB N/A WB N/A		(EB) 18.0	C	NB N/A SB N/A EB N/A WB N/A	

* Denotes intersections where the peak-hour signal warrant is met.

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Table 23. EPAP 2033 freeway facility level-of-service with and without the proposed Project with park

No	Segment	Segment Type	Method	2033 No Project AM	2033 No Project PM	2033 Plus Project AM	2033 Plus Project PM
Westbound US 50							
1	Bass Lake Rd to Silva Valley Pkwy	basic	HCM 7th Ed.	28.5/D	22.5/C	29.4/D	23.2/C
2	Silva Valley offramp	diverge	HCM 7th Ed.	24.1/C	19.1/B	24.8/C	19.8/B
3	Silva Valley offramp to future loop onramp	basic	HCM 7th Ed.	16.2/B	15.8/B	16.8/B	15.9/B
4	Future Silva Valley loop onramp	merge	HCM 7th Ed.	n/a	n/a	n/a	n/a
5	Silva Valley Pkwy to Latrobe Rd	weave	HCM 7th Ed.	16.5/B	13.7/B	17.0/B	13.8/B
6	El Dorado Hills Blvd offramp to onramp	basic	HCM 7th Ed.	13.3/B	12.6/B	13.9/B	12.6/B
7	El Dorado Hills Blvd onramp	merge	HCM 7th Ed.	30.1/D	27.5/C	30.9/D	27.4/C
8	El Dorado Hills Blvd to EDC Line *	basic	HCM 7th Ed.	32.5/D	28.0/D	33.9/D	27.9/D
Eastbound US 50							
9	EDC Line to Latrobe Rd	basic	HCM 7th Ed.	14.0/B	22.8/C	13.9/B	23.3/C
10	Latrobe slip offramp	diverge	HCM 7th Ed.	25.2/C	34.9/D	24.9/C	35.6/E
11	Latrobe loop offramp	diverge		23.7/C	32.2/D	23.5/C	32.6/D
12	El Dorado Hills Blvd offramp to Latrobe Rd onramp	basic	HCM 7th Ed.	5.9/A	10.4/A	5.9/A	10.4/A
13	Latrobe Rd onramp to Silva Valley Pkwy offramp	weave	HCM 7th Ed.	9.1/A	13.3/B	9.2/A	13.3/B
14	Silva Valley Pkwy offramp to onramp	basic	HCM 7th Ed.	9.0/A	12.3/B	9.1/A	12.2/B
15	Silva Valley Pkwy onramp	merge	HCM 7th Ed.	17.3/B	24.5/C	17.9/B	24.4/C
16	Future Silva Valley Pkwy slip onramp	merge	HCM 7th Ed.	n/a	n/a	n/a	n/a
17	Silva Valley Pkwy to Bass Lake Rd	basic	HCM 7th Ed.	12.4/B	18.3/C	12.8/B	18.2/C

Notes:
Density in units of passenger cars per mile per lane.
*Prior to the opening of the Saratoga Way extension, Caltrans has reported occasional LOS F conditions during the morning peak for this segment based on planning methods rather than counts.

Project plus forgone business park trips will reduce WB US 50 volume between Latrobe Rd and the El Dorado County line during the PM-peak.

Project plus forgone business park trips will reduce EB US 50 volume between EDC line and Latrobe Rd during the AM-peak, and between Silva Valley Pkwy and Bass Lake Rd during the PM peak.

Table 24. EPAP 2033 arterial level-of-service check with and without the Project

Arterial Segment	**Description (and level-of-service E threshold)**	**2033 AM No Project** (vehicle trips)	**2033 PM No Project** (vehicle trips)	**2033 AM Plus Project** (vehicle trips)	**2033 PM Plus Project** (vehicle trips)
Latrobe Rd between Royal Oaks Dr and Investment Blvd	2-lane arterial (threshold 1650 vehicle trips)	736 (Better than LOS E)	734 (Better than LOS E)	1013 (Better than LOS E)	1043 (Better than LOS E)
Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south)	2-lane arterial (threshold 1650 vehicle trips)	1213 (Better than LOS E)	1035 (Better than LOS E)	1300 (Better than LOS E)	1391 (Better than LOS E)
Latrobe Rd between Golden Foothill Pkwy (south) and Suncast Ln	4-lane divided arterial (threshold 3290 vehicle trips)	2756 (Better than LOS E)	2549 (Better than LOS E)	2214 (Better than LOS E)	2553 (Better than LOS E)
Latrobe Rd between White Rock Rd and Town Center Blvd	8-lane divided arterial (threshold 6280 vehicle trips, extrapolated from 6-lane divided arterial)	3327 (Better than LOS E)	3354 (Better than LOS E)	3102 (Better than LOS E)	3280 (Better than LOS E)
White Rock Rd between Valley View Pkwy to Silva Valley Pkwy	2-lane arterial (threshold 1650 vehicle trips)	**1856** (LOS F)	**2360** (LOS F)	1239 (Better than LOS E)	**2346** (LOS F)

8.3 Existing 2033 Plus Project General Plan Deficiency Findings

Level-of-service and queueing impacts are not considered significant under CEQA. Intersections and/or segments where Project traffic creates new or worsens existing exceedances of General Plan policy thresholds are referred to as having a "project deficiency". There are twelve intersections and two arterial segments where the Project is anticipated to create new or worsen existing deficiencies under EPAP 2033 Plus Project conditions.

Throughout this document, segment deficiencies are numbered using the segment number (i through v) and a year code (2023 = "A", 2033 = "B", and 2040 = "C"). Intersection abatement measures are numbered using the intersection number (1-27) and the year code (A, B, or C).

All deficiencies and abatements described below include the deficiency number/abatement number and location as a title, followed by a description of the deficiency, the abatement, findings, responsibility, and timing. Unless otherwise noted, it is assumed the timing would be prior to issuance of the first building permit

2033 Intersection Deficiencies and Abatement Measures

3B. El Dorado Hills Blvd/US 50 WB in 2033

Deficiency: AM peak-hour level-of-service is F prior to addition of Project traffic. Project traffic is anticipated to worsen level-of-service.

2023-2033 Improvements Assumed: None.

Abatement: Implement as abatement 3A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 25** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 3A.

Timing: Not applicable, addressed through abatement 3A.

Cross reference: See abatement 3A.

6B. Latrobe Road/White Rock Road in 2033

Deficiency: PM peak-hour level-of-service is F prior to addition of Project traffic. Project traffic is anticipated to worsen level-of-service.

2023-2033 Improvements Assumed: None.

2023-2033 Improvements Assumed: None.

Abatement: implement as abatement 6A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 25** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 6A.

Timing: Not applicable, addressed through abatement 6A.

Cross reference: See abatement 6A.

7B. Latrobe Road/Golden Foothill Parkway (N) in 2033

Deficiency: PM peak-hour level-of-service is F prior to addition of Project traffic. Project traffic is anticipated to worsen level-of-service.

2023-2033 Improvements Assumed: None.

Abatement: Construct 170-foot southbound right turn pocket.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 25** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: CIP 36105069 will widen this portion of Latrobe Rd to six lanes by 2040 and should be advanced to the 10-year CIP. The Project's fair share cost of this improvement is payment of the TIF program fee.

Timing: Prior to issuance of 1st building permit.

9B. Latrobe Road/ Golden Foothill Parkway (S) in 2033

Deficiency: Project traffic is anticipated to worsen existing queue spillback from the southbound left turn during both the AM and PM peak-hours.

2023-2033 Improvements Assumed: None.

Abatement: Construct a second southbound left turn lane on Latrobe Rd and a second eastbound lane on Clubview Dr between Latrobe Road and Blackstone Pkwy. The second eastbound lane on Clubview Dr is a receiving lane for the second southbound left turn lane from Latrobe Rd.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 25** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: The Project is responsible for its fair share of the cost of these off-site improvements which would be addressed by payment of fees after CIP project 36105055 (AKA "72Latrobe") is added to the 10-year CIP.

Timing: Prior to issuance of 1st building permit.

Cross reference: See abatement 9A.

10B. Latrobe Road/Investment Boulevard in 2033

Deficiency: Project traffic is anticipated to cause the eastbound (Investment Blvd) left-turn queue to spill out of its left-turn pocket.

2023-2033 Improvements Assumed: None.

Abatement: Implement as abatement 10A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 25** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 10A.

Timing: Not applicable, addressed through abatement 10A.

Cross reference: See abatement 10A.

12B. Latrobe Road/Royal Oaks Drive in 2033

Deficiency: Project traffic is anticipated to worsen the intersection to level-of-service F.

2023-2033 Improvements Assumed: None.

Abatement: Implement as abatement 12A.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this

location. **Table 25** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 12A.

Timing: Not applicable, addressed through abatement 12A.

Cross reference: See abatement 12A.

21B. White Rock Road/Valley View Parkway in 2033

Deficiency: Project traffic is anticipated to worsen left-turn queue spillback on westbound White Rock Rd.

2023-2033 Improvements Assumed: None.

Abatement:

- Implement abatement 21A.
- Further extend the westbound left turn pocket to 410 feet. (Note: abatement 21A will extend this pocket to 350 feet. Abatement 21B reflects an additional 60 feet of westbound right turn storage.)

Widening should be done to the south of Latrobe Rd to avoid high voltage lines. Eastbound-westbound Lane alignment may require additional space.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 25** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: CIP Project 36105042 (White Rock Road Widening 2 to 4 lanes – Post Street to South of Silva Valley Parkway) includes funding for improvements to this intersection in both the 10-year and 20-year CIPs and all components should be advanced to 10-year CIP. The Project's fair share responsibility for this improvement can be met through payment of TIF program fees.

Timing: Prior to issuance of 1st building permit.

Cross reference: See abatement 21A.

Table 25. EPAP 2033 intersection delay and level-of-service with and without the abated Project

ID	Intersection	Control	Left Turn Storage	2033 AM Peak No Project				2033 PM Peak No Project				2033 AM Peak with Project				2033 PM Peak with Project				Abatement Strategy	Left Turn Storage	Abated AM Peak (+ Proj)				Abated PM Peak (+ Proj)				Existing or Anticipated CIP Project
				Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)			Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	
3	El Dorado Hills Blvd/US 50 WB (Note EBL queueing reported even though there is not a left-turn pocket, it is 250' to end of right-turn pocket.)	Signal	NB N/A SB 220 EB N/A WB 150	**92.6**	**F**	NB N/A SB 113 EB 227 WB **182**		50.7	D	NB N/A SB 57 EB 319 WB **238**		**94.7**	**F**	NB N/A SB 113 EB 227 WB **178**		48.4	D	NB N/A SB 57 EB 319 WB **239**		Implement Abatement 3A	NB N/A SB 220 EB N/A WB 150	78.1	E	NB N/A SB 112 EB 242 WB **177**		no change				"Traffic Signals Intersection"
6	Latrobe Road/White Rock Road	Signal	NB 270 SB 260 EB 360 WB 160	44.3	D	NB 253 SB 89 EB 306 WB **378**		79.6	E	NB 246 SB 234 EB 325 WB **840**		43.0	D	NB 253 SB 89 EB 306 WB **338**		**80.8**	**F**	NB 246 SB 234 EB 325 WB **848**		Implement Abatement 6A.	NB 270 SB 260 EB 360 WB 160	no changes				51.2	D	NB 256 SB 237 EB 329 WB **426**		36105069
7	Latrobe Road/Golden Foothill Parkway (N)	Signal	NB 200 SB 200 EB 100 WB N/A	**84.0**	**F**	NB 56 SB 22 EB **126** WB N/A		80.0	E	NB 13 SB 38 EB **416** WB N/A		54.8	D	NB 56 SB 22 EB **126** WB N/A		**80.9**	**F**	NB **13** SB 37 EB **405** WB N/A		Add 170' SB right turn pocket	NB 200 SB 200 EB 100 WB N/A	25.9	C	NB 30 SB 16 EB 56 WB N/A		39.9	D	NB 13 SB 37 EB **405** WB N/A		36105069
9	Latrobe Road/ Golden Foothill Parkway (S)	Signal	NB 220 SB 530 EB 100 WB N/A	**90.2**	**F**	NB 66 SB 475 EB **638** WB N/A		**132.3**	**F**	NB 98 SB **786** EB **1066** WB N/A		**84.0**	**F**	NB 93 SB 497 EB **529** WB N/A		**112.8**	**F**	NB 120 SB **822** EB **788** WB N/A		Construct 2nd SB left (both left turn lanes only require 160') on Latrobe and receiving lane on Clubview	NB 220 SB 160 EB 100 WB N/A	68.3	E	NB 90 SB 126 EB 488 WB N/A		**90.0**	**F**	NB 120 SB 152 EB **788** WB N/A		"Latrobe 72"
10	Latrobe Road/Investment Boulevard	Signal	NB 180 SB N/A EB 100	12.2	B	NB 40 SB N/A EB 98		19.1	B	NB 93 SB N/A EB **251**		12.3	B	NB 44 SB N/A EB 86		26.6	C	NB 138 SB N/A EB **375**		Implement Abatement 10A	NB 180 SB N/A EB 190	11.3	B	NB 39 SB N/A EB 55		18.9	B	NB 93 SB N/A EB **189**		"Latrobe 72"
12	Latrobe Road/Royal Oaks Drive	TWSC	NB 320 SB 320 EB N/A WB N/A	(WB) 17.4	B	NB 0 SB 6 EB N/A WB N/A		(WB) 26.5	D	NB 0 SB 9 EB N/A WB N/A		**(EB) 526.1 ***	**F**	NB 1 SB 7 EB N/A WB N/A		**(EB) 237.6 ***	**F**	NB 2 SB 11 EB N/A WB N/A		Implement Abatement 12A	NB 320 SB 320 EB N/A WB N/A	27.0	C	NB 10 SB 67 EB N/A WB N/A		23.4	C	NB 13 SB 69 EB N/A WB N/A		n/a
21	White Rock Road/Valley View Parkway	Signal	NB 100 SB 100 EB 100 WB 100	**252.3**	**F**	NB **170** SB **324** EB **387** WB **708**		**259.5**	**F**	NB **152** SB **505** EB **125** WB **827**		**247.0**	**F**	NB **172** SB **328** EB **406** WB **686**		**254.8**	**F**	NB **152** SB **505** EB **136** WB **855**		Implement Abatement 21A. Additional lengthening of WB left turn pocket to from 350' to 410'.	NB 100 SB 100 EB 100 WB 410	**145.1**	**F**	NB **172** SB **328** EB 406 WB 686		232.3	**F**	NB **145** SB **156** EB 42 WB 410		36105042

* Denotes intersections where the peak-hour signal warrant is met.

October 9, 2024

9.0 CUMULATIVE 2040 CONDITIONS

The Cumulative 2040 conditions analysis started with lane configurations from Existing 2023 conditions and turning movements derived from existing traffic counts, growth factors from the Travel Demand Model, and the NCHRP 255 adjustment procedure. Several volume and network adjustments were then made.

Seven Capital Improvement Program (CIP) projects that affect study intersection geometry were accounted for:

- CIP Project 36105042: Widening of White Rock Road to four-lanes between Post Street and the US 50 Silva Valley interchange.
- CIP Project 36105007: Country Club Drive Extension to El Dorado Hills Blvd.
- CIP Project 36105035: Saratoga Way Extension Phase 2 (widening to four-lanes and associated intersection improvements).
- CIP Project 36104021: US 50 auxiliary lane westbound - El Dorado Hills Blvd to El Dorado County line.
- CIP Project 36104001: US 50/El Dorado Hills Blvd interchange improvements phase 2B (adds another NB through lane at study intersection #4.)
- CIP Project 36104004: US 50/Silva Valley Parkway interchange Phase 2 – on ramps and auxiliary lanes. (adds eastbound slip onramp and westbound loop onramp).
- CIP Project 36105041: White Rock Road widening to four-lanes between Manchester Drive and the El Dorado County line.

Traffic volumes from 2033 without the Project were used as a floor before traffic from the avoided trips (see **Figure 11**, page 45) was shifted from where the TDM loads it directly onto Carson Crossing Drive to Investment Blvd. Traffic for the approved Carson Creek/Heritage project was added. Note that because the Creekside Village project also has avoided R&D and industrial vehicle trips, some turning movements are lower in 2040 than they were in 2033. For 2040, a peak hour factor of 0.92 was also used as a floor.

Figure *16* summarizes the turning movements and lane configurations for the Cumulative 2040 conditions scenario.

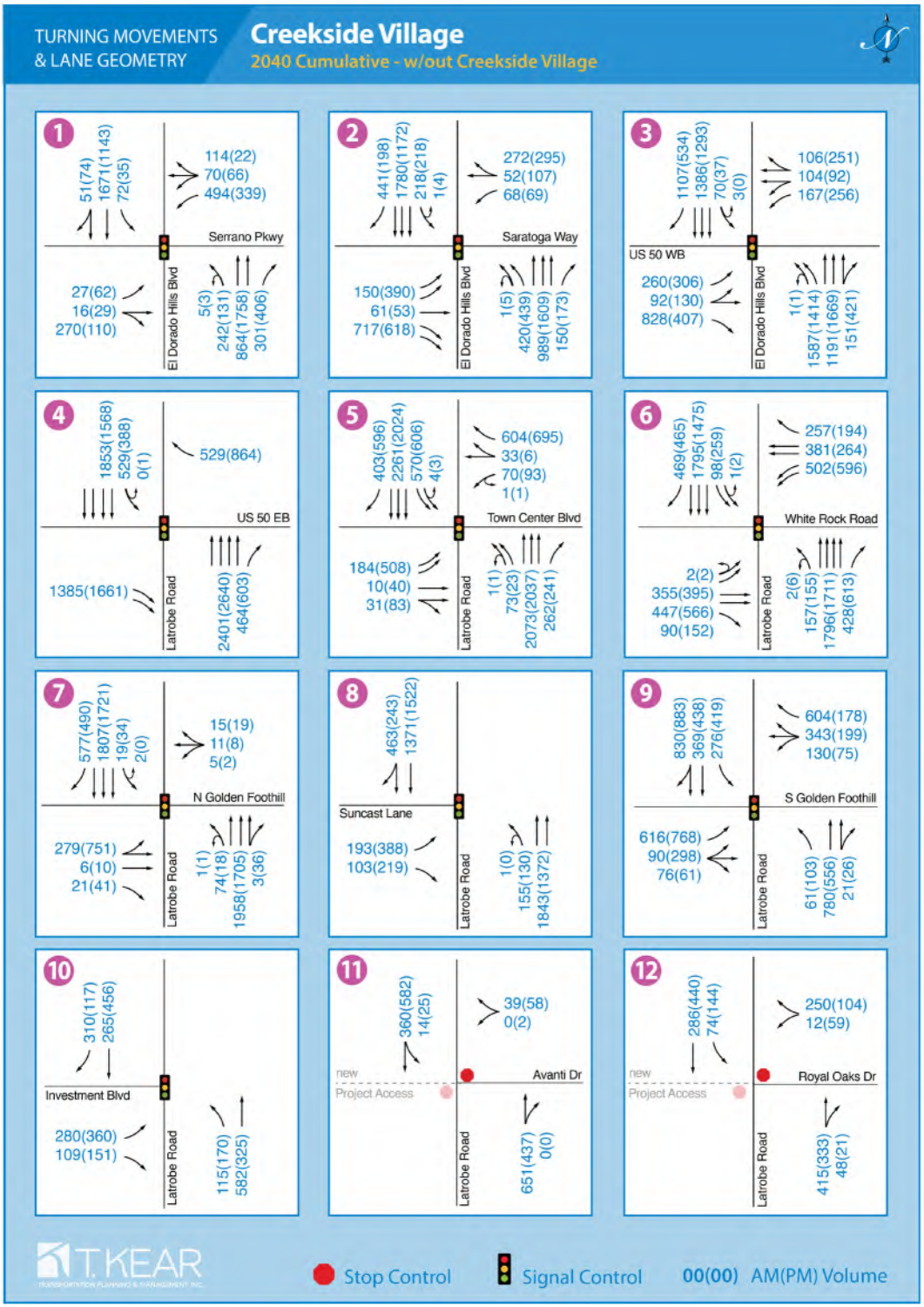


Figure 16. Cumulative 2040 lane geometry and turning movements

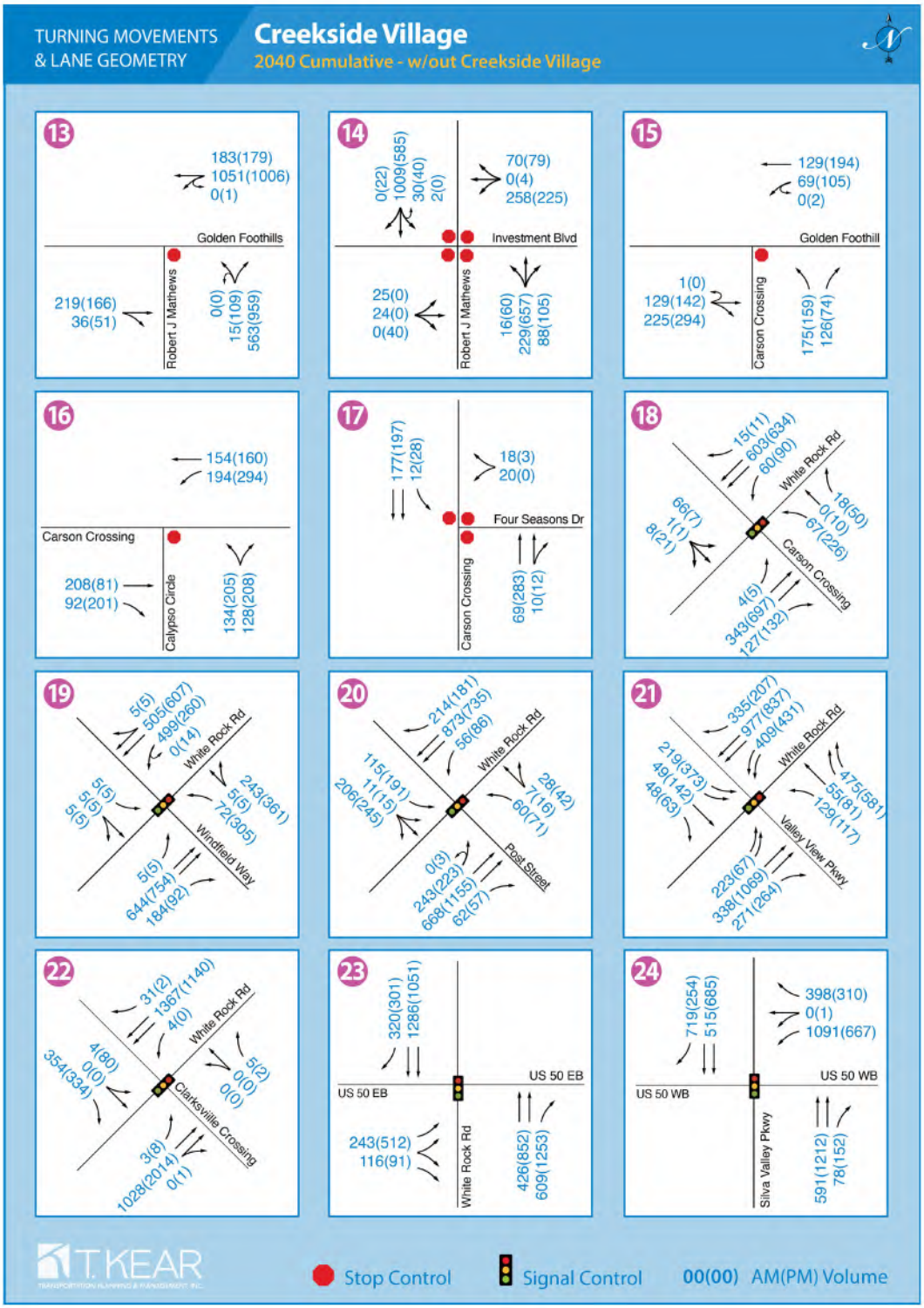


Figure 16. Cumulative 2040 lane geometry and turning movements (continued)

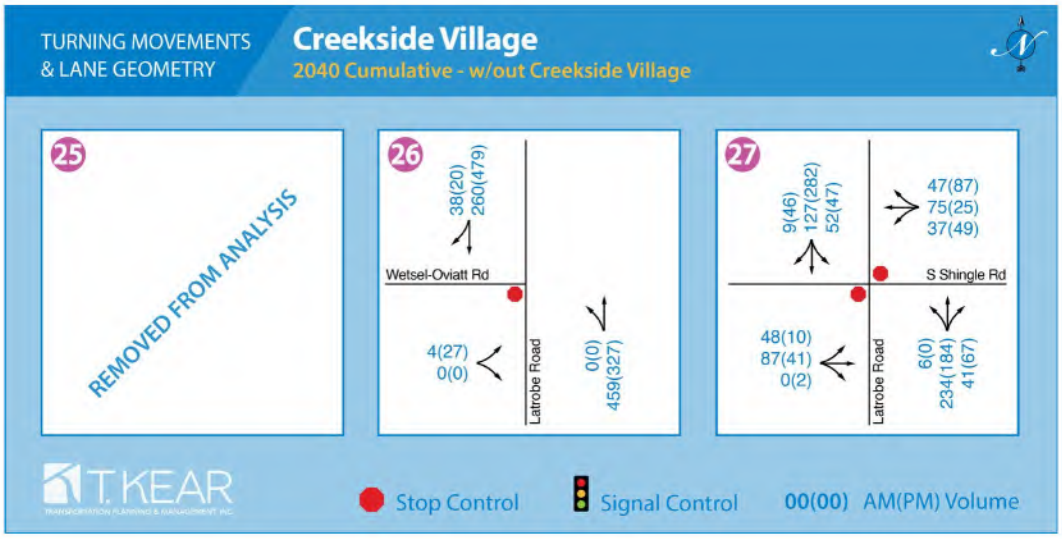


Figure *16*. Cumulative 2040 lane geometry and turning movements (continued)

Delay and level-of-service is presented in **Table 26** through **Table 28**. Intersection control is listed as signal, two-way stop-controlled (TWSC), or all-way stop-control (AWSC). Both the estimated delay and level-of-service (LOS) are provided. At TWSC intersections, the movement with the worst delay is shown in parentheses. Ninety-fifth percentile left turn queues are also listed. Entries shown in **bold black** typeface denote deficient traffic operations, and unsignalized intersections that meet the peak hour signal warrant are denoted with an asterisk and shading.

The results indicate that thirteen study intersections operate deficiency with level-of-service F conditions and/or 95% left turn queues that exceed available storage lengths.

- (1) El Dorado Hills Blvd/Serrano Pkwy AM;
- (2) El Dorado Hills Blvd/Saratoga Way PM;
- (3) El Dorado Hills Blvd/US 50 WB AM and PM;
- (5) Latrobe Road/Town Center Boulevard AM and PM;
- (8) Latrobe Rd/Suncast Ln AM and PM;
- (9) Latrobe Road/ Golden Foothill Parkway (S) AM and PM;
- (10) Latrobe Road/Investment Boulevard PM;
- (13) Golden Foothill Parkway (S)/Robert J. Mathews Pkwy PM;
- (14) Investment Boulevard/Robert J. Mathews Pkwy AM and PM
- (16) Carson Crossing Road/Calypso Circle PM;
- (19) White Rock Road/Windfield Way AM and PM;
- (20) White Rock Road/Post Street AM and PM; and
- (21) White Rock Road/Valley View Parkway PM.

Calculation sheets for delay and level-of-service are provided in **Appendix B**. the remainder of the study intersections, all of the US 50 study segments, and arterial study segments were found to operate acceptably.

Table 26. Cumulative 2040 intersection delay and level-of-service without the Project

ID	Intersection	Control	Left Turn Storage		2040 AM Peak No Project				2040 PM Peak No Project			
					Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)
1	El Dorado Hills Blvd/Serrano Pkwy	Signal	NB	260	**196.7**	**F**	NB	**418**	63.1	E	NB	136
			SB	110			SB	**129**			SB	41
			EB	100			EB	40			EB	61
			WB	430			WB	506			WB	214
2	El Dorado Hills Blvd/Saratoga Way	Signal	NB	500	55.5	E	NB	284	69.6	E	NB	612
			SB	500			SB	341			SB	332
			EB	150			EB	145			EB	**332**
			WB	N/A			WB	N/A			WB	N/A
3	El Dorado Hills Blvd/US 50 WB (Note EBL queueing reported even though there is not a left-turn pocket, it is 250' to end of right-turn pocket.)	Signal	NB	N/A	**120.8**	**F**	NB	N/A	71.5	E	NB	N/A
			SB	220			SB	115			SB	57
			EB	N/A			EB	227			EB	318
			WB	150			WB	**184**			WB	**259**
4	El Dorado Hills Blvd/US 50 EB (Note: EB and WB right queue reported as EB and WB. EB slip offramp is 1725 feet long)	Signal	NB	N/A	37.3	D	NB	N/A	61.7	E	NB	N/A
			SB	570			SB	372			SB	298
			EB	N/A			EB	810			EB	1400
			WB	N/A			WB	0			WB	0
5	Latrobe Road/Town Center Boulevard	Signal	NB	220	36.2	D	NB	44	70.5	E	NB	16
			SB	330			SB	**460**			SB	**864**
			EB	300			EB	109			EB	295
			WB	100			WB	74			WB	**113**
6	Latrobe Road/White Rock Road	Signal	NB	270	41.5	D	NB	159	48.9	D	NB	162
			SB	260			SB	95			SB	241
			EB	360			EB	313			EB	343
			WB	400			WB	364			WB	360
7	Latrobe Road/Golden Foothill Parkway (N)	Signal	NB	200	15.4	B	NB	19	23.9	C	NB	19
			SB	200			SB	21			SB	37
			EB	320			EB	118			EB	305
			WB	N/A			WB	N/A			WB	N/A
8	Latrobe Road/Suncast Lane	Signal	NB	280	28.5	C	NB	151	45.6	D	NB	134
			SB	N/A			SB	N/A			SB	N/A
			EB	100			EB	**186**			EB	**486**
9	Latrobe Road/ Golden Foothill Parkway (S)	Signal	NB	220	**143.8**	**F**	NB	72	**217.0**	**F**	NB	102
			SB	530			SB	**601**			SB	**1186**
			EB	100			EB	**917**			EB	**1643**
			WB	N/A			WB	N/A			WB	N/A
10	Latrobe Road/Investment Boulevard	Signal	NB	180	12.1	B	NB	35	19.6	B	NB	108
			SB	N/A			SB	N/A			SB	N/A
			EB	100			EB	92			EB	**251**
11	Latrobe Road/Avanti Drive	TWSC	NB	N/A	(WB) 14.1	B	NB	N/A	(WB) 12.3	B	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A
12	Latrobe Road/Royal Oaks Drive	TWSC	NB	320	(WB) 18.2	C	NB	0	(WB) 32.3	D	NB	0
			SB	320			SB	6			SB	11
			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A
13	Golden Foothill Pkwy/Robert J. Mathews Pkwy	Rondabout	NB	N/A	(EB) 30.4	D	NB	N/A	**(NB) 74.4**	**F**	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A

Table 26. Cumulative 2040 intersection delay and level-of-service without the Project (continued)

ID	Intersection	Control	Left Turn Storage		2040 AM Peak No Project				2040 PM Peak No Project			
					Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)
14	Investment Boulevard/Robert J. Mathews Pkwy	AWSC	NB	N/A	**372.9 ***	**F**	NB	N/A	**273.2 ***	**F**	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A
15	Golden Foothill Parkway/Carson Crossing Road	TWSC	NB	N/A	(NBL) 17.4	C	NB	N/A	(NBL) 35.4	D	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
			WB	220			WB	5			WB	11
16	Carson Crossing Road/Calypso Circle	TWSC	NB	N/A	(NB) 29.8	D	NB	N/A	**(NB) 163.7 ***	**F**	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
			WB	190			WB	15			WB	25
17	Carson Crossing Road/4 Seasons Drive	AWSC	NB	N/A	8.1	A	NB	N/A	8.7	A	NB	N/A
			SB	100			SB	1			SB	3
			WB	N/A			WB	N/A			WB	N/A
18	White Rock Road/Carson Crossing Road	**Signal**	NB	200	16.6	B	NB	29	17.4	B	NB	127
			SB	N/A			SB	N/A			SB	N/A
			EB	200			EB	3			EB	4
			WB	300			WB	27			WB	49
19	White Rock Road/Windfield Way	Signal	NB	150	35.0	C	NB	105	34.8	C	NB	**434**
			SB	100			SB	10			SB	10
			EB	200			EB	10			EB	10
			WB	200			WB	**610**			WB	**345**
20	White Rock Road/Post Street	Signal	NB	N/A	44.8	D	NB	N/A	44.9	D	NB	N/A
			SB	100			SB	**216**			SB	**344**
			EB	300			EB	**305**			EB	272
			WB	200			WB	117			WB	183
21	White Rock Road/Valley View Parkway	Signal	NB	300	26.9	C	NB	148	33.5	C	NB	159
			SB	200			SB	119			SB	**229**
			EB	300			EB	121			EB	44
			WB	500			WB	209			WB	255
22	White Rock Road/Clarksville Crossing	Signal	NB	N/A	43.1	D	NB	N/A	57.2	B	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	460			EB	7			EB	14
			WB	290			WB	8			WB	0
23	Silva Valley Parkway/US 50 EB ramps	Signal	NB	N/A	11.1	B	NB	N/A	38.0	D	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A
24	Silva Valley Parkway/US 50 WB ramps	Signal	NB	N/A	52.2	D	NB	N/A	27.5	C	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A
25	not used				not used							
26	Latrobe Road/Wetsel-Oviatt Road	TWSC	NB	N/A	(EB) 14.4	B	NB	N/A	(EB) 16.3	C	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
27	Latrobe Road/S. Shingle Road	TWSC	NB	N/A	(EB) 19.0	C	NB	N/A	(EB) 17.2	C	NB	N/A
			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A

* Denotes intersections where the peak-hour signal warrant is met.

Table 27. Cumulative 2040 freeway facility level-of-service without the Project

No	Segment	Segment Type	Method	2040 No Project AM	2340 No Project PM
Westbound US 50					
1	Bass Lake Rd to Silva Valley Pkwy	basic	HCM 7th Ed.	33.6/D	27.3/D
2	Silva Valley offramp	diverge	HCM 7th Ed.	27.5/C	23.2/C
3	Silva Valley offramp to future loop onramp	basic	HCM 7th Ed.	17.1/B	18.1/C
4	Future Silva Valley loop onramp	merge	HCM 7th Ed.	22.7/C	24.3/C
5	Silva Valley Pkwy to Latrobe Rd	weave	HCM 7th Ed.	17.4/B	15.2/B
6	El Dorado Hills Blvd offramp to onramp	basic	HCM 7th Ed.	14.2/B	14.8/B
7	El Dorado Hills Blvd onramp	Merge	HCM 7th Ed.	29.7/D	24.6/C
8	El Dorado Hills Blvd to EDC Line *	basic	HCM 7th Ed.	23.7/C	19.8/C
Eastbound US 50					
9	EDC Line to Latrobe Rd	basic	HCM 7th Ed.	16.1/B	25.0/C
10	Latrobe slip offramp	diverge	HCM 7th Ed.	28.0/D	36.9/E
11	Latrobe loop offramp	diverge		25.9/C	33.7/D
12	El Dorado Hills Blvd offramp to Latrobe Rd onramp	basic	HCM 7th Ed.	7.2/A	11.6/B
13	Latrobe Rd onramp to Silva Valley Pkwy offramp	weave	HCM 7th Ed.	10.4/B	14.4/B
14	Silva Valley Pkwy offramp to onramp	basic	HCM 7th Ed.	10.1/A	13.4/B
B15	Silva Valley Pkwy onramp	merge	HCM 7th Ed.	15.2/B	18.5/B
16	Future Silva Valley Pkwy slip onramp	merge	HCM 7th Ed.	15.5/B	23.7C
17	Silva Valley Pkwy to Bass Lake Rd	basic	HCM 7th Ed.	14.3/B	21.4/C

Table 28. Cumulative 2040 arterial level-of-service check without the Project

Arterial Segment	**Description (and level-of-service E threshold)**	**2040 AM No Project** (vehicle trips)	**2040 PM No Project** (vehicle trips)
Latrobe Rd between Royal Oaks Dr and Investment Blvd	2-lane arterial (threshold 1650 vehicle trips)	775 (Better than LOS E)	809 (Better than LOS E)
Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south)	2-lane arterial (threshold 1650 vehicle trips)	1303 (Better than LOS E)	1073 (Better than LOS E)
Latrobe Rd between Golden Foothill Pkwy (south) and Suncast Ln	4-lane divided arterial (threshold 3290 vehicle trips)	3134 (Better than LOS E)	2776 (Better than LOS E)
Latrobe Rd between White Rock Rd and Town Center Blvd	8-lane divided arterial (threshold 6280 vehicle trips, extrapolated from 6-lane divided arterial)	3598 (Better than LOS E)	3580 (Better than LOS E)
White Rock Rd between Valley View Pkwy to Silva Valley Pkwy	4-lane divided arterial (threshold 3290 vehicle trips)	2303 (Better than LOS E)	2934 (Better than LOS E)

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10.0 CUMULATIVE 2040 PLUS PROPOSED PROJECT CONDITIONS

10.1 Traffic Volumes

Peak hour Project trips (**Figure 9** page 41) and avoided R&D and industrial trips (**Figure 11** page 45) were added to the EPAP 2040 conditions traffic volumes. Delay and level-of-service were determined at the study intersections and segments. **Figure 17** summarizes the turning movements and lane configurations for the Cumulative 2040 Plus Proposed Project scenario.

10.2 Level-of-Service

Table 29 through **Table 31** present a summary of the level-of-service results for the study intersections and segments under Cumulative 2040 Plus Proposed Project conditions. Intersection control is listed as signal, two-way stop-controlled (TWSC), or all-way stop-control (AWSC). Both the estimated delay and level-of-service (LOS) are provided. At TWSC intersections, the movement with the worst delay is shown in parentheses. Ninety-fifth percentile left turn queues are also listed. Entries shown in **Bold black** text in **Table 29** through **Table 31** denote locations with preexisting deficiencies that the Project is not anticipated to worsen. **Bold red** text denotes locations where the Project is anticipated to create new or worsen preexisting deficiencies. Unsignalized intersections that meet the peak hour signal warrant are shaded and denoted with an asterisk.

Thirteen intersections are anticipated to have level-of-service and/or queue spillback deficiencies.

<u>11 Locations that are deficient with or without the Project that are not worsened:</u>

- (1) El Dorado Hills Blvd/Serrano Pkwy AM;
- (2) El Dorado Hills Blvd/Saratoga Way PM;
- (3) El Dorado Hills Blvd/US 50 WB AM and PM;
- (5) Latrobe Road/Town Center Boulevard AM and PM;
- (8) Latrobe Rd/Suncast Ln AM and PM;
- (9) Latrobe Road/ Golden Foothill Parkway (S) AM and PM;
- (14) Investment Boulevard/Robert J. Mathews Pkwy AM;
- (16) Carson Crossing Road/Calypso Circle PM;
- (19) White Rock Road/Windfield Way AM and PM;
- (20) White Rock Road/Post Street AM and PM; and
- (21) White Rock Road/Valley View Parkway PM.

<u>1 Locations that are deficient with or without the Project that are worsened:</u>

- (10) Latrobe Road/Investment Boulevard PM;

<u>1 Locations where the Project is anticipated to cause new deficiencies:</u>

- (12) Latrobe Road/Royal Oaks Drive AM and PM.

Calculation sheets for delay and level-of-service are provided in **Appendix B**. The remainder of the study intersections, all of the US 50 study segments, and arterial study segments, were found to operate acceptably.

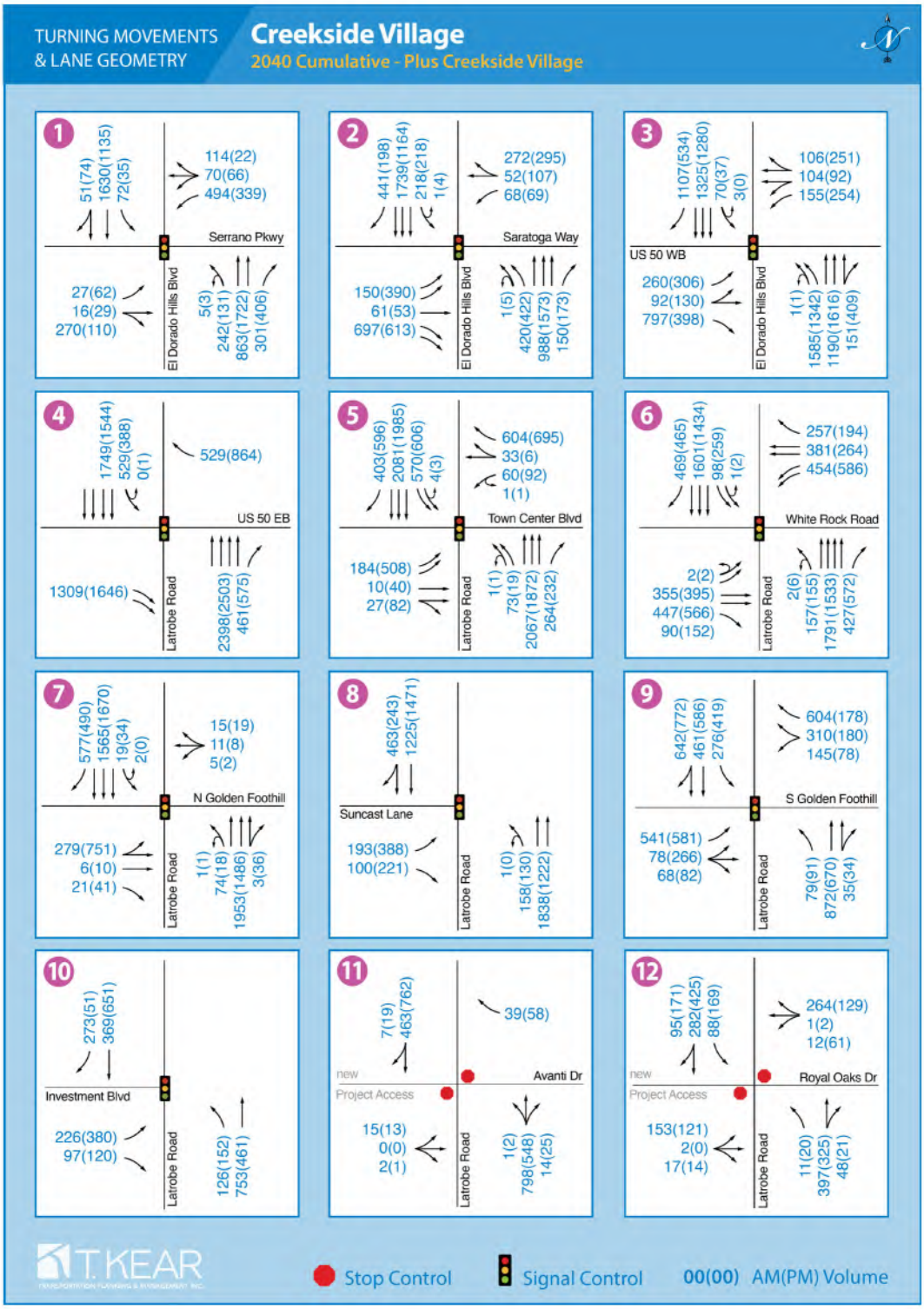


Figure 17. Cumulative 2040 plus Project lane geometry and turning movements

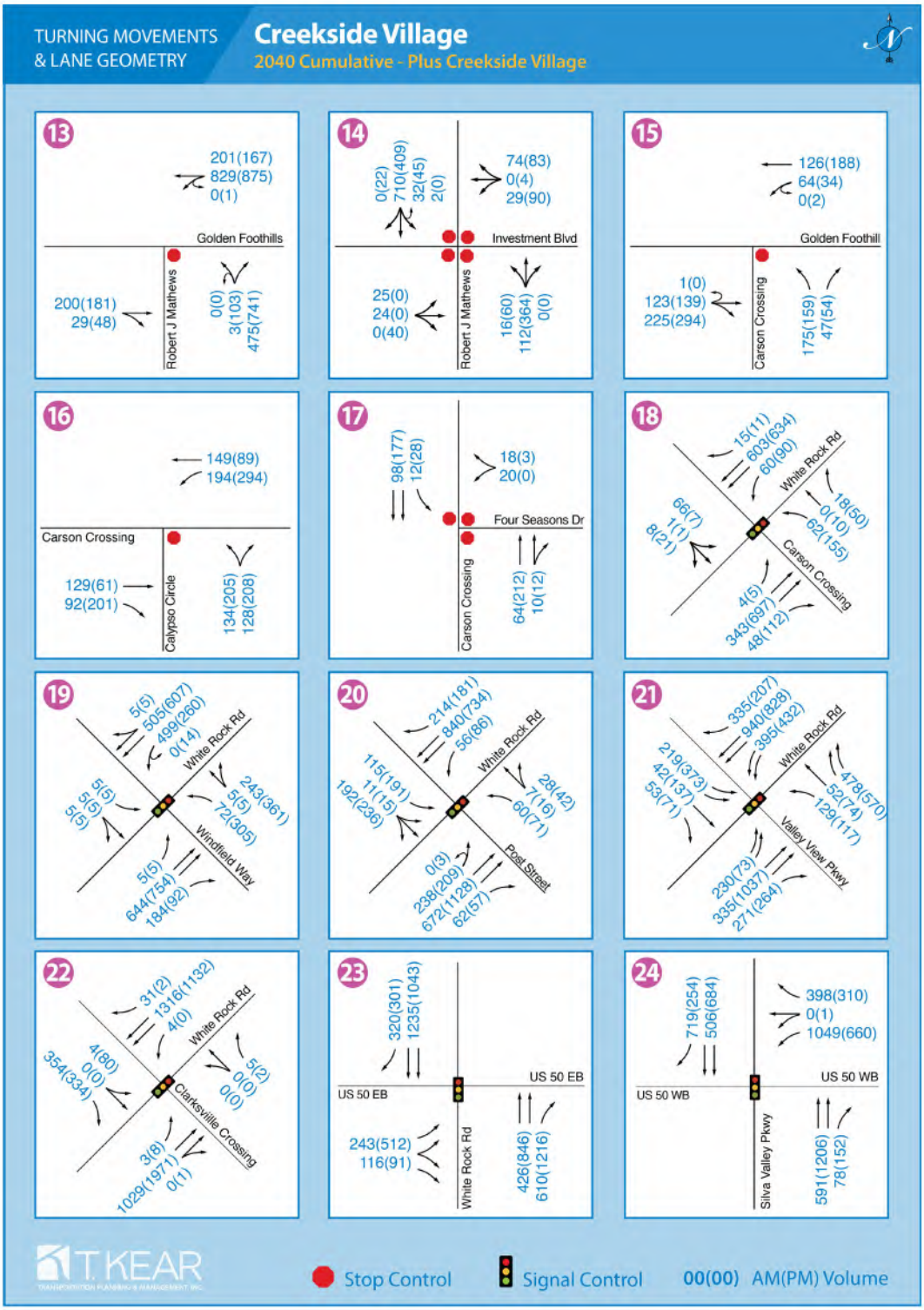


Figure 17. Cumulative 2040 plus Project lane geometry and turning movements (continued)

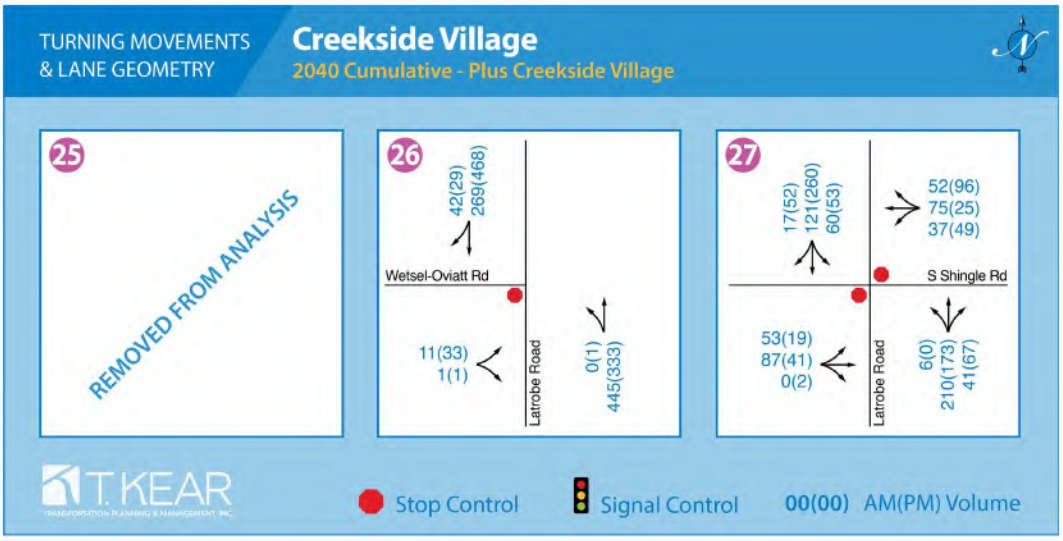


Figure 17. Cumulative 2040 plus Project lane geometry and turning movements (continued)

Table 29. Cumulative 2040 intersection delay and level-of-service with and without the proposed Project

ID	Intersection	Control	Left Turn Storage		2040 AM Peak No Project				2040 PM Peak No Project				2040 AM Peak with Project				2040 PM Peak with Project			
					Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)
1	El Dorado Hills Blvd/Serrano Pkwy	Signal	NB	260	**196.7**	**F**	NB	**418**	63.1	E	NB	136	**187.0**	**F**	NB	**418**	58.2	E	NB	137
			SB	110			SB	**129**			SB	41			SB	**129**			SB	41
			EB	100			EB	40			EB	61			EB	40			EB	61
			WB	430			WB	506			WB	214			WB	506			WB	214
2	El Dorado Hills Blvd/Saratoga Way	Signal	NB	500	55.5	E	NB	284	69.6	E	NB	612	53.2	D	NB	284	65.4	E	NB	**554**
			SB	500			SB	341			SB	332			SB	340			SB	329
			EB	150			EB	145			EB	**332**			EB	145			EB	**328**
			WB	N/A			WB	N/A			WB	N/A			WB	N/A			WB	N/A
3	El Dorado Hills Blvd/US 50 WB (Note EBL queueing reported even though there is not a left-turn pocket, it is 250' to end of right-turn pocket.)	Signal	NB	N/A	**120.8**	**F**	NB	N/A	71.5	E	NB	N/A	**120.1**	**F**	NB	N/A	63.9	E	NB	N/A
			SB	220			SB	115			SB	57			SB	115			SB	57
			EB	N/A			EB	227			EB	318			EB	226			EB	318
			WB	150			WB	**184**			WB	**259**			WB	**179**			WB	**257**
4	El Dorado Hills Blvd/US 50 EB (Note: EB and WB right queue reported as EB and WB. EB slip offramp is 1725 feet long)	Signal	NB	N/A	37.3	D	NB	N/A	61.7	E	NB	N/A	31.9	C	NB	N/A	61.0	E	NB	N/A
			SB	570			SB	372			SB	298			SB	372			SB	298
			EB	N/A			EB	810			EB	1400			EB	656			EB	1364
			WB	N/A			WB	0			WB	0			WB	0			WB	0
5	Latrobe Road/Town Center Boulevard	Signal	NB	220	36.2	D	NB	44	70.5	E	NB	16	36.3	D	NB	44	67.0	E	NB	13
			SB	330			SB	**460**			SB	**864**			SB	**458**			SB	**829**
			EB	300			EB	109			EB	295			EB	109			EB	285
			WB	100			WB	74			WB	**113**			WB	63			WB	**107**
6	Latrobe Road/White Rock Road	Signal	NB	270	41.5	D	NB	159	48.9	D	NB	162	54.9	D	NB	156	50.0	D	NB	162
			SB	260			SB	95			SB	241			SB	95			SB	241
			EB	360			EB	313			EB	343			EB	313			EB	343
			WB	400			WB	364			WB	360			WB	165			WB	347
7	Latrobe Road/Golden Foothill Parkway (N)	Signal	NB	200	15.4	B	NB	19	23.9	C	NB	19	15.2	B	NB	64	22.6	C	NB	19
			SB	200			SB	21			SB	37			SB	22			SB	37
			EB	320			EB	118			EB	305			EB	117			EB	304
			WB	N/A			WB	N/A			WB	N/A			WB	N/A			WB	N/A
8	Latrobe Road/Suncast Lane	Signal	NB	280	28.5	C	NB	151	45.6	D	NB	134	20.7	C	NB	156	41.6	D	NB	134
			SB	N/A			SB	N/A			SB	N/A			SB	N/A			SB	N/A
			EB	100			EB	**186**			EB	**486**			EB	**186**			EB	**486**
9	Latrobe Road/ Golden Foothill Parkway (S)	Signal	NB	220	**143.8**	**F**	NB	72	**217.0**	**F**	NB	102	**121.7**	**F**	NB	93	**147.4**	**F**	NB	88
			SB	530			SB	**601**			SB	**1186**			SB	**626**			SB	**1153**
			EB	100			EB	**917**			EB	**1643**			EB	**713**			EB	**1054**
			WB	N/A			WB	N/A			WB	N/A			WB	N/A			WB	N/A
10	Latrobe Road/Investment Boulevard	Signal	NB	180	12.1	B	NB	35	19.6	B	NB	108	12.2	B	NB	45	27.8	C	NB	156
			SB	N/A			SB	N/A			SB	N/A			SB	N/A			SB	N/A
			EB	100			EB	92			EB	**251**			EB	88			EB	**388**
11	Latrobe Road/Avanti Drive	TWSC	NB	N/A	(WB) 14.1	B	NB	N/A	(WB) 12.3	B	NB	N/A	(EB) 42.0	E	NB	N/A	(EB) 49.1	E	NB	N/A
			SB	N/A			SB	N/A			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A			WB	N/A			WB	N/A
12	Latrobe Road/Royal Oaks Drive	TWSC	NB	320	(WB) 18.2	C	NB	0	(WB) 32.3	D	NB	0	**(EB) 584.4. ***	**F**	NB	1	**(EB) 441.3 ***	**F**	NB	2
			SB	320			SB	6			SB	11			SB	7			SB	14
			EB	N/A			EB	N/A			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A			WB	N/A			WB	N/A
13	Golden Foothill Pkwy/Robert J. Mathews Pkwy	Rondabout	NB	N/A	(EB) 30.4	D	NB	N/A	**(NB) 74.4**	**F**	NB	N/A	(EB) 15.6	C	NB	N/A	(NB) 25.7	D	NB	N/A
			SB	N/A			SB	N/A			SB	N/A			SB	N/A			SB	N/A
			EB	N/A			EB	N/A			EB	N/A			EB	N/A			EB	N/A
			WB	N/A			WB	N/A			WB	N/A			WB	N/A			WB	N/A

Table 29. Cumulative 2040 intersection delay and level-of-service with and without the proposed Project (continued)

ID	Intersection	Control	Left Turn Storage	2040 AM Peak No Project				2040 PM Peak No Project				2040 AM Peak with Project				2040 PM Peak with Project			
				Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)
14	Investment Boulevard/Robert J. Mathews Pkwy	AWSC	NB N/A SB N/A EB N/A WB N/A	**372.9 ***	**F**	NB N/A SB N/A EB N/A WB N/A		**273.2 ***	**F**	NB N/A SB N/A EB N/A WB N/A		**85.4**	**F**	NB N/A SB N/A EB N/A WB N/A		34.1	D	NB N/A SB N/A EB N/A WB N/A	
15	Golden Foothill Parkway/Carson Crossing Road	TWSC	NB N/A SB N/A EB N/A WB 220	(NBL) 17.4	C	NB N/A SB N/A EB N/A WB 5		(NBL) 35.4	D	NB N/A SB N/A EB N/A WB 11		(NBL) 16.7	C	NB N/A SB N/A EB N/A WB 5		(NBL) 20.5	C	NB N/A SB N/A EB N/A WB 3	
16	Carson Crossing Road/Calypso Circle	TWSC	NB N/A SB N/A EB N/A WB 190	(NB) 29.8	D	NB N/A SB N/A EB N/A WB 15		**(NB) 163.7 ***	**F**	NB N/A SB N/A EB N/A WB 25		(NB) 23.0	C	NB N/A SB N/A EB N/A WB 15		**(NB) 95.5 ***	**F**	NB N/A SB N/A EB N/A WB 25	
17	Carson Crossing Road/4 Seasons Drive	AWSC	NB N/A SB 100 WB N/A	8.1	A	NB N/A SB 1 WB N/A		8.7	A	NB N/A SB 3 WB N/A		7.8	A	NB N/A SB 1 WB N/A		8.4	A	NB N/A SB 3 WB N/A	
18	White Rock Road/Carson Crossing Road	**Signal**	NB 200 SB N/A EB 200 WB 300	16.6	B	NB 29 SB N/A EB 3 WB 27		17.4	B	NB 127 SB N/A EB 4 WB 49		16.4	B	NB 26 SB N/A EB 3 WB 27		16.6	B	NB 79 SB N/A EB 4 WB 48	
19	White Rock Road/Windfield Way	Signal	NB 150 SB 100 EB 200 WB 200	35.0	C	NB 105 SB 10 EB 10 WB **610**		34.8	C	NB **434** SB 10 EB 10 WB **345**		35.0	C	NB 105 SB 10 EB 10 WB **610**		34.8	C	NB **434** SB 10 EB 10 WB **345**	
20	White Rock Road/Post Street	Signal	NB N/A SB 100 EB 300 WB 200	44.8	D	NB N/A SB **216** EB **305** WB 117		44.9	D	NB N/A SB **344** EB 272 WB 183		44.2	D	NB N/A SB **218** EB 286 WB 117		44.0	D	NB N/A SB **339** EB 256 WB 183	
21	White Rock Road/Valley View Parkway	Signal	NB 300 SB 200 EB 300 WB 500	26.9	C	NB 148 SB 119 EB 121 WB 209		33.5	C	NB 159 SB **229** EB 44 WB 255		26.1	C	NB 141 SB 114 EB 119 WB 197		32.4	C	NB 153 SB **221** EB 46 WB 246	
22	White Rock Road/Clarksville Crossing	Signal	NB N/A SB N/A EB 460 WB 290	43.1	D	NB N/A SB N/A EB 7 WB 8		57.2	B	NB N/A SB N/A EB 14 WB 0		41.9	D	NB N/A SB N/A EB 7 WB 8		53.8	D	NB N/A SB N/A EB 13 WB 0	
23	Silva Valley Parkway/US 50 EB ramps	Signal	NB N/A SB N/A EB N/A WB N/A	11.1	B	NB N/A SB N/A EB N/A WB N/A		38.0	D	NB N/A SB N/A EB N/A WB N/A		11.1	B	NB N/A SB N/A EB N/A WB N/A		34.1	C	NB N/A SB N/A EB N/A WB N/A	
24	Silva Valley Parkway/US 50 WB ramps	Signal	NB N/A SB N/A EB N/A WB N/A	52.2	D	NB N/A SB N/A EB N/A WB N/A		27.5	C	NB N/A SB N/A EB N/A WB N/A		47.6	D	NB N/A SB N/A EB N/A WB N/A		27.1	C	NB N/A SB N/A EB N/A WB N/A	
25	not used			not used								not used							
26	Latrobe Road/Wetsel-Oviatt Road	TWSC	NB N/A SB N/A EB N/A	(EB) 14.4	B	NB N/A SB N/A EB N/A		(EB) 16.3	C	NB N/A SB N/A EB N/A		(EB) 14.2	B	NB N/A SB N/A EB N/A		(EB) 16.4	C	NB N/A SB N/A EB N/A	
27	Latrobe Road/S. Shingle Road	TWSC	NB N/A SB N/A EB N/A WB N/A	(EB) 19.0	C	NB N/A SB N/A EB N/A WB N/A		(EB) 17.2	C	NB N/A SB N/A EB N/A WB N/A		(EB) 19.3	C	NB N/A SB N/A EB N/A WB N/A		(EB) 18.0	C	NB N/A SB N/A EB N/A WB N/A	

* Denotes intersections where the peak-hour signal warrant is met.

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Table 30. Cumulative 2040 freeway facility level-of-service with and without the proposed Project

No	Segment	Segment Type	Method	2040 No Project AM	2040 No Project PM	2040 Plus Project AM	2040 Plus Project PM
Westbound US 50							
1	Bass Lake Rd to Silva Valley Pkwy	basic	HCM 7th Ed.	33.6/D	27.3/D	32.6/D	27.8/D
2	Silva Valley offramp	diverge	HCM 7th Ed.	27.5/C	23.2/C	26.9/C	23.6/C
3	Silva Valley offramp to future loop onramp	basic	HCM 7th Ed.	17.1/B	18.1/C	16.9/B	18.2/C
4	Future Silva Valley loop onramp	merge	HCM 7th Ed.	22.7/C	24.3/C	22.5/C	24.4/C
5	Silva Valley Pkwy to Latrobe Rd	weave	HCM 7th Ed.	17.4/B	15.2/B	17.2/B	15.3/B
6	El Dorado Hills Blvd offramp to onramp	basic	HCM 7th Ed.	14.2/B	14.8/B	14.2/B	14.8/B
7	El Dorado Hills Blvd onramp	Merge	HCM 7th Ed.	29.7/D	24.6/C	30.2/D	24.1/C
8	El Dorado Hills Blvd to EDC Line *	basic	HCM 7th Ed.	23.7/C	19.8/C	24.1/C	19.5/C
Eastbound US 50							
9	EDC Line to Latrobe Rd	basic	HCM 7th Ed.	16.1/B	25.0/C	15.8/B	25.4/C
10	Latrobe slip offramp	diverge	HCM 7th Ed.	28.0/D	36.9/E	27.4/C	37.4/E
11	Latrobe loop offramp	diverge		25.9/C	33.7/D	25.6/C	33.9/D
12	El Dorado Hills Blvd offramp to Latrobe Rd onramp	basic	HCM 7th Ed.	7.2/A	11.6/B	7.2/A	11.6/B
13	Latrobe Rd onramp to Silva Valley Pkwy offramp	weave	HCM 7th Ed.	10.4/B	14.4/B	10.5/B	14.3/B
14	Silva Valley Pkwy offramp to onramp	basic	HCM 7th Ed.	10.1/A	13.4/B	10.2/A	13.3/B
15	Silva Valley Pkwy onramp	merge	HCM 7th Ed.	15.2/B	18.5/B	15.3/B	18.4/B
16	Future Silva Valley Pkwy slip onramp	merge	HCM 7th Ed.	15.5/B	23.7C	15.9/B	23.5C
17	Silva Valley Pkwy to Bass Lake Rd	basic	HCM 7th Ed.	14.3/B	21.4/C	14.6/B	21.1/C

Density in units of passenger cars per mile per lane.
*Prior to the opening of the Saratoga Way extension, Caltrans has reported occasional LOS F conditions during the morning peak for this segment based on planning methods rather than counts.

Project plus forgone business park trips will reduce WB US 50 volume between Bass Lake Rd and Latrobe Rd in the morning, and between Latrobe Rd and the El Dorado County Line during the afternoon.

Project plus forgone business park trips will reduce EB US 50 volume between EDC line and Latrobe Rd during the AM-peak, and between Silva Valley Pkwy and Bass Lake Rd during the PM peak.

Table 31. Cumulative 2040 arterial level-of-service check with and without the Project

Arterial Segment	**Description (and level-of-service E threshold)**	**2040 AM No Project** (vehicle trips)	**2040 PM No Project** (vehicle trips)	**2040 AM Plus Project** (vehicle trips)	**2040 PM Plus Project** (vehicle trip)s
Latrobe Rd between Royal Oaks Dr and Investment Blvd	2-lane arterial (threshold 1650 vehicle trips)	775 (Better than LOS E)	809 (Better than LOS E)	1053 (Better than LOS E)	1101 (Better than LOS E)
Latrobe Rd between Investment Blvd and Golden Foothill Pkwy (south)	2-lane arterial (threshold 1650 vehicle trips)	1303 (Better than LOS E)	1073 (Better than LOS E)	1454 (Better than LOS E)	1369 (Better than LOS E)
Latrobe Rd between Golden Foothill Pkwy (south) and Suncast Ln	4-lane divided arterial (threshold 3290 vehicle trips)	3134 (Better than LOS E)	2776 (Better than LOS E)	3036 (Better than LOS E)	2663 (Better than LOS E)
Latrobe Rd between White Rock Rd and Town Center Blvd	8-lane divided arterial (threshold 6280 vehicle trips, extrapolated from 6-lane divided arterial)	3598 (Better than LOS E)	3580 (Better than LOS E)	3400 (Better than LOS E)	3361 (Better than LOS E)
White Rock Rd between Valley View Pkwy to Silva Valley Pkwy	4-lane divided arterial (threshold 3290 vehicle trips)	2303 (Better than LOS E)	2934 (Better than LOS E)	2253 (Better than LOS E)	2883 (Better than LOS E)

10.3 Findings of Project General Plan Level-of-Service and Queueing Deficiencies

Level-of-service and queueing impacts are not considered significant under CEQA. Intersections and/or segments where Project traffic creates new or worsens existing exceedances of General Plan policy thresholds are referred to as having a "Project deficiency". There are two intersections where the Project is anticipated to create new or worsen existing deficiencies under Cumulative 2040 Plus Project conditions.

Throughout this document, segment deficiencies are numbered using the segment number (i through v) and a year code (2023 = "A", 2033 = "B", and 2040 = "C"). Intersection abatement measures are numbered using the intersection number (1-27) and the year code (A, B, or C).

All deficiencies and abatements described below include the deficiency number/abatement number and location as a title, followed by a description of the deficiency, the abatement, findings, responsibility, and timing.

2040 Intersection Deficiencies and Abatement Measures

10C. Latrobe Road/Investment Boulevard in 2040

Deficiency: Project traffic is anticipated to cause the eastbound (Investment Blvd) left-turn queue to spill out of its left-turn pocket.

2023-2040 Improvements Assumed: None.

Abatement: Implement as abatement 10A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 32** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 10A.

Timing: Not applicable, addressed through abatement 10A.

Cross reference: See abatement 9A and 9B.

12C. Latrobe Road/Royal Oaks Drive in 2040

Deficiency: Project traffic is anticipated to worsen the intersection to level-of-service F.

2023-2040 Improvements Assumed: None.

Abatement: Implement as abatement 12A.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 32** at the end of this section presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 12A.

Timing: Not applicable, addressed through abatement 12A.

Cross reference: See abatement 12A and 12B.

Table 32. EPAP 2040 intersection delay and level-of-service with and without the abated Project

ID	Intersection	Control	Left Turn Storage	2040 AM Peak No Project				2040 PM Peak No Project				2040 AM Peak with Project				2040 PM Peak with Project				Abatement Strategy	Left Turn Storage	2040 Abated AM Peak (+ Proj)				2040 Abated PM Peak (+ Proj)				Existing or Anticipated CIP Project
				Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)			Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	Delay (Sec.)	LOS	Left Turn 95% Queue Spillback	95% Queue Length (Ft.)	
10	Latrobe Road/Investment Boulevard	Signal	NB 180 SB N/A EB 100	12.1	B	NB SB EB	35 N/A 92	19.6	B	NB SB EB	108 N/A **251**	12.2	B	NB SB EB	45 N/A 88	27.8	C	NB SB EB	156 N/A **388**	Implement Abatement 10A	NB 180 SB N/A EB 190	11.1	B	NB SB EB	39 N/A 52	19.2	B	NB SB EB	103 N/A 188	"Latrobe 72"
12	Latrobe Road/Royal Oaks Drive	TWSC	NB 320 SB 320 EB N/A WB N/A	(WB) 18.2	C	NB SB EB WB	0 6 N/A N/A	(WB) 32.3	D	NB SB EB WB	0 11 N/A N/A	(EB) 584.4. *	F	NB SB EB WB	1 7 N/A N/A	(EB) 441.3 *	F	NB SB EB WB	2 14 N/A N/A	Implement Abatement 12A	NB 320 SB 320 EB N/A WB N/A	28.1	C	NB SB EB WB	10 69 N/A N/A	24.6	C	NB SB EB WB	13 82 N/A N/A	n/a

* Denotes intersections where the peak-hour signal warrant is met.

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11.0 CEQA VMT ANALYSIS

The Residential components of the Project are addressed below based on the methods and thresholds specified in Section 3.4.

11.1 Residential Use

The unincorporated countywide VMT per capita for determining the significance threshold for residential projects, and the Project analysis itself were estimated using the same tools and methodology. For this analysis 2018 baseline travel demand model results and 2040 cumulative travel demand model results were used to estimate the baseline VMT, 2040 VMT, the 15% VMT reduction threshold, and Project VMT (per El dorado County Resolution 141-2020). Those data are summarized in **Table 33**. Travel demand model scripts used are shown in **Appendix E**. The significance threshold determined by this calculation is 17.3 VMT per capita. The residential use of the Project is anticipated to generate 13.6 VMT per capita based on 2018 land use and drop to 13.1 VMT per capita by 2040. CEQA Finding: The residential Project is anticipated to have a **less-than-significant** impact on VMT.

Table 33. Creekside Village residential VMT analysis

	El Dorado County		Project (Based on TAZ 167)	
	2018	**2040**	**2018**	**2040**
Home based VMT	2,813,221	3,158,464	39,441	45,417
Population	137,989	162,164	2,904	3,478
Trips	616,395	746,555	10,217	12,453
VMT per capita	20.4	19.5	13.6	13.1
VMT threshold with 15% reduction	17.3	n/a	n/a	n/a
Avg. trip length (miles)	4.6	4.2	3.9	3.6

11.2 Traditional vs Age Restricted Housing

The travel demand model does not include an age-restricted land use. There is limited information published on how the travel characteristics of age-restricted housing and traditional housing differ. The best available data comes from the published ITE trip generation rates for traditional and age-restricted housing and the 2017 National Household Travel Survey.

ITE Trip Generation Rates

Age-restricted households generate fewer trips than traditional households. Published Institute of Traffic Engineers (ITE) trip generation rates[19] anticipate that traditional housing has a daily trip generation rate of 9.43 trips per household, while age-restricted housing generates less than half

[19] ITE (2021) Trip Generation Manual 11th Edition, Institute of Transportation Engineers, Washington DC

of that at 4.31 trips per household. This supports the suspected result of lower VMT per capita from age-restricted housing but is not proof as changes in household size are not addressed.

National Household Travel Survey Person Miles of Travel (PMT)

The 2017 National Household Travel Survey[20] estimated PMT and person trips for both the population (as a whole) and for several subgroups, including those 65[21] and older. Those data show that the older drivers had 19% less PMT and took 5% fewer trips than the population as a whole. PMT being reduced at a greater rate than person trips indicates that the older population is taking fewer and shorter trips, leading to the 19% reduction in PMT.

11.3 Discussion and findings

This analysis found that 763 traditional housing units were anticipated to have a less-than-significant impact on VMT per capita under CEQA. The implementation of the age-restricted housing is anticipated to produce fewer trips per household, fewer trips per capita, and less VMT per capita than traditional households. Therefore, the mixed traditional housing and age-restricted housing project is also anticipated to have a less-than-significant impact on VMT under CEQA.

[20] FHWA (2018) Summary of Travel Trends: 2017 National Household Travel Survey (Tables 11 and 31), Federal Highway Administration, report FHWA-PL-18_019, https://nhts.ornl.gov/assets/2017_nhts_summary_travel_trends.pdf.

[21] Note that active adult/age-restricted housing is defined as 55 and older rather than 65 and older.

12.0 BICYCLE, PEDESTRIAN AND TRANSIT IMPACTS

The Project does not interfere with existing or proposed transit service and has a **less-than-significant** impact on transit.

The Project enhances bicycle and pedestrian access to the El Dorado Hills Business Park (**Figure 18**) and does not interfere with existing or planned bicycle and pedestrian facilities. The Project includes a variety of bike and pedestrian amenities providing connections both within the planned community and externally to the existing bike and pedestrian facilities along Latrobe Road and Royal Oaks Dr:

- The Creekside Village entry road will feature class II bike lanes from its intersection with Latrobe Road.
- The Project features a complete system of paved and unpaved trails located in the open space buffer areas and landscape corridors. The trails will be destination-oriented and link the various residential neighborhoods, parks, and the business park.
- The majority of Creekside Village streets will include attached or separated sidewalks on both sides of the street. Sidewalks will comply with ADA standards and be a minimum of 4-feet in width.

The Project has a **less-than-significant** impact on bicycle and pedestrian facilities.

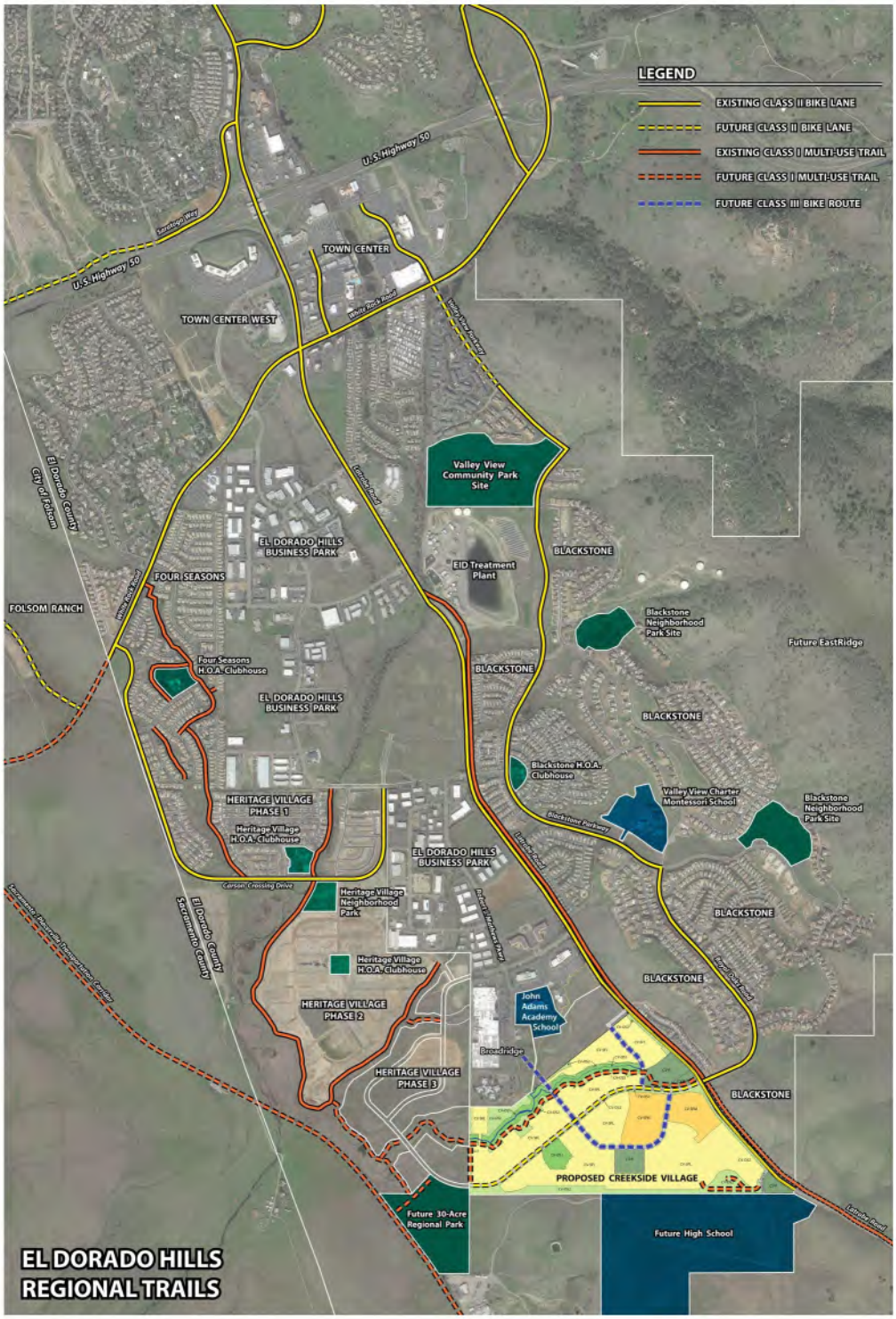


Figure 18. Bike and pedestrian facilities map (Project would construct on-site facilities)

13.0 ON-SITE TRANSPORTATION REVIEW

Per the County's guidelines, on-site transportation review including site review, internal circulation, sight distance review, driveway spacing, minimum required throat depth review, parking supply review, etc. should be addressed for every project.

On Site Transportation review shall be performed with each Final Map. This approach is appropriate as the specific plan allows for "minor administrative modifications" to the specific plan as follows:

> *"Minor administrative modifications (MAM) to the CVSP that are consistent with and do not substantially change its overall intent, such as minor adjustments to the land use locations and parcel boundaries shown in Figure 3.2 – Specific Plan Land Use Designations and Figure 3.4 – Plan Area Parcels and the land use acreages shown in Table 3.1 – Land Use Summary may be approved administratively by the El Dorado County Planning Services Department, provided the following criteria are met:*
>
> - *The proposed modification is within the Plan Area.*
> - *The general land use pattern remains consistent with the intent and spirit of the CVSP*
> - *The proposed changes do not substantially alter the backbone infrastructure network.*
> - *The proposed modification offers equal or superior improvements to development capacity or standards.*
> - *The increase or decrease of lots by 15% within villages so long as the overall unit count stays at or below 763.*
> - *The proposed modification does not increase environmental impacts beyond those identified in the EIR.*
> - *Reduction and relocation of park acreage so long as parkland dedication requirements are satisfied at Final Map approval including dedication of land, payment of in-lieu fees, or some combination thereof as required by the conditions of approval.*
> - *Relocated park parcels continue to meet the standards for the type of park proposed.*
> - *Relocated park parcels remain within walking distance of the residents they serve.*
>
> *Minor administrative modifications to the CVSP may be reviewed and approved at the discretion of the El Dorado County Planning and Building Department and no County Planning Commission or Board of Supervisors review is required unless the modification approval is appealed. However, if a minor administrative modification is appealed, it shall be reviewed by the Planning Commission who shall have authority to approve or deny the minor administrative modification.*

The Planning Commission decision may be appealed to the El Dorado County Board of Supervisors."

Because each of the villages may see the number of dwelling units increase or decrease by as much as 15% (so long as the overall total number of dwelling units is not increased), and because roadways apart from the "backbone infrastructure" can be modified, on-site transportation review does not make sense at the Specific Plan level. For this Project the on-site review should be addressed for each Final Map.

14.0 FINDINGS

14.1 Trip Generation Findings

The 763 dwelling unit Project is anticipated to generate 316 AM peak hour trips, 382 PM peak hour trips, and 4147 daily trips. Those Project trips are offset under both the EPAP 2033 and Cumulative 2040 scenarios through forgone commercial development on the 207.9 ac project site which the travel demand model anticipated would have generated 733 AM peak hour trips, 829 PM peak hour trips, and 9,415 daily trips. Trip Generation is discussed in more detail in **Section 5.1**.

14.2 CEQA Findings

VMT: The 763 dwelling unit Project is anticipated to have home based VMT per capita of 13.6 in 2023 and 13.1 in 2040, compared to a significance threshold (calculated using the same methodology and data as the Project impacts) of 17.3. Therefore, the Project has a **less-than significant** impact on VMT. The VMT analysis is discussed in **Section 3.4** and **Section 11**.

Transit: The Project does not interfere with existing or proposed transit service and has a **less-than-significant** impact on transit. Transit impacts are briefly discussed in **Section 12**.

Bicycles and Pedestrians: The Project enhances bicycle and pedestrian access to the El Dorado Hills Business Park and does not interfere with existing or planned bicycle and pedestrian facilities. The Project includes a variety of bike and pedestrian amenities providing connections both within the planned community and externally to the existing bike and pedestrian facilities along Latrobe Road and Royal Oaks Dr. Therefore, the Project has a **less-than-significant** impact on bicycle and pedestrian facilities. Bicycles and pedestrian impacts are briefly discussed in **Section 12**.

14.3 General Plan Level-of-Service and Queue Length Findings

This section consolidates abatement measures identified in Sections 6.3, 8.3, and 10.3 which are necessary to ensure that the Project does not in level-of-service deficiencies relative to General Plan policies. Deficiencies that are caused or worsened by the Project, and abatement measures to address those deficiencies, are identified below for existing 2023 plus Project, EPAP 2033 plus Project, and cumulative 2040 plus Project conditions.

Throughout this document, segment deficiencies are numbered using the segment number (i through v) and a year code (2023 = “A”, 2033 = “B”, and 2040 = “C”). Intersection abatement measures are numbered using the intersection number (1-27) and the year code (A, B, or C).

Existing 2023 Plus Project Conditions

Existing 2023 plus Project conditions are discussed in **Section 6.** The Project is anticipated to cause new or worsen existing level-of-service/queuing deficiencies at eleven intersections (deficiencies may be caused by anticipated level-of-service and/or queue spillback):

10 Locations that are deficient with or without the Project that are worsened:

- (1) El Dorado Hills Blvd/Serrano Pkwy AM;
- (2) El Dorado Hills Blvd/Saratoga Way: AM and PM;
- (3) El Dorado Hills Blvd/US 50 WB AM;
- (6) Latrobe Road/White Rock Road PM;
- (8) Latrobe Rd/Suncast Ln AM and PM;
- (9) Latrobe Road/ Golden Foothill Parkway (S): AM and PM;
- (10) Latrobe Road/Investment Boulevard: PM;
- (13) Golden Foothill Parkway (S)/Robert J. Mathews Pkwy PM;
- (18) White Rock Road/Carson Crossing Road PM; and
- (21) White Rock Road/Valley View Parkway: AM and PM.

1 Location where the Project is anticipated to cause new deficiencies:

- (12) Latrobe Road/Royal Oaks Drive AM and PM.

Deficiency/Abatement 1A. El Dorado Hills Blvd/Serrano Pkwy in 2023

Deficiency: Level-of-service is F prior to addition of Project traffic, with northbound left-turn queues spilling out of the turn pocket. Project traffic is anticipated to worsen level-of-service.

Abatement: Adjust signal timing by changing the "vehicle extension" setting for the westbound approach from 4 seconds to 2 seconds.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 18** in **Section 6.3** presents intersection level-of-service results with this abatement.

Project Responsibility: Project is responsible for its fair-share of signal timing adjustment. The CIP includes funding for intersection and safety improvements at "to be determined" locations. The Project may satisfy this requirement through payment of applicable fees under the El Dorado County traffic impact Fee (TIF) program.

Timing: Prior to issuance of 1st building permit.

Deficiency/Abatement 2A. El Dorado Hills Blvd/Saratoga Way in 2023

Deficiency: Level-of-service is F prior to addition of Project traffic, with northbound left-turn queues spilling out of the turn pocket. Project traffic is anticipated to worsen level-of-service and northbound left-turn queues.

Abatement: Construct a 300-foot southbound right turn pocket and adjust signal timing.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 18** in **Section 6.3** presents intersection level-of-service results with this abatement.

Project Responsibility: This abatement partially implements Project #36105076 in the 10-year Capital Improvement Program (CIP). The Project may satisfy this requirement through payment of applicable fees under the El Dorado County traffic impact Fee (TIF) program.

Timing: Prior to issuance of 1st building permit.

Deficiency/Abatement 3A. El Dorado Hills Blvd/US 50 WB in 2023

Deficiency: Existing AM peak-hour level-of-service is F prior to addition of Project traffic. Project traffic is anticipated to worsen level-of-service.

Abatement: Adjust signal timing by optimizing splits.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 18** in **Section 6.3** presents intersection level-of-service results with this abatement.

Project responsibility: Project is responsible for its fair-share of signal timing adjustment. The CIP includes funding for intersection and safety improvements at “to be determined” locations. The Project may satisfy this requirement through payment of applicable fees under the El Dorado County traffic impact Fee (TIF) program.

Timing: Prior to issuance of 1st building permit.

Cross reference: See abatement 3B.

Deficiency/Abatement 6A. Latrobe Road/White Rock Road in 2023

Deficiency: The westbound left-turn queue spills back out of its turn pocket under existing conditions without the Project. Project traffic is anticipated to worsen that queue spillback.

Abatement: Adjust signal timing by optimizing splits.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 18** in **Section 6.3** presents intersection level-of-service results with this abatement.

Project responsibility: This abatement partially implements Project #36105069 in the 20-year Capital Improvement Program (CIP). The Project is responsible for its fair share of modification of signal timing, which may be addressed through payment of fees if the CIP project is moved to the 10-year CIP.

Timing: Prior to issuance of 1st building permit.

Cross reference: See abatement 6B.

Deficiency/Abatement 9A. Latrobe Road/ Golden Foothill Parkway (south) in 2023

Deficiency: Project traffic is anticipated to worsen existing queue spillback from the eastbound left turn during both the AM and PM peak-hours.

Abatement: Adjust signal timing by optimizing splits.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 18** in **Section 6.3** presents intersection level-of-service results with this abatement.

Project responsibility: The Project is responsible for its fair share of the cost of these off-site improvements which would be addressed by payment of fees after CIP project 36105055 (AKA “72Latrobe”) is added to the 10-year CIP.

Timing: Prior to issuance of 1st building permit.

Cross reference: See abatement 9B, which builds on abatement 9a.

Deficiency/Abatement 10A. Latrobe Road/Investment Boulevard in 2023

Deficiency: Project traffic is anticipated to worsen the existing east bound (Investment Blvd) left turn queue spillback during the PM peak-hour.

Abatement: Stripe eastbound approach as left, shared left-right in 190-foot pocket. Adjust cycle length and splits. Construction of a 300-foot receiving lane is required on northbound Latrobe Road to accommodate the left turn from the shared eastbound left-right turn lane. These improvements are consistent with intersection improvements that would be constructed under CIP project 36105055 (AKA "72Latrobe"). Therefore, addition of CIP project 36105055 to the 10-year CIP would address the Project's fair share cost of these improvements as well.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 18** in **Section 6.3** presents intersection level-of-service results with this abatement.

Project responsibility: The Project is responsible for its fair share of the cost of these off-site improvements which would be addressed by payment of fees after CIP project 36105055 (AKA "72Latrobe") is added to the 10-year CIP.

Timing: A phasing analysis determined that 90 traditional dwelling units, or 260 age restricted dwelling units, could be constructed prior to the project deficiency being triggered. Therefor this abatement is required by the 90th traditional dwelling unit or the 260th age restricted dwelling unit.

Cross reference: See abatement 10B and 10C.

Deficiency/Abatement 12A. Latrobe Road/Royal Oaks Drive in 2023

Deficiency: Project traffic is anticipated to worsen the intersection to level-of-service F.

Abatement: Signalize the intersection using the "with Project" geometry (north and southbound approaches having a shared through right lane and protected left turns in 320' pockets; east and west bound approaches as shared left-through-right lanes.)

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 18** in **Section 6.3** presents intersection level-of-service results with this abatement.

Project responsibility: The Project is responsible for construction of these intersection improvements.

Timing: Prior to issuance of 1st building permit.

Cross reference: See abatement 12B and 12C.

Deficiency/Abatement 13A. Golden Foothill Pkwy/Robert J. Mathews Pkwy in 2023

Deficiency: Project traffic is anticipated to worsen existing level-of-service F conditions.

Abatement: Reconstruct as a single lane roundabout.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 18** in **Section 6.3** presents intersection level-of-service results with this abatement.

Project responsibility: The Project is responsible for its fair share of the cost of these off-site improvements which would be addressed by payment of fees after the roundabout is added to the 10-year CIP.

Timing: Prior to issuance of 1st building permit.

Deficiency/Abatement 18A. White Rock Road/Carson Crossing Road in 2023

Deficiency: Project traffic is anticipated to worsen existing level-of-service F.

Abatement: Install all-way-stop-control with existing intersection geometry.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 18** in **Section 6.3** presents intersection level-of-service results with this abatement.

Project responsibility: This off-site improvement partially implements 20-year CIP project 36105041 (White Rock Road Widening 2 to 4 Lanes - Windfield Way to Sacramento County Line) and it should be advanced to the 10-year CIP. The Project is responsible for its fair share of cost, which would be met through payment of the TIF program fee.

Timing: Prior to issuance of 1st building permit.

Deficiency/Abatement 21A. White Rock Road/Valley View Parkway in 2023

Deficiency: Project traffic is anticipated to worsen level-of-service to F during the AM peak hour and worsen existing westbound left-turn queue spillback on White Rock Rd.

Abatement: Add a 100-foot westbound right-turn pocket and extend the westbound left turn pocket to 350 feet. Note that due to the location of utilities on the northside of White

Rock Rd, any required widening will likely be on the south side of White Rock Road, and eastbound lane alignment shall be adjusted to the satisfaction of the County Engineer.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 18** in **Section 6.3** presents intersection level-of-service results with this abatement.

Project responsibility: CIP Project 36105042 (White Rock Road Widening 2 to 4 lanes - Post Street to South of Silva Valley Parkway) includes funding for improvements to this intersection in both the 10-year and 20-year CIPs and all components should be advanced to 10-year CIP. The Project's fair share responsibility for this improvement can be met through payment of TIF program fees.

Timing: Payment of TIF at issuance of each building permit.

Cross reference: See abatement 21B, which builds on abatement 21a.

EPAP 2033 Plus Project Conditions

EPAP 2033 plus Project conditions are discussed in **Section 8.** The Project is anticipated to cause new or worsen existing level-of-service/queuing deficiencies at seven intersections (deficiencies may be caused by anticipated level-of-service and/or queue spillback):

6 Locations that are deficient with or without the Project that are worsened:

- (3) El Dorado Hills Blvd/US 50 WB AM;
- (6) Latrobe Road/White Rock Road PM;
- (7) Latrobe Road/Golden Foothill Parkway (N) PM;
- (9) Latrobe Road/ Golden Foothill Parkway (S) PM;
- (10) Latrobe Road/Investment Boulevard PM; and
- (21) White Rock Road/Valley View Parkway: PM.

1 Locations where the Project is anticipated to cause new deficiencies:

- (12) Latrobe Road/Royal Oaks Drive AM and PM.

Deficiency/Abatement 3B. El Dorado Hills Blvd/US 50 WB in 2033

Deficiency: AM peak-hour level-of-service is F prior to addition of Project traffic. Project traffic is anticipated to worsen level-of-service.

2023-2033 Improvements Assumed: None.

Abatement: Implement as abatement 3A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 25** in **Section 8.3** presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 3A.

Timing: Not applicable, addressed through abatement 3A.

Cross reference: See abatement 3A.

Deficiency/Abatement 6B. Latrobe Road/White Rock Road in 2033

Deficiency: PM peak-hour level-of-service is F prior to addition of Project traffic. Project traffic is anticipated to worsen level-of-service.

2023-2033 Improvements Assumed: None.

2023-2033 Improvements Assumed: None.

Abatement: implement as abatement 6A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 25** in **Section 8.3** presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 6A.

Timing: Not applicable, addressed through abatement 6A.

Cross reference: See abatement 6A.

Deficiency/Abatement 7B. Latrobe Road/Golden Foothill Parkway (N) in 2033

Deficiency: PM peak-hour level-of-service is F prior to addition of Project traffic. Project traffic is anticipated to worsen level-of-service.

2023-2033 Improvements Assumed: None.

Abatement: Construct 170-foot southbound right turn pocket.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 25** in **Section 8.3** presents intersection level-of-service results with this abatement.

Project responsibility: CIP 36105069 will widen this portion of Latrobe Rd to six lanes by 2040 and should be advanced to the 10-year CIP. The Project's fair share cost of this improvement is payment of the TIF program fee.

Timing: Prior to issuance of 1st building permit.

Deficiency/Abatement 9B. Latrobe Road/ Golden Foothill Parkway (S) in 2033

Deficiency: Project traffic is anticipated to worsen existing queue spillback from the southbound left turn during both the AM and PM peak-hours.

2023-2033 Improvements Assumed: None.

Abatement: Construct a second southbound left turn lane on Latrobe Rd and a second eastbound lane on Clubview Dr between Latrobe Road and Blackstone Pkwy. The second eastbound lane on Clubview Dr is a receiving lane for the second southbound left turn lane from Latrobe Rd.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 25** in **Section 8.3** presents intersection level-of-service results with this abatement.

Project responsibility: The Project is responsible for its fair share of the cost of these off-site improvements which would be addressed by payment of fees after CIP project 36105055 (AKA "72Latrobe") is added to the 10-year CIP.

Timing: Prior to issuance of 1st building permit.

Cross reference: See abatement 9A.

Deficiency/Abatement 10B. Latrobe Road/Investment Boulevard in 2033

Deficiency: Project traffic is anticipated to cause the eastbound (Investment Blvd) left-turn queue to spill out of its left-turn pocket.

2023-2033 Improvements Assumed: None.

Abatement: Implement as abatement 10A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 25** in **Section 8.3** presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 10A.

Timing: Not applicable, addressed through abatement 10A.

Cross reference: See abatement 10A.

Deficiency/Abatement 12B. Latrobe Road/Royal Oaks Drive in 2033

Deficiency: Project traffic is anticipated to worsen the intersection to level-of-service F.

2023-2033 Improvements Assumed: None.

Abatement: Implement as abatement 12A.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 25** in **Section 8.3** presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 12A.

Timing: Not applicable, addressed through abatement 12A.

Cross reference: See abatement 12A.

Deficiency/Abatement 21B. White Rock Road/Valley View Parkway in 2033

Deficiency: Project traffic is anticipated to worsen left-turn queue spillback on westbound White Rock Rd.

2023-2033 Improvements Assumed: None.

Abatement:

- Implement abatement 21 A.
- Further extend the westbound left turn pocket to 410 feet. (Note: abatement 21A will extend this pocket to 350 feet. Abatement 21B reflects an additional 60 feet of westbound right turn storage.)

Widening should be done to the south of Latrobe Rd to avoid high voltage lines. Eastbound-westbound Lane alignment may require additional space.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 25** in **Section 8.3** presents intersection level-of-service results with this abatement.

Project responsibility: CIP Project 36105042 (White Rock Road Widening 2 to 4 lanes – Post Street to South of Silva Valley Parkway) includes funding for improvements to this intersection in both the 10-year and 20-year CIPs and all components should be advanced to 10-year CIP. The Project's fair share responsibility for this improvement can be met through payment of TIF program fees.

Timing: Prior to issuance of 1st building permit.

Cross reference: See abatement 21A.

Cumulative 2040 Plus Project Conditions

Existing 2040 plus Project conditions are discussed in **Section 10.** The Project is anticipated to cause new or worsen existing level-of-service/queuing deficiencies at two intersections (deficiencies may be caused by anticipated level-of-service and/or queue spillback):

1 Locations that are deficient with or without the Project that are worsened:

- (10) Latrobe Road/Investment Boulevard PM;

1 Locations where the Project is anticipated to cause new deficiencies:

- (12) Latrobe Road/Royal Oaks Drive AM and PM.

Deficiency/Abatement 10C. Latrobe Road/Investment Boulevard in 2040

Deficiency: Project traffic is anticipated to cause the eastbound (Investment Blvd) left-turn queue to spill out of its left-turn pocket.

2023-2040 Improvements Assumed: None.

Abatement: Implement as abatement 10A

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 32** in **Section 10.3** presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 10A.

Timing: Not applicable, addressed through abatement 10A.

Cross reference: See abatement 9A and 9B.

Deficiency/Abatement 12C. Latrobe Road/Royal Oaks Drive in 2040

Deficiency: Project traffic is anticipated to worsen the intersection to level-of-service F.

2023-2040 Improvements Assumed: None.

Abatement: Implement as abatement 12A.

Finding: With implementation of the abatement measure, the Project is not anticipated to cause new, or worsen existing, General Plan level-of-service policy deficiencies at this location. **Table 32** in **Section 10.3** presents intersection level-of-service results with this abatement.

Project responsibility: None, addressed through abatement 12A.

Timing: Not applicable, addressed through abatement 12A.

Cross reference: See abatement 12A and 12B.

Timing: Not applicable, addressed through abatement 12A.

On-Site Transportation Review

As discussed in Section 13 above. On-site transportation review is better done with each Final Map as minor changes to the specific lotting and internal roadways may be approved by El dorado County staff via a minor administrative modification.

A condition of approval should be added to the specific plan specifying that on-site transportation review be performed with each Final Map.

Condition: On-Site Transportation Review shall be conducted with each Final Map to the satisfaction of the County Engineer.

Appendix A: Traffic Counts and Signal Timing Sheets

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EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION

Count Summary Beginning: October 4, 2023

Count Station:	1400018	Counter ID:	TLS #4
City/Town:	El Dorado Hills	Mile Post:	**8.88**
Road Name:	**Latrobe Road**	Location:	**100 Ft. S. of Investment Blvd.**
Lanes:	2	Direction:	SOUTHBOUND

Date	8	9	10	4	5	6	7	Weekly	Wk Day
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Average	Avg.
Time									
100	30		14	11	18	7	23		13
200	13		3	6	8	10	9		7
300	5		1	3	6	8	4		5
400	7		8	8	8	11	5		9
500	9		24	17	24	17	15		21
600	29		80	61	72	54	66		67
700	58		99	145	138	129	120		128
800	102		189	229	189	203	174		203
900	133		198	217	218	216	217		212
1000	199		183	185	173	201	197		186
1100	249		175	193	191	213	248		193
1200	289		219	192	234	221	278		217
1300	290		250	252	265	257	274		256
1400	270		251	293	295	247	346		272
1500	284		308	326	340	274	357		312
1600	279		369	400	346	280	415		349
1700	300		412	361	409	306	416		372
1800	276		354	367	371	296	394		347
1900	216		224	257	255	208	273		236
2000	180		171	179	165	204	205		180
2100	142		121	138	171	125	156		139
2200	104		51	89	86	103	115		82
2300	80		43	43	50	58	96		49
2400	55		18	19	26	36	68		25
Totals	3599		3765	3991	4058	3684	4471		3875
AM Peak Hr	12:00		12:00	8:00	12:00	12:00	12:00		12:00
AM Count	289		219	229	234	221	278		217
PM Peak Hr	5:00		5:00	4:00	5:00	5:00	5:00		5:00
PM Count	300		412	400	409	306	416		372

TOTAL ADT: 7,605

EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION

Count Summary Beginning: October 4, 2023

Count Station:	1400018	Counter ID:	TLS #4
City/Town:	El Dorado Hills	Mile Post:	**8.88**
Road Name:	**Latrobe Road**	Location:	**100 Ft. S. of Investment Blvd.**
Lanes:	2	Direction:	NORTHBOUND

Date	8	9	10	4	5	6	7	Weekly	Wk Day
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Average	Avg.
Time									
100	12		8	5	5	6	9		6
200	6		5	3	3	5	3		4
300	13		6	3	5	9	6		6
400	8		15	10	13	10	6		12
500	6		35	41	44	38	33		40
600	33		121	131	108	107	92		117
700	51		207	195	214	201	177		204
800	115		344	427	402	375	343		387
900	192		315	364	346	353	314		345
1000	247		279	296	305	245	287		281
1100	251		255	274	269	270	283		267
1200	283		247	253	236	246	258		246
1300	286		220	230	255	226	271		233
1400	213		242	233	216	215	269		227
1500	262		303	309	294	267	340		293
1600	279		262	238	253	250	296		251
1700	265		255	284	245	260	331		261
1800	251		196	229	230	234	277		222
1900	167		126	153	128	177	165		146
2000	124		89	72	95	87	118		86
2100	115		46	44	48	36	93		44
2200	82		23	25	30	28	54		27
2300	53		18	15	15	20	66		17
2400	30		8	13	8	14	23		11
Totals	3344		3625	3847	3767	3679	4114		3730
AM Peak Hr	12:00		8:00	8:00	8:00	8:00	8:00		8:00
AM Count	283		344	427	402	375	343		387
PM Peak Hr	1:00		3:00	3:00	3:00	3:00	3:00		3:00
PM Count	286		303	309	294	267	340		293

TOTAL ADT: 7,605

EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION

Count Summary Beginning: October 4, 2023

Count Station:	1450018	Counter ID:	TLS #4
City/Town:	El Dorado Hills	Mile Post:	**8.92**
Road Name:	**Latrobe Road**	Location:	**100 Ft. N. of Investment Blvd.**
Lanes:	2	Direction:	NORTHBOUND

Date	8	9	10	4	5	6	7	Weekly	Wk Day
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Average	Avg.
Time									
100	12	12	9	8	10	7	11	10	9
200	9	13	11	7	7	11	6	9	10
300	15	6	9	6	6	12	8	9	8
400	8	7	17	10	15	11	12	11	12
500	8	20	63	44	53	47	34	38	45
600	74	45	140	160	145	141	129	119	126
700	83	76	212	228	240	230	208	182	197
800	118	81	369	609	606	392	349	361	411
900	199	155	374	560	533	400	361	369	404
1000	245	231	317	336	315	300	338	297	300
1100	260	239	311	317	322	345	341	305	307
1200	295	276	324	404	297	337	340	325	328
1300	293	222	335	315	550	305	359	340	345
1400	234	244	311	281	526	300	343	320	332
1500	273	202	387	518	402	366	421	367	375
1600	288	268	410	602	438	434	410	407	430
1700	281	280	386	514	420	384	412	382	397
1800	279	229	297	415	340	341	350	322	324
1900	184	156	170	197	177	224	204	187	185
2000	125	118	104	91	110	100	128	111	105
2100	118	68	52	57	56	42	101	71	55
2200	82	38	29	31	39	45	63	47	36
2300	58	40	24	22	24	30	72	39	28
2400	31	12	8	15	15	15	26	17	13
Totals	3572	3038	4669	5747	5646	4819	5026	4645	4784
AM Peak Hr	12:00	12:00	9:00	8:00	8:00	9:00	9:00	9:00	8:00
AM Count	295	276	374	609	606	400	361	369	411
PM Peak Hr	1:00	5:00	4:00	4:00	1:00	4:00	3:00	4:00	4:00
PM Count	293	280	410	602	550	434	421	407	430

TOTAL ADT: 9,671

EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION

Count Summary Beginning: October 4, 2023

Count Station:	1450018	Counter ID:	TLS #4
City/Town:	El Dorado Hills	Mile Post:	**8.92**
Road Name:	**Latrobe Road**	Location:	**100 Ft. N. of Investment Blvd.**
Lanes:	2	Direction:	SOUTHBOUND

Date	8	9	10	4	5	6	7	Weekly	Wk Day
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Average	Avg.
Time									
100	30	38	15	17	18	10	23	22	20
200	17	14	8	9	13	16	16	13	12
300	6	10	3	5	9	10	5	7	7
400	10	7	10	11	12	17	10	11	11
500	13	12	31	20	32	24	21	22	24
600	105	89	192	174	191	168	175	156	163
700	73	34	246	295	290	283	254	211	230
800	117	59	362	577	521	415	328	340	387
900	146	84	327	429	452	334	355	304	325
1000	214	190	268	268	273	290	265	253	258
1100	271	201	233	260	251	289	311	259	247
1200	292	266	292	278	303	307	353	299	289
1300	296	281	335	335	460	378	351	348	358
1400	285	232	327	347	403	312	389	328	324
1500	298	238	351	468	405	324	386	353	357
1600	291	224	425	548	373	303	429	370	375
1700	315	223	438	432	428	327	427	370	370
1800	353	307	424	460	448	375	466	405	403
1900	226	193	241	263	269	227	279	243	239
2000	182	171	176	193	170	209	210	187	184
2100	144	129	123	142	180	130	160	144	141
2200	107	66	54	97	91	110	131	94	84
2300	83	54	45	47	54	64	101	64	53
2400	59	40	19	21	28	38	73	40	29
Totals	3933	3162	4945	5696	5674	4960	5518	4841	4887
AM Peak Hr	12:00	12:00	8:00	8:00	8:00	8:00	9:00	8:00	8:00
AM Count	292	266	362	577	521	415	355	340	387
PM Peak Hr	6:00	6:00	5:00	4:00	1:00	1:00	6:00	6:00	6:00
PM Count	353	307	438	548	460	378	466	405	403

TOTAL ADT: 9,671

EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION

Count Summary Beginning: January 30, 2024

Count Station:	Special	Counter ID:	75
City/Town:	El Dorado Hills	Mile Post:	
Road Name:	**Latrobe Road**	Location:	**S of Suncast Ln**
Lanes:	2	Direction:	NORTHBOUND

Date	4	5	30	31	1	2	3	Weekly	Wk Day
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Average	Avg.
Time									
100			17	13	16				15
200			18	6	10				11
300			14	20	17				17
400			22	29	23				25
500			128	64	47				80
600			196	178	202				192
700			352	383	363				366
800			966	954	861				927
900			1048	1065	1010				1041
1000			600	633	500				578
1100			668	678	548				631
1200			830	762	764				785
1300			670	688	668				675
1400			654	722	544				640
1500			870	774	822				822
1600			1241	1121	1120				1161
1700			1033	928	884				948
1800			826	750	866				814
1900			435	449	547				477
2000			292	260	288				280
2100			176	159	143				159
2200			168	124	114				135
2300			38	52	34				41
2400			38	30	6				25
Totals			11300	10842	10397				10846
AM Peak Hr			9:00	9:00	9:00				9:00
AM Count			1048	1065	1010				1041
PM Peak Hr			4:00	4:00	4:00				4:00
PM Count			1241	1121	1120				1161

TOTAL ADT: 21,709

EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION

Count Summary Beginning: January 30, 2024

Count Station:	Special	Counter ID:	75
City/Town:	El Dorado Hills	Mile Post:	
Road Name:	**Latrobe Road**	Location:	**S of Suncast Ln**
Lanes:	2	Direction:	SOUTHBOUND

Date	4	5	30	31	1	2	3	Weekly	Wk Day
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Average	Avg.
Time									
100			16	28	18				21
200			20	10	14				15
300			6	6	3				5
400			14	8	14				12
500			72	58	65				65
600			284	280	260				275
700			407	413	351				390
800			1108	1098	1008				1071
900			986	1000	866				951
1000			600	599	536				578
1100			526	500	499				508
1200			652	620	570				614
1300			688	734	681				701
1400			711	734	672				706
1500			1032	926	952				970
1600			862	824	922				869
1700			858	758	816				811
1800			886	786	814				829
1900			640	549	543				577
2000			356	316	418				363
2100			250	235	266				250
2200			154	144	178				159
2300			89	72	94				85
2400			41	30	44				38
Totals			11258	10728	10604				10863
AM Peak Hr			8:00	8:00	8:00				8:00
AM Count			1108	1098	1008				1071
PM Peak Hr			3:00	3:00	3:00				3:00
PM Count			1032	926	952				970

TOTAL ADT: 21,709

EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION

Count Summary Beginning: October 4, 2023

Count Station:	1600018	Counter ID:	80
City/Town:	El Dorado Hills	Mile Post:	**11.06**
Road Name:	**Latrobe Road**	Location:	**300 Ft. N. of White Rock Rd.**
Lanes:	2	Direction:	NORTHBOUND

Date	8	9	10	4	5	6	7	Weekly	Wk Day
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Average	Avg.
Time									
100			33	40					37
200			20	26					23
300			25	23					24
400			27	30					29
500			103	82					93
600			276	246					261
700			482	540					511
800			1078	1085					1082
900			1346	1358					1352
1000			898	952					925
1100			982	986					984
1200			1146	1184					1165
1300			1052	1134					1093
1400			992	1141					1067
1500			1295	1224					1260
1600			1510	1674					1592
1700			1628	1550					1589
1800			1306	1318					1312
1900			924	978					951
2000			518	520					519
2100			318	370					344
2200			180	294					237
2300			104	104					104
2400			52	54					53
Totals			16295	16913					16604
AM Peak Hr			9:00	9:00					9:00
AM Count			1346	1358					1352
PM Peak Hr			5:00	4:00					4:00
PM Count			1628	1674					1592

TOTAL ADT: 34,058

EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION

Count Summary Beginning: October 4, 2023

Count Station:	1600018	Counter ID:	81
City/Town:	El Dorado Hills	Mile Post:	**11.06**
Road Name:	**Latrobe Road**	Location:	**300 Ft. N. of White Rock Rd.**
Lanes:	2	Direction:	SOUTHBOUND

Date	8	9	10	4	5	6	7	Weekly	Wk Day
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Average	Avg.
Time									
100			34	46					40
200			18	37					28
300			20	18					19
400			28	24					26
500			98	98					98
600			360	408					384
700			648	658					653
800			1672	1640					1656
900			1544	1614					1579
1000			996	1028					1012
1100			929	964					947
1200			1038	1082					1060
1300			1131	1158					1145
1400			1139	1257					1198
1500			1396	1404					1400
1600			1506	1346					1426
1700			1190	1267					1229
1800			1194	1258					1226
1900			828	970					899
2000			604	599					602
2100			376	404					390
2200			234	249					242
2300			116	132					124
2400			66	82					74
Totals			17165	17743					17454
AM Peak Hr			8:00	8:00					8:00
AM Count			1672	1640					1656
PM Peak Hr			4:00	3:00					4:00
PM Count			1506	1404					1426

TOTAL ADT: 34,058

EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION

Count Summary Beginning: December 5, 2023

Count Station:	1400034	Counter ID:	75
City/Town:	El Dorado Hills	Mile Post:	**2.08**
Road Name:	**White Rock Road**	Location:	**100 Ft. S. of Silva Valley Pkwy.**
Lanes:	2	Direction:	EASTBOUND

Date	10	11	5	6	7	8	9	Weekly	Wk Day
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Average	Avg.
Time									
100	45	25	21	35	30	30	47	33	28
200	15	10	15	9	9	12	22	13	11
300	13	5	4	6	6	6	11	7	5
400	6	10	5	13	9	4	2	7	8
500	10	21	15	13	19	13	10	14	16
600	10	42	53	42	49	56	19	39	48
700	38	127	147	140	128	124	37	106	133
800	73	464	461	483	482	458	122	363	470
900	156	475	507	465	494	475	260	405	483
1000	303	322	323	366	362	314	411	343	337
1100	376	409	386	414	375	441	417	403	405
1200	483	497	463	464	471	480	486	478	475
1300	500	488	482	604	503	558	505	520	527
1400	541	570	572	567	564	688	523	575	592
1500	476	593	590	579	583	710	536	581	611
1600	465	755	737	708	763	715	575	674	736
1700	448	881	866	830	825	708	538	728	822
1800	391	716	777	735	723	686	472	643	727
1900	288	460	498	491	477	565	360	448	498
2000	234	295	329	304	338	418	325	320	337
2100	164	203	282	253	280	358	254	256	275
2200	152	153	242	181	189	280	238	205	209
2300	64	91	53	82	88	145	181	101	92
2400	38	24	40	33	33	83	77	47	43
Totals	5289	7636	7868	7817	7800	8327	6428	7309	7890
AM Peak Hr	12:00	12:00	9:00	8:00	9:00	12:00	12:00	12:00	9:00
AM Count	483	497	507	483	494	480	486	478	483
PM Peak Hr	2:00	5:00	5:00	5:00	5:00	4:00	4:00	5:00	5:00
PM Count	541	881	866	830	825	715	575	728	822

TOTAL ADT: 15,755

EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION

Count Summary Beginning: December 5, 2023

Count Station:	1400034	Counter ID:	75
City/Town:	El Dorado Hills	Mile Post:	**2.08**
Road Name:	**White Rock Road**	Location:	**100 Ft. S. of Silva Valley Pkwy.**
Lanes:	2	Direction:	WESTBOUND

Date	10	11	5	6	7	8	9	Weekly	Wk Day
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Average	Avg.
Time									
100	34	18	14	16	11	22	35	21	16
200	17	3	8	9	9	11	18	11	8
300	14	8	7	6	12	9	10	9	8
400	11	13	17	12	16	17	13	14	15
500	12	51	46	35	37	34	19	33	41
600	25	104	121	132	115	105	64	95	115
700	75	182	217	228	202	201	138	178	206
800	149	596	583	588	596	532	279	475	579
900	352	702	686	709	722	686	397	608	701
1000	440	534	515	537	514	534	484	508	527
1100	513	510	533	506	488	552	521	518	518
1200	572	566	521	525	533	624	538	554	554
1300	523	553	540	583	527	591	579	557	559
1400	467	523	557	553	516	565	531	530	543
1500	401	644	602	646	599	636	515	578	625
1600	381	649	615	599	621	631	523	574	623
1700	444	572	608	586	604	586	509	558	591
1800	383	552	594	577	582	607	543	548	582
1900	286	397	465	366	400	493	422	404	424
2000	197	242	270	231	255	270	272	248	254
2100	125	151	166	209	200	222	182	179	190
2200	97	79	97	98	99	131	154	108	101
2300	55	44	54	47	43	85	101	61	55
2400	34	24	27	28	24	52	57	35	31
Totals	5607	7717	7863	7826	7725	8196	6904	7405	7865
AM Peak Hr	12:00	9:00	9:00	9:00	9:00	9:00	12:00	9:00	9:00
AM Count	572	702	686	709	722	686	538	608	701
PM Peak Hr	1:00	4:00	4:00	3:00	4:00	3:00	1:00	3:00	3:00
PM Count	523	649	615	646	621	636	579	578	625

TOTAL ADT: 15,755

Prepared by National Data & Surveying Services

Occupancy Counts

Location: US 50/El Dorado Fwy E/O Bass Lake Rd/Marble Valley Rd
City: El Dorado Hills

Date: 5/25/2022
Day: Wednesday

Time	HOV Lane				Totals
	EB		WB		
	Cars	HT	Cars	HT	
6:30 AM	31	0	62	0	93
6:45 AM	37	1	59	0	97
7:00 AM	30	1	51	1	83
7:15 AM	55	0	76	0	131
7:30 AM	73	0	110	0	183
7:45 AM	96	0	94	0	190
8:00 AM	77	1	75	0	153
8:15 AM	67	0	85	0	152
8:30 AM	62	0	70	0	132
8:45 AM	57	0	56	0	113
4:30 PM	120	0	67	1	188
4:45 PM	102	0	98	0	200
5:00 PM	90	0	81	0	171
5:15 PM	96	0	105	0	201
5:30 PM	91	0	91	2	184
5:45 PM	87	0	86	0	173
6:00 PM	70	0	85	0	155
6:15 PM	54	0	63	0	117
Totals	1295	3	1414	4	2716

Time	Mixed Lane				Totals
	EB		WB		
	Cars	HT	Cars	HT	
6:30 AM	244	24	485	31	784
6:45 AM	253	32	488	25	798
7:00 AM	290	28	496	22	836
7:15 AM	372	43	583	22	1020
7:30 AM	431	32	610	16	1089
7:45 AM	514	27	642	20	1203
8:00 AM	447	35	513	29	1024
8:15 AM	408	35	528	33	1004
8:30 AM	399	34	612	29	1074
8:45 AM	368	32	482	26	908
4:30 PM	659	11	456	18	1144
4:45 PM	658	7	488	16	1169
5:00 PM	612	11	582	11	1216
5:15 PM	629	7	572	14	1222
5:30 PM	564	11	463	19	1057
5:45 PM	504	10	479	15	1008
6:00 PM	477	13	423	11	924
6:15 PM	479	6	344	10	839
Totals	8308	398	9246	367	18319

Analysis ID: 1472965
Analysis: Creekside #1 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-13
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	EDH Blvd north (Southbound)			Serrano Pkwy (Westbound)			EDH Blvd south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
8:15am	4	251	5	56	12	22	28	167	32
8:30am	5	260	11	57	18	23	53	165	40
8:45am	7	346	10	79	11	13	42	155	34
9:00am	2	368	13	86	3	3	24	159	34
Hourly Tot	18	1225	39	278	44	61	147	646	140
Hourly Tot	0.014	0.9555	0.0304	0.7258	0.1149	0.1593	0.1576	0.6924	0.1501
PHF	0.64	0.83	0.75	0.81	0.61	0.66	0.69	0.97	0.88

All Days, Peak PM

	EDH Blvd north (Southbound)			Serrano Pkwy (Westbound)			EDH Blvd south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:45pm	5	277	12	66	14	6	16	329	90
4:00pm	4	269	14	58	12	1	20	346	87
4:15pm	6	205	11	58	16	3	18	303	86
4:30pm	10	227	8	64	12	2	17	381	78
Hourly Tot	25	978	45	246	54	12	71	1359	341
Hourly Tot	0.0239	0.9332	0.0429	0.7885	0.1731	0.0385	0.0401	0.7674	0.1925
PHF	0.62	0.88	0.8	0.93	0.84	0.5	0.89	0.89	0.95

Tues-Thurs, Peak AM

	EDH Blvd north (Southbound)			Serrano Pkwy (Westbound)			EDH Blvd south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
8:15am	3	291	2	59	14	29	35	186	43
8:30am	6	298	10	62	25	29	68	167	53
8:45am	8	384	12	91	14	11	55	169	40
9:00am	2	436	16	92	4	1	36	183	33
Hourly Tot	19	1409	40	304	57	70	194	705	169
Hourly Tot	0.0129	0.9598	0.0272	0.7053	0.1323	0.1624	0.1816	0.6601	0.1582
PHF	0.59	0.81	0.62	0.83	0.57	0.6	0.71	0.95	0.8

Tues-Thurs, Peak PM

	EDH Blvd north (Southbound)			Serrano Pkwy (Westbound)			EDH Blvd south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:45pm	5	320	12	75	7	5	15	327	93
4:00pm	6	292	18	63	11	1	16	363	78
4:15pm	10	207	16	68	18	1	15	407	81
4:30pm	14	219	9	76	16	0	17	421	87
Hourly Tot	35	1038	55	282	52	7	63	1518	339
Hourly Tot	0.031	0.9202	0.0488	0.827	0.1525	0.0205	0.0328	0.7906	0.1766
PHF	0.62	0.81	0.76	0.93	0.72	0.35	0.93	0.9	0.91

Lassen Ln (Eastbound)

Left	Thru	Right	Total	Total %
5	0	17	599	0.2203
0	0	26	658	0.242
0	0	38	735	0.2703
0	0	35	727	0.2674
5	0	116	2719	1
0.0413	0	0.9587		
0.25	0	0.76		

Lassen Ln (Eastbound)

Left	Thru	Right	Total	Total %
6	2	9	832	0.2577
5	6	12	834	0.2584
9	7	13	735	0.2277
7	4	17	827	0.2562
27	19	51	3228	1
0.2784	0.1959	0.5258		
0.75	0.68	0.75		

Lassen Ln (Eastbound)

Left	Thru	Right	Total	Total %
4	0	25	691	0.2205
0	0	36	754	0.2406
0	0	52	836	0.2668
0	1	49	853	0.2722
4	1	162	3134	1
0.024	0.006	0.9701		
0.25	0.25	0.78		

Lassen Ln (Eastbound)

Left	Thru	Right	Total	Total %
7	0	7	873	0.2504
8	1	10	867	0.2487
9	4	13	849	0.2435
12	6	20	897	0.2573
36	11	50	3486	1
0.3711	0.1134	0.5155		
0.75	0.46	0.62		

El Dorado Hills Blvd & Serrano Pkwy

Peak Hour Turning Movement Count

ID: 18-07183-001
City: El Dorado Hills

Day: Wednesday
Date: 05/16/2018

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:15 PM - 05:15 PM

COUNT PERIODS

AM: 06:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 07:00 PM

SOUTHBOUND (El Dorado Hills Blvd)

AM	24	1419	68	0	719	AM
NOON	0	0	0	0	0	NOON
PM	22	733	30	0	1333	PM

EASTBOUND (Serrano Pkwy)

AM	NOON	PM		
93	0	130	⇦	
0	0	0	↶	0
18	0	19	↰	1
11	0	17	→	0.5
57	0	54	↷	0.5
AM	NOON	PM		

WESTBOUND (Serrano Pkwy)

PM	NOON	AM		
22	0	108	↷	0
17	0	17	←	0.5
127	0	193	↶	1.5
0	0	0	↰	0
284	0	180	⇨	
PM	NOON	AM		

NORTHBOUND (El Dorado Hills Blvd)

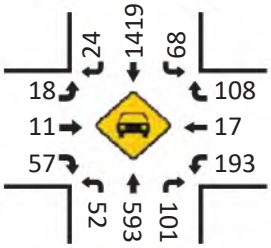
PM	917	3	91	1292	237	PM
NOON	0	0	0	0	0	NOON
AM	1674	5	52	593	101	AM

CONTROL: Signalized

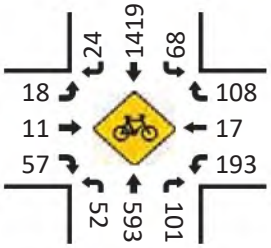
TEV	2666	0	2664
	AM	NOON	PM
PHF	0.87		0.98

Turning movements (SOUTHBOUND): 0 | 2 | 1 | 0
Turning movements (NORTHBOUND): 0 | 1 | 2 | 1

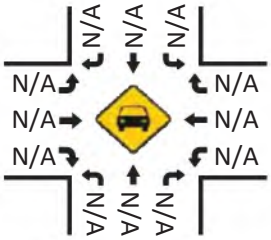
Total Vehicles (AM)



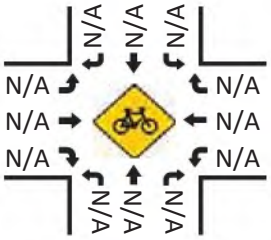
(AM)



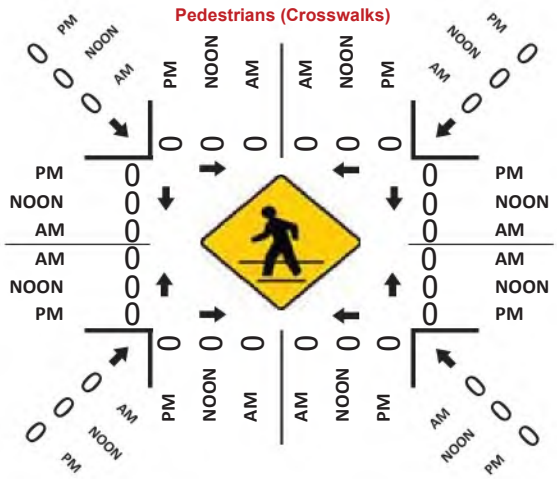
Total Vehicles (Noon)



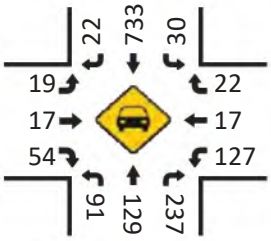
(NOON)



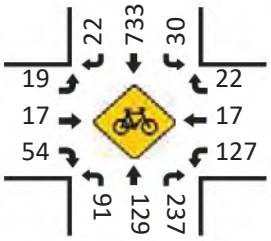
Pedestrians (Crosswalks)



Total Vehicles (PM)



(PM)



Analysis ID: 1472961
Analysis: Creekside #2 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-13
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	EDH north (Southbound)			Park (Westbound)			EDH south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
8:30am	20	352	58	2	1	8	87	262	25
8:45am	38	377	111	2	3	20	68	210	12
9:00am	45	354	120	2	3	23	63	186	2
9:15am	42	311	79	2	6	19	67	166	5
Hourly Tot	145	1394	368	8	13	70	285	824	44
Hourly Tot	0.076	0.731	0.193	0.0879	0.1429	0.7692	0.2472	0.7147	0.0382
PHF	0.81	0.92	0.77	1	0.54	0.76	0.82	0.79	0.44

All Days, Peak PM

	EDH north (Southbound)			Park (Westbound)			EDH south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:15pm	39	257	62	14	3	52	102	381	13
3:30pm	42	233	70	17	2	49	90	261	14
3:45pm	46	266	73	11	3	45	89	352	15
4:00pm	39	238	60	9	5	61	77	362	17
Hourly Tot	166	994	265	51	13	207	358	1356	59
Hourly Tot	0.1165	0.6975	0.186	0.1882	0.048	0.7638	0.2019	0.7648	0.0333
PHF	0.9	0.93	0.91	0.75	0.65	0.85	0.88	0.89	0.87

Tues-Thurs, Peak AM

	EDH north (Southbound)			Park (Westbound)			EDH south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
8:15am	11	352	62	0	1	16	98	264	33
8:30am	23	397	70	1	1	11	102	279	37
8:45am	47	389	130	1	5	25	78	231	15
9:00am	57	470	129	3	6	30	70	211	0
Hourly Tot	138	1608	391	5	13	82	348	985	85
Hourly Tot	0.0646	0.7525	0.183	0.05	0.13	0.82	0.2454	0.6946	0.0599
PHF	0.61	0.86	0.75	0.42	0.54	0.68	0.85	0.88	0.57

Tues-Thurs, Peak PM

	EDH north (Southbound)			Park (Westbound)			EDH south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:15pm	30	228	41	4	16	61	92	422	10
4:30pm	33	260	49	8	28	37	121	445	10
4:45pm	39	332	55	10	29	27	128	359	19
5:00pm	24	248	53	19	34	46	101	390	28
Hourly Tot	126	1068	198	41	107	171	442	1616	67
Hourly Tot	0.0905	0.7672	0.1422	0.1285	0.3354	0.5361	0.208	0.7605	0.0315
PHF	0.81	0.8	0.9	0.54	0.79	0.7	0.86	0.91	0.6

Saratoga (Eastbound)

Left	Thru	Right	Total	Total %
34	15	156	1020	0.2622
37	14	175	1067	0.2743
36	11	128	973	0.2501
27	7	99	830	0.2134
134	47	558	3890	1
0.1813	0.0636	0.7551		
0.91	0.78	0.8		

Saratoga (Eastbound)

Left	Thru	Right	Total	Total %
66	11	203	1203	0.2695
67	20	159	1024	0.2294
88	20	137	1145	0.2566
83	12	128	1091	0.2445
304	63	627	4463	1
0.3058	0.0634	0.6308		
0.86	0.79	0.77		

Saratoga (Eastbound)

Left	Thru	Right	Total	Total %
14	11	144	1006	0.2221
36	20	189	1166	0.2574
45	17	205	1188	0.2623
37	13	144	1170	0.2583
132	61	682	4530	1
0.1509	0.0697	0.7794		
0.73	0.76	0.83		

Saratoga (Eastbound)

Left	Thru	Right	Total	Total %
90	11	125	1130	0.237
91	16	129	1227	0.2574
91	8	140	1237	0.2595
93	6	131	1173	0.2461
365	41	525	4767	1
0.3921	0.044	0.5639		
0.98	0.64	0.94		

National Data and Surveying Services

(323) 782-0090
info@ndsdata.com

City of El Dorado Hills
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

File Name : 17-7192-001 El Dorado Hills Blvd & Saratoga Way North
Date : 3/14/2017

Unshifted Count = All Vehicles & Uturns

	El Dorado Hills Blvd Southbound					Saratoga Way North Westbound					El Dorado Hills Blvd Northbound					Saratoga Way North Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	12	125	1	0	138	0	0	4	0	4	1	43	0	0	44	2	0	9	0	11	197	0
6:15	6	153	0	0	159	2	1	2	0	5	3	45	1	1	50	1	0	8	0	9	223	1
6:30	18	237	0	0	255	0	1	4	0	5	1	65	3	0	69	3	0	9	0	12	341	0
6:45	18	238	1	0	257	2	2	6	0	10	7	86	1	0	94	2	0	16	0	18	379	0
Total	54	753	2	0	809	4	4	16	0	24	12	239	5	1	257	8	0	42	0	50	1140	1
7:00	27	280	2	1	310	1	1	13	0	15	9	144	2	1	156	10	4	23	0	37	518	2
7:15	28	336	4	0	368	2	2	22	0	26	8	122	2	0	132	5	1	16	0	22	548	0
7:30	27	362	4	0	393	1	2	12	0	15	12	134	4	0	150	8	4	28	0	40	598	0
7:45	53	376	10	0	439	4	1	22	0	27	25	164	3	0	192	1	0	23	0	24	682	0
Total	135	1354	20	1	1510	8	6	69	0	83	54	564	11	1	630	24	9	90	0	123	2346	2
8:00	37	397	1	0	435	1	5	23	0	29	18	128	8	1	155	3	2	38	0	43	662	1
8:15	29	286	6	1	322	5	2	13	0	20	16	175	14	0	205	6	1	33	0	40	587	1
8:30	22	284	6	0	312	4	0	16	0	20	26	168	9	1	204	7	4	27	0	38	574	1
8:45	33	328	6	2	369	3	3	13	0	19	44	163	14	0	221	9	8	47	0	64	673	2
Total	121	1295	19	3	1438	13	10	65	0	88	104	634	45	2	785	25	15	145	0	185	2496	5
16:00	30	184	11	0	225	9	3	58	0	70	17	283	13	1	314	14	8	23	0	45	654	1
16:15	38	178	9	1	226	15	4	45	0	64	24	242	19	3	288	9	8	26	0	43	621	4
16:30	28	165	6	1	200	17	7	53	0	77	30	273	14	1	318	8	1	27	0	36	631	2
16:45	34	180	5	2	221	10	7	70	0	87	24	290	18	0	332	15	4	15	0	34	674	2
Total	130	707	31	4	872	51	21	226	0	298	95	1088	64	5	1252	46	21	91	0	158	2580	9
17:00	32	180	8	1	221	16	1	59	0	76	30	284	15	1	330	15	7	34	0	56	683	2
17:15	41	199	5	0	245	13	2	74	0	89	31	377	16	2	426	8	6	21	0	35	795	2
17:30	51	190	8	2	251	14	9	75	0	98	35	310	22	1	368	8	8	25	0	41	758	3
17:45	40	192	8	1	241	14	6	65	0	85	26	308	22	1	357	6	4	18	0	28	711	2
Total	164	761	29	4	958	57	18	273	0	348	122	1279	75	5	1481	37	25	98	0	160	2947	9
18:00	41	148	10	0	199	10	8	79	0	97	24	307	14	0	345	14	2	14	0	30	671	0
18:15	28	156	3	1	188	10	2	59	0	71	19	316	13	0	348	14	4	19	0	37	644	1
18:30	36	151	1	0	188	8	2	62	0	72	18	287	19	0	324	10	3	13	0	26	610	0
18:45	25	158	14	2	199	12	2	43	0	57	20	230	7	0	257	10	3	9	0	22	535	2
Total	130	613	28	3	774	40	14	243	0	297	81	1140	53	0	1274	48	12	55	0	115	2460	3
Grand Total	734	5483	129	15	6361	173	73	892	0	1138	468	4944	253	14	5679	188	82	521	0	791	13969	29
Apprch %	11.5%	86.2%	2.0%	0.2%		15.2%	6.4%	78.4%	0.0%		8.2%	87.1%	4.5%	0.2%		23.8%	10.4%	65.9%	0.0%			
Total %	5.3%	39.3%	0.9%	0.1%	45.5%	1.2%	0.5%	6.4%	0.0%	8.1%	3.4%	35.4%	1.8%	0.1%	40.7%	1.3%	0.6%	3.7%	0.0%	5.7%	100.0%	

AM PEAK HOUR	El Dorado Hills Blvd Southbound					Saratoga Way North Westbound					El Dorado Hills Blvd Northbound					Saratoga Way North Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	27	362	4	0	393	1	2	12	0	15	12	134	4	0	150	8	4	28	0	40	598
7:45	53	376	10	0	439	4	1	22	0	27	25	164	3	0	192	1	0	23	0	24	682
8:00	37	397	1	0	435	1	5	23	0	29	18	128	8	1	155	3	2	38	0	43	662
8:15	29	286	6	1	322	5	2	13	0	20	16	175	14	0	205	6	1	33	0	40	587
Total Volume	146	1421	21	1	1589	11	10	70	0	91	71	601	29	1	702	18	7	122	0	147	2529
% App Total	9.2%	89.4%	1.3%	0.1%		12.1%	11.0%	76.9%	0.0%		10.1%	85.6%	4.1%	0.1%		12.2%	4.8%	83.0%	0.0%		
PHF	.689	.895	.525	.250	.905	.550	.500	.761	.000	.784	.710	.859	.518	.250	.856	.563	.438	.803	.000	.855	.927

PM PEAK HOUR	El Dorado Hills Blvd Southbound					Saratoga Way North Westbound					El Dorado Hills Blvd Northbound					Saratoga Way North Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	32	180	8	1	221	16	1	59	0	76	30	284	15	1	330	15	7	34	0	56	683
17:15	41	199	5	0	245	13	2	74	0	89	31	377	16	2	426	8	6	21	0	35	795
17:30	51	190	8	2	251	14	9	75	0	98	35	310	22	1	368	8	8	25	0	41	758
17:45	40	192	8	1	241	14	6	65	0	85	26	308	22	1	357	6	4	18	0	28	711
Total Volume	164	761	29	4	958	57	18	273	0	348	122	1279	75	5	1481	37	25	98	0	160	2947
% App Total	17.1%	79.4%	3.0%	0.4%		16.4%	5.2%	78.4%	0.0%		8.2%	86.4%	5.1%	0.3%		23.1%	15.6%	61.3%	0.0%		
PHF	.804	.956	.906	.500	.954	.891	.500	.910	.000	.888	.871	.848	.852	.625	.869	.617	.781	.721	.000	.714	.927

Analysis ID: 1472996
Analysis: Creekside #3 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-13
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	EDH north (Southbound)			Park (Westbound)			Latrobe (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:45am	13	320	141	30	4	11	239	204	24
8:00am	8	283	141	33	11	12	228	234	26
8:15am	11	235	158	35	11	12	251	226	21
8:30am	15	289	172	30	18	9	279	294	34
Hourly Tot	47	1127	612	128	44	44	997	958	105
Hourly Tot	0.0263	0.631	0.3427	0.5926	0.2037	0.2037	0.484	0.465	0.051
PHF	0.78	0.88	0.89	0.91	0.61	0.92	0.89	0.81	0.77

All Days, Peak PM

	EDH north (Southbound)			Park (Westbound)			Latrobe (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:15pm	11	357	102	25	22	18	266	410	56
3:30pm	12	281	89	49	21	11	239	303	53
3:45pm	15	339	93	57	23	19	221	365	56
4:00pm	17	220	105	52	25	22	191	380	58
Hourly Tot	55	1197	389	183	91	70	917	1458	223
Hourly Tot	0.0335	0.7294	0.2371	0.532	0.2645	0.2035	0.353	0.5612	0.0858
PHF	0.81	0.84	0.93	0.8	0.91	0.8	0.86	0.89	0.96

Tues-Thurs, Peak AM

	EDH north (Southbound)			Park (Westbound)			Latrobe (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:45am	19	325	167	41	4	14	301	239	25
8:00am	8	324	158	37	15	13	286	260	25
8:15am	7	303	165	36	16	13	316	297	19
8:30am	15	333	182	32	19	11	278	377	36
Hourly Tot	49	1285	672	146	54	51	1181	1173	105
Hourly Tot	0.0244	0.6406	0.335	0.5817	0.2151	0.2032	0.4803	0.477	0.0427
PHF	0.64	0.96	0.92	0.89	0.71	0.91	0.93	0.78	0.73

Tues-Thurs, Peak PM

	EDH north (Southbound)			Park (Westbound)			Latrobe (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:00pm	17	260	115	62	29	27	209	425	61
4:15pm	10	230	107	62	19	26	233	387	63
4:30pm	6	275	110	61	18	25	216	493	64
4:45pm	4	427	96	51	14	25	199	374	73
Hourly Tot	37	1192	428	236	80	103	857	1679	261
Hourly Tot	0.0223	0.7194	0.2583	0.5632	0.1909	0.2458	0.3064	0.6003	0.0933
PHF	0.54	0.7	0.93	0.95	0.69	0.95	0.92	0.85	0.89

WB 50 ramp (Eastbound)

Left	Thru	Right	Total	Total %
50	21	238	1295	0.2589
56	19	185	1236	0.2472
59	19	127	1165	0.233
61	16	88	1305	0.2609
226	75	638	5001	1
0.2407	0.0799	0.6794		
0.93	0.89	0.67		

WB 50 ramp (Eastbound)

Left	Thru	Right	Total	Total %
40	11	69	1387	0.2765
42	6	42	1148	0.2288
47	12	48	1295	0.2581
42	23	52	1187	0.2366
171	52	211	5017	1
0.394	0.1198	0.4862		
0.91	0.57	0.76		

WB 50 ramp (Eastbound)

Left	Thru	Right	Total	Total %
65	20	301	1521	0.2587
65	24	235	1450	0.2466
60	26	166	1424	0.2422
66	22	114	1485	0.2526
256	92	816	5880	1
0.2199	0.079	0.701		
0.97	0.88	0.68		

WB 50 ramp (Eastbound)

Left	Thru	Right	Total	Total %
40	32	59	1336	0.2429
49	38	74	1298	0.236
60	31	76	1435	0.2609
59	29	81	1432	0.2603
208	130	290	5501	1
0.3312	0.207	0.4618		
0.87	0.86	0.9		

El Dorado Hills Blvd & U.S. 50 WB

Peak Hour Turning Movement Count

ID: 18-07183-003
City: El Dorado Hills

Day: Wednesday
Date: 05/16/2018

PEAK HOURS

AM	07:30 AM - 08:30 AM
NOON	NONE
PM	04:15 PM - 05:15 PM

COUNT PERIODS

AM	06:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 07:00 PM

El Dorado Hills Blvd — SOUTHBOUND

AM	657	880	49	3	777 AM
NOON	0	0	0	0	0 NOON
PM	329	544	31	0	1532 PM
	1	3	1	0	

U.S. 50 WB — EASTBOUND

AM	NOON	PM	
1287	0	1385	
0	0	0	0
169	0	125	1.5
69	0	67	0.5
532	0	132	1
AM	NOON	PM	

CONTROL

Signalized

TEV	3850 AM	0 NOON	4169 PM
PHF	0.84		0.99

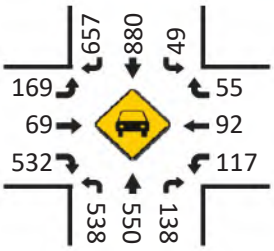
U.S. 50 WB — WESTBOUND

PM	NOON	AM	
78	0	55	0.5
76	0	92	1
158	0	117	1.5
0	0	0	0
417	0	256	
PM	NOON	AM	

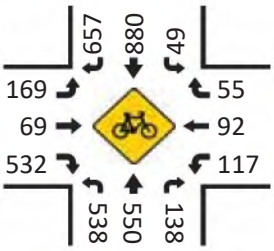
El Dorado Hills Blvd — NORTHBOUND

	0	2	2.5	0.5	
PM	835	1	980	1329	319 PM
NOON	0	0	0	0	0 NOON
AM	1530	1	538	550	138 AM

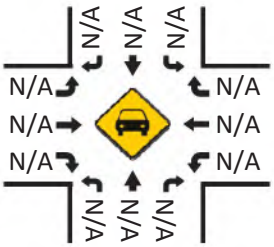
Total Vehicles (AM)



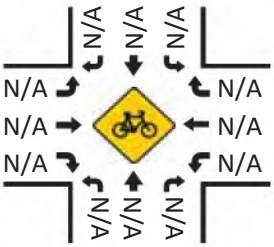
(AM)



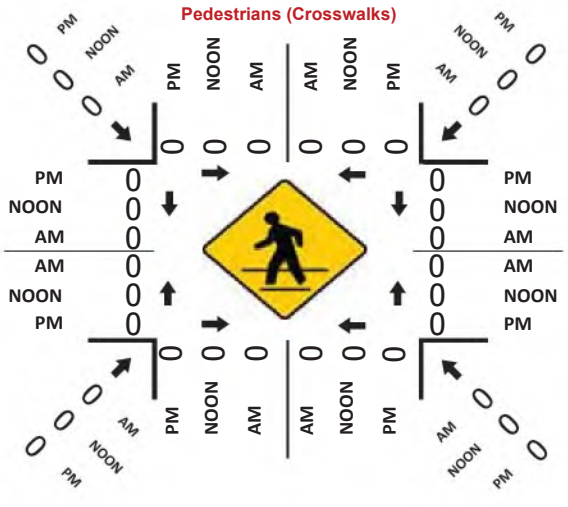
Total Vehicles (Noon)



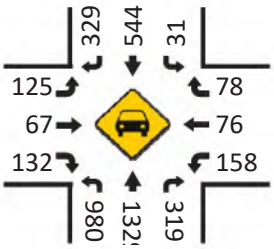
(NOON)



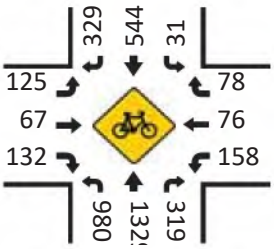
Pedestrians (Crosswalks)



Total Vehicles (PM)



(PM)



Analysis ID: 1472979
Analysis: Creekside #4 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-13
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	EDH (Southbound)			us 50 on & loop off (Westbound)			Latrobe (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:45am	79	460	0	0	0	78	0	392	92
8:00am	72	407	0	0	0	68	0	374	101
8:15am	80	328	0	0	0	64	0	432	111
8:30am	99	263	0	2	0	77	0	450	92
Hourly Tot	330	1458	0	2	0	287	0	1648	396
Hourly Tot	0.1846	0.8154	0	0.0069	0	0.9931	0	0.8063	0.1937
PHF	0.83	0.79	0	0.25	0	0.92	0	0.92	0.89

All Days, Peak PM

	EDH (Southbound)			us 50 on & loop off (Westbound)			Latrobe (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:15pm	83	306	0	0	0	214	0	483	141
3:30pm	81	303	0	0	0	165	0	446	133
3:45pm	80	332	0	0	0	158	0	476	130
4:00pm	80	269	0	0	0	154	0	437	150
Hourly Tot	324	1210	0	0	0	691	0	1842	554
Hourly Tot	0.2112	0.7888	0	0	0	1	0	0.7688	0.2312
PHF	0.98	0.91	0	0	0	0.81	0	0.95	0.92

Tues-Thurs, Peak AM

	EDH (Southbound)			us 50 on & loop off (Westbound)			Latrobe (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:45am	83	530	0	1	0	81	0	462	104
8:00am	75	508	0	0	0	59	0	455	116
8:15am	89	398	0	1	0	71	0	513	129
8:30am	114	291	0	3	0	85	0	534	111
Hourly Tot	361	1727	0	5	0	296	0	1964	460
Hourly Tot	0.1729	0.8271	0	0.0166	0	0.9834	0	0.8102	0.1898
PHF	0.79	0.81	0	0.42	0	0.87	0	0.92	0.89

Tues-Thurs, Peak PM

	EDH (Southbound)			us 50 on & loop off (Westbound)			Latrobe (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:15pm	80	312	0	0	0	182	0	563	146
3:30pm	82	362	0	0	0	179	0	458	143
3:45pm	78	363	0	0	0	176	0	474	143
4:00pm	77	293	0	0	0	167	0	503	177
Hourly Tot	317	1330	0	0	0	704	0	1998	609
Hourly Tot	0.1925	0.8075	0	0	0	1	0	0.7664	0.2336
PHF	0.97	0.92	0	0	0	0.97	0	0.89	0.86

EB 50 off (Eastbound)

Left	Thru	Right	Total	Total %
0	0	182	1283	0.2654
0	0	175	1197	0.2476
0	0	185	1200	0.2482
0	0	172	1155	0.2389
0	0	714	4835	1
0	0	1		
0	0	0.96		

EB 50 off (Eastbound)

Left	Thru	Right	Total	Total %
0	0	249	1476	0.2563
0	0	268	1396	0.2424
0	0	322	1498	0.2602
0	0	298	1388	0.2411
0	0	1137	5758	1
0	0	1		
0	0	0.88		

EB 50 off (Eastbound)

Left	Thru	Right	Total	Total %
0	0	196	1457	0.2588
0	0	215	1428	0.2537
0	0	197	1398	0.2484
0	0	208	1346	0.2391
0	0	816	5629	1
0	0	1		
0	0	0.95		

EB 50 off (Eastbound)

Left	Thru	Right	Total	Total %
0	0	251	1534	0.2492
0	0	293	1517	0.2465
0	0	351	1585	0.2575
0	0	302	1519	0.2468
0	0	1197	6155	1
0	0	1		
0	0	0.85		

Latrobe Rd & U.S. 50 EB

Peak Hour Turning Movement Count

ID: 18-07183-004
City: El Dorado Hills

Day: Wednesday
Date: 05/16/2018

PEAK HOURS

AM: 07:45 AM - 08:45 AM
NOON: NONE
PM: 04:15 PM - 05:15 PM

COUNT PERIODS

AM: 06:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 07:00 PM

Latrobe Rd — SOUTHBOUND

AM	0	1349	164	0	1269	AM
NOON	0	0	0	0	0	NOON
PM	0	673	173	1	2636	PM

EASTBOUND — U.S. 50 EB

AM	NOON	PM		
0	0	0		
0	0	0	↰	0
0	0	0	↑	0
0	0	0	→	0
1055	0	813	↱	2

WESTBOUND — U.S. 50 EB

PM	NOON	AM		
726	0	269	↰	1
0	0	0	←	0
0	0	0	↱	0
0	0	0	↱	0
624	0	360		

0 4 1 0 (SOUTHBOUND turning movements)

0 0 3 1 (NORTHBOUND turning movements)

CONTROL

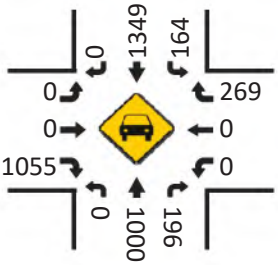
Signalized

TEV	4033 AM	0 NOON	4746 PM
PHF	0.84		0.95

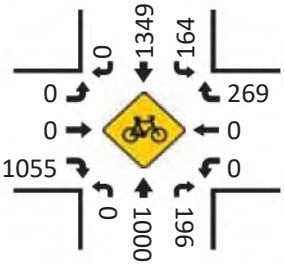
Latrobe Rd — NORTHBOUND

PM	1486	0	0	1909	451	PM
NOON	0	0	0	0	0	NOON
AM	2404	0	0	1000	196	AM

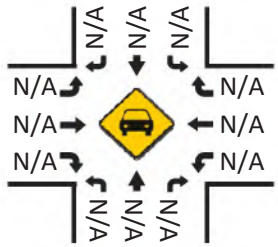
Total Vehicles (AM)



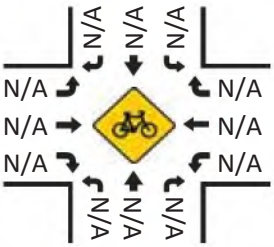
(AM)



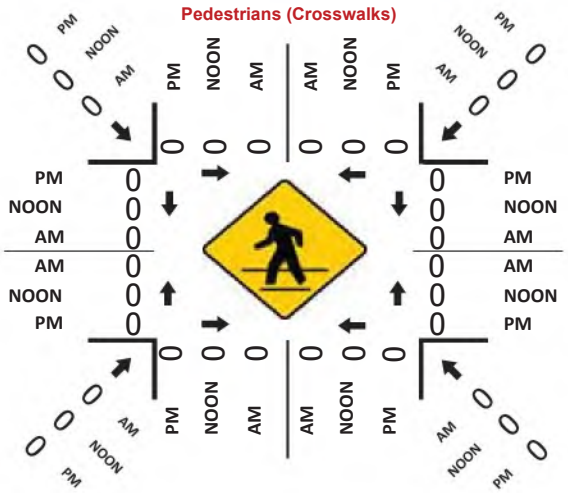
Total Vehicles (Noon)



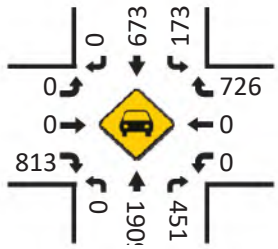
(NOON)



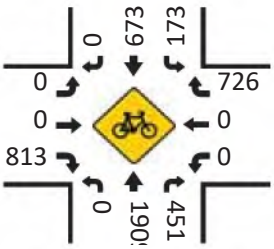
Pedestrians (Crosswalks)



Total Vehicles (PM)



(PM)



Analysis ID: 1472998
Analysis: Creekside #5 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-13
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Latrobe north (Southbound)			Town Cntr easy (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:45am	104	465	3	14	0	110	0	347	44
8:00am	109	434	8	21	0	114	0	375	61
8:15am	83	401	9	13	0	97	0	378	58
8:30am	97	288	11	17	0	102	0	410	29
Hourly Tot	393	1588	31	65	0	423	0	1510	192
Hourly Tot	0.1953	0.7893	0.0154	0.1332	0	0.8668	0	0.8872	0.1128
PHF	0.9	0.85	0.7	0.77	0	0.93	0	0.92	0.79

All Days, Peak PM

	Latrobe north (Southbound)			Town Cntr easy (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:15pm	114	394	2	22	0	143	5	438	49
3:30pm	142	390	1	17	1	145	3	406	47
3:45pm	189	422	4	24	2	146	3	371	34
4:00pm	147	359	8	24	1	162	3	394	36
Hourly Tot	592	1565	15	87	4	596	14	1609	166
Hourly Tot	0.2726	0.7205	0.0069	0.1266	0.0058	0.8675	0.0078	0.8994	0.0928
PHF	0.78	0.93	0.47	0.91	0.5	0.92	0.7	0.92	0.85

Tues-Thurs, Peak AM

	Latrobe north (Southbound)			Town Cntr easy (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:45am	115	572	3	14	0	125	0	401	52
8:00am	113	533	9	16	0	126	0	473	74
8:15am	86	513	14	11	0	115	0	434	72
8:30am	106	322	15	16	0	110	0	500	37
Hourly Tot	420	1940	41	57	0	476	0	1808	235
Hourly Tot	0.1749	0.808	0.0171	0.1069	0	0.8931	0	0.885	0.115
PHF	0.91	0.85	0.68	0.89	0	0.94	0	0.9	0.79

Tues-Thurs, Peak PM

	Latrobe north (Southbound)			Town Cntr easy (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:00pm	95	447	6	30	0	129	1	473	57
3:15pm	117	454	3	22	0	139	5	545	62
3:30pm	151	421	2	16	2	138	3	414	54
3:45pm	169	481	3	23	4	144	4	388	42
Hourly Tot	532	1803	14	91	6	550	13	1820	215
Hourly Tot	0.2265	0.7676	0.006	0.1406	0.0093	0.8501	0.0063	0.8887	0.105
PHF	0.79	0.94	0.58	0.76	0.38	0.95	0.65	0.83	0.87

Town Cntr west (Eastbound)

Left	Thru	Right	Total	Total %
0	0	2	1089	0.2582
0	0	4	1126	0.267
0	0	6	1045	0.2477
1	0	3	958	0.2271
1	0	15	4218	1
0.0625	0	0.9375		
0.25	0	0.62		

Town Cntr west (Eastbound)

Left	Thru	Right	Total	Total %
6	3	3	1179	0.252
4	0	2	1158	0.2475
4	1	1	1201	0.2567
4	1	2	1141	0.2439
18	5	8	4679	1
0.5806	0.1613	0.2581		
0.75	0.42	0.67		

Town Cntr west (Eastbound)

Left	Thru	Right	Total	Total %
0	0	1	1283	0.2567
0	0	6	1350	0.2701
0	0	8	1253	0.2507
2	0	5	1113	0.2226
2	0	20	4999	1
0.0909	0	0.9091		
0.25	0	0.62		

Town Cntr west (Eastbound)

Left	Thru	Right	Total	Total %
13	0	2	1253	0.2466
4	1	4	1356	0.2668
5	0	4	1210	0.2381
4	0	1	1263	0.2485
26	1	11	5082	1
0.6842	0.0263	0.2895		
0.5	0.25	0.69		

National Data and Surveying Services

(323) 782-0090
info@ndsdata.com

City of El Dorado Hills
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

File Name : 17-7192-004 Latrobe Rd & Town Center Blvd
Date : 3/14/2017

Unshifted Count = All Vehicles & Uturns

	Latrobe Rd Southbound					Town Center Blvd Westbound					Latrobe Rd Northbound					Town Center Blvd Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	44	89	21	0	154	6	1	16	0	23	1	101	4	0	106	0	0	0	0	0	283	0
6:15	42	129	20	1	192	4	1	37	0	42	3	86	4	0	93	2	0	0	0	2	329	1
6:30	64	198	24	0	286	8	2	40	0	50	0	115	12	0	127	2	0	0	0	2	465	0
6:45	66	306	41	0	413	10	2	48	0	60	3	92	12	0	107	3	0	0	0	3	583	0
Total	216	722	106	1	1045	28	6	141	0	175	7	394	32	0	433	7	0	0	0	7	1660	1
7:00	65	284	40	0	389	9	2	41	0	52	4	147	10	0	161	1	1	1	0	3	605	0
7:15	86	252	42	0	380	15	4	45	0	64	13	156	12	0	181	0	2	0	0	2	627	0
7:30	80	302	58	2	442	17	1	49	0	67	8	144	15	0	167	4	0	0	0	4	680	2
7:45	112	388	71	1	572	10	9	45	0	64	12	193	11	0	216	3	1	2	0	6	858	1
Total	343	1226	211	3	1783	51	16	180	0	247	37	640	48	0	725	8	4	3	0	15	2770	3
8:00	113	408	57	0	578	15	8	50	0	73	15	188	20	0	223	2	0	1	0	3	877	0
8:15	96	332	76	2	506	22	5	73	1	101	13	203	26	0	242	4	4	2	0	10	859	3
8:30	106	265	78	1	450	15	5	68	0	88	16	243	21	0	280	1	2	1	0	4	822	1
8:45	125	308	86	1	520	18	12	80	0	110	17	198	25	1	241	4	2	2	0	8	879	2
Total	440	1313	297	4	2054	70	30	271	1	372	61	832	92	1	986	11	8	6	0	25	3437	6
16:00	121	239	6	1	367	14	2	143	0	159	0	354	39	1	394	44	6	19	0	69	989	2
16:15	115	236	5	0	356	16	0	145	1	162	1	322	33	0	356	48	5	11	0	64	938	1
16:30	120	212	4	2	338	8	1	160	0	169	0	384	33	1	418	77	8	20	0	105	1030	3
16:45	163	237	6	0	406	14	1	136	0	151	1	302	28	0	331	80	11	10	0	101	989	0
Total	519	924	21	3	1467	52	4	584	1	641	2	1362	133	2	1499	249	30	60	0	339	3946	6
17:00	129	213	4	0	346	21	3	159	1	184	0	399	44	0	443	79	9	15	0	103	1076	1
17:15	137	247	1	1	386	15	1	149	0	165	1	347	44	0	392	63	5	22	0	90	1033	1
17:30	111	231	1	3	346	21	0	149	1	171	0	306	27	0	333	60	5	12	0	77	927	4
17:45	123	252	0	5	380	16	0	137	0	153	0	310	39	0	349	27	3	5	0	35	917	5
Total	500	943	6	9	1458	73	4	594	2	673	1	1362	154	0	1517	229	22	54	0	305	3953	11
18:00	118	156	3	0	277	10	0	159	0	169	0	348	32	0	380	29	8	4	0	41	867	0
18:15	115	172	1	2	290	19	0	154	1	174	0	200	25	0	225	18	1	8	0	27	716	3
18:30	87	178	1	6	272	20	1	129	0	150	0	187	15	0	202	15	3	0	0	18	642	6
18:45	83	160	0	4	247	9	0	108	0	117	0	153	23	1	177	10	0	3	0	13	554	5
Total	403	666	5	12	1086	58	1	550	1	610	0	888	95	1	984	72	12	15	0	99	2779	14
Grand Total	2421	5794	646	32	8893	332	61	2320	5	2718	108	5478	554	4	6144	576	76	138	0	790	18545	41
Apprch %	27.2%	65.2%	7.3%	0.4%		12.2%	2.2%	85.4%	0.2%		1.8%	89.2%	9.0%	0.1%		72.9%	9.6%	17.5%	0.0%			
Total %	13.1%	31.2%	3.5%	0.2%	48.0%	1.8%	0.3%	12.5%	0.0%	14.7%	0.6%	29.5%	3.0%	0.0%	33.1%	3.1%	0.4%	0.7%	0.0%	4.3%	100.0%	

AM PEAK HOUR	Latrobe Rd Southbound					Town Center Blvd Westbound					Latrobe Rd Northbound					Town Center Blvd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 08:00 to 09:00																					
Peak Hour For Entire Intersection Begins at 08:00																					
8:00	113	408	57	0	578	15	8	50	0	73	15	188	20	0	223	2	0	1	0	3	877
8:15	96	332	76	2	506	22	5	73	1	101	13	203	26	0	242	4	4	2	0	10	859
8:30	106	265	78	1	450	15	5	68	0	88	16	243	21	0	280	1	2	1	0	4	822
8:45	125	308	86	1	520	18	12	80	0	110	17	198	25	1	241	4	2	2	0	8	879
Total Volume	440	1313	297	4	2054	70	30	271	1	372	61	832	92	1	986	11	8	6	0	25	3437
% App Total	21.4%	63.9%	14.5%	0.2%		18.8%	8.1%	72.8%	0.3%		6.2%	84.4%	9.3%	0.1%		44.0%	32.0%	24.0%	0.0%		
PHF	.880	.805	.863	.500	.888	.795	.625	.847	.250	.845	.897	.856	.885	.250	.880	.688	.500	.750	.000	.625	.978

PM PEAK HOUR	Latrobe Rd Southbound					Town Center Blvd Westbound					Latrobe Rd Northbound					Town Center Blvd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	120	212	4	2	338	8	1	160	0	169	0	384	33	1	418	77	8	20	0	105	1030
16:45	163	237	6	0	406	14	1	136	0	151	1	302	28	0	331	80	11	10	0	101	989
17:00	129	213	4	0	346	21	3	159	1	184	0	399	44	0	443	79	9	15	0	103	1076
17:15	137	247	1	1	386	15	1	149	0	165	1	347	44	0	392	63	5	22	0	90	1033
Total Volume	549	909	15	3	1476	58	6	604	1	669	2	1432	149	1	1584	299	33	67	0	399	4128
% App Total	37.2%	61.6%	1.0%	0.2%		8.7%	0.9%	90.3%	0.1%		0.1%	90.4%	9.4%	0.1%		74.9%	8.3%	16.8%	0.0%		
PHF	.842	.920	.625	.375	.909	.690	.500	.944	.250	.909	.500	.897	.847	.250	.894	.934	.750	.761	.000	.950	.959

Analysis ID: 1472999
Analysis: Creekside #6 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-13
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Latrobe north (Southbound)			WRR east (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:45am	10	401	71	57	28	21	10	280	32
8:00am	15	350	82	57	37	20	12	372	45
8:15am	23	266	92	52	30	20	12	312	40
8:30am	33	168	98	61	38	25	10	279	35
Hourly Tot	81	1185	343	227	133	86	44	1243	152
Hourly Tot	0.0503	0.7365	0.2132	0.509	0.2982	0.1928	0.0306	0.8638	0.1056
PHF	0.61	0.74	0.88	0.93	0.88	0.86	0.92	0.84	0.84

All Days, Peak PM

	Latrobe north (Southbound)			WRR east (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2:45pm	36	359	75	87	47	52	19	218	51
3:00pm	32	289	63	82	40	48	11	315	71
3:15pm	53	260	100	74	27	43	3	409	82
3:30pm	61	217	97	63	32	43	5	289	75
Hourly Tot	182	1125	335	306	146	186	38	1231	279
Hourly Tot	0.1108	0.6851	0.204	0.4796	0.2288	0.2915	0.0245	0.7952	0.1802
PHF	0.75	0.78	0.84	0.88	0.78	0.89	0.5	0.75	0.85

Tues-Thurs, Peak AM

	Latrobe north (Southbound)			WRR east (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:45am	11	490	83	74	34	25	15	344	35
8:00am	7	432	100	74	38	26	18	489	59
8:15am	17	361	114	64	26	30	18	348	38
8:30am	30	278	110	78	39	30	13	336	41
Hourly Tot	65	1561	407	290	137	111	64	1517	173
Hourly Tot	0.032	0.7678	0.2002	0.539	0.2546	0.2063	0.0365	0.8649	0.0986
PHF	0.54	0.8	0.89	0.93	0.88	0.93	0.89	0.78	0.73

Tues-Thurs, Peak PM

	Latrobe north (Southbound)			WRR east (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2:45pm	22	433	75	110	60	54	23	281	62
3:00pm	37	349	74	106	43	52	9	400	87
3:15pm	62	293	120	96	29	43	2	510	113
3:30pm	75	244	123	81	32	37	4	324	100
Hourly Tot	196	1319	392	393	164	186	38	1515	362
Hourly Tot	0.1028	0.6917	0.2056	0.5289	0.2207	0.2503	0.0198	0.7911	0.189
PHF	0.65	0.76	0.8	0.89	0.68	0.86	0.41	0.74	0.8

ERR west (Eastbound)

Left	Thru	Right	Total	Total %
39	15	7	971	0.2492
60	26	4	1080	0.2772
83	33	4	967	0.2482
90	37	4	878	0.2254
272	111	19	3896	1
0.6766	0.2761	0.0473		
0.76	0.75	0.68		

ERR west (Eastbound)

Left	Thru	Right	Total	Total %
70	49	9	1072	0.2505
59	36	8	1054	0.2463
57	36	9	1153	0.2695
68	41	9	1000	0.2337
254	162	35	4279	1
0.5632	0.3592	0.0776		
0.91	0.83	0.97		

ERR west (Eastbound)

Left	Thru	Right	Total	Total %
42	14	7	1174	0.2462
69	21	4	1337	0.2804
99	33	7	1155	0.2422
100	40	7	1102	0.2311
310	108	25	4768	1
0.6998	0.2438	0.0564		
0.78	0.68	0.89		

ERR west (Eastbound)

Left	Thru	Right	Total	Total %
82	53	12	1267	0.2501
69	35	10	1271	0.2509
59	36	9	1372	0.2709
75	48	12	1155	0.228
285	172	43	5065	1
0.57	0.344	0.086		
0.87	0.81	0.9		

National Data and Surveying Services

(323) 782-0090
info@ndsdata.com

City of El Dorado Hills
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

File Name : 17-7192-005 Latrobe Rd & White Rock Rd
Date : 3/14/2017

Unshifted Count = All Vehicles & Uturns

	Latrobe Rd Southbound					White Rock Rd Westbound					Latrobe Rd Northbound					White Rock Rd Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	9	76	18	0	103	13	11	12	0	36	5	83	11	0	99	11	5	0	0	16	254	0
6:15	4	109	22	0	135	34	12	16	0	62	9	72	9	0	90	10	4	5	0	19	306	0
6:30	13	158	33	0	204	27	26	19	0	72	12	88	6	0	106	14	10	13	0	37	419	0
6:45	16	271	32	2	321	67	32	18	0	117	11	73	14	0	98	18	10	21	0	49	585	2
Total	42	614	105	2	763	141	81	65	0	287	37	316	40	0	393	53	29	39	0	121	1564	2
7:00	16	209	53	0	278	49	40	22	0	111	26	104	18	1	149	38	12	7	0	57	595	1
7:15	15	199	63	1	278	58	39	34	0	131	16	108	19	0	143	30	20	17	0	67	619	1
7:30	14	235	71	0	320	57	53	23	0	133	25	109	11	1	146	39	28	13	0	80	679	1
7:45	23	291	87	0	401	102	59	22	0	183	19	141	25	0	185	53	32	23	0	108	877	0
Total	68	934	274	1	1277	266	191	101	0	558	86	462	73	2	623	160	92	60	0	312	2770	3
8:00	31	298	83	0	412	82	58	29	0	169	25	135	29	1	190	58	21	13	0	92	863	1
8:15	19	266	83	1	369	58	50	28	0	136	14	160	42	1	217	53	25	10	1	89	811	3
8:30	19	176	73	0	268	56	60	41	0	157	26	165	35	0	226	71	22	14	1	108	759	1
8:45	28	224	73	0	325	62	49	33	0	144	6	140	17	0	163	62	19	16	0	97	729	0
Total	97	964	312	1	1374	258	217	131	0	606	71	600	123	2	796	244	87	53	2	386	3162	5
16:00	66	138	64	3	271	49	29	39	0	117	21	293	87	1	402	67	56	25	1	149	939	5
16:15	54	142	59	0	255	45	51	49	0	145	17	228	58	2	305	69	71	34	0	174	879	2
16:30	68	121	61	0	250	36	27	45	0	108	18	303	84	2	407	85	90	18	0	193	958	2
16:45	51	147	43	1	242	53	40	46	1	140	20	213	82	0	315	79	79	30	0	188	885	2
Total	239	548	227	4	1018	183	147	179	1	510	76	1037	311	5	1429	300	296	107	1	704	3661	11
17:00	65	133	58	1	257	47	41	54	0	142	17	307	104	4	432	92	94	16	1	203	1034	6
17:15	59	173	61	0	293	58	56	49	0	163	18	226	76	0	320	93	73	22	1	189	965	1
17:30	58	142	45	2	247	42	45	41	0	128	21	238	86	1	346	83	77	20	1	181	902	4
17:45	50	171	65	1	287	48	26	49	0	123	24	186	57	0	267	78	52	21	0	151	828	1
Total	232	619	229	4	1084	195	168	193	0	556	80	957	323	5	1365	346	296	79	3	724	3729	12
18:00	59	88	34	0	181	43	25	44	0	112	20	264	53	2	339	76	49	14	1	140	772	3
18:15	49	111	41	0	201	31	40	35	0	106	16	142	34	0	192	37	44	11	0	92	591	0
18:30	50	121	31	0	202	24	25	49	0	98	7	115	39	1	162	41	39	11	1	92	554	2
18:45	32	101	38	0	171	38	11	35	0	84	2	101	31	1	135	32	19	16	0	67	457	1
Total	190	421	144	0	755	136	101	163	0	400	45	622	157	4	828	186	151	52	2	391	2374	6
Grand Total	868	4100	1291	12	6271	1179	905	832	1	2917	395	3994	1027	18	5434	1289	951	390	8	2638	17260	39
Apprch %	13.8%	65.4%	20.6%	0.2%		40.4%	31.0%	28.5%	0.0%		7.3%	73.5%	18.9%	0.3%		48.9%	36.1%	14.8%	0.3%			
Total %	5.0%	23.8%	7.5%	0.1%	36.3%	6.8%	5.2%	4.8%	0.0%	16.9%	2.3%	23.1%	6.0%	0.1%	31.5%	7.5%	5.5%	2.3%	0.0%	15.3%	100.0%	

AM PEAK HOUR	Latrobe Rd Southbound					White Rock Rd Westbound					Latrobe Rd Northbound					White Rock Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	23	291	87	0	401	102	59	22	0	183	19	141	25	0	185	53	32	23	0	108	877
8:00	31	298	83	0	412	82	58	29	0	169	25	135	29	1	190	58	21	13	0	92	863
8:15	19	266	83	1	369	58	50	28	0	136	14	160	42	1	217	53	25	10	1	89	811
8:30	19	176	73	0	268	56	60	41	0	157	26	165	35	0	226	71	22	14	1	108	759
Total Volume	92	1031	326	1	1450	298	227	120	0	645	84	601	131	2	818	235	100	60	2	397	3310
% App Total	6.3%	71.1%	22.5%	0.1%		46.2%	35.2%	18.6%	0.0%		10.3%	73.5%	16.0%	0.2%		59.2%	25.2%	15.1%	0.5%		
PHF	.742	.865	.937	.250	.880	.730	.946	.732	.000	.881	.808	.911	.780	.500	.905	.827	.781	.652	.500	.919	.944

PM PEAK HOUR	Latrobe Rd Southbound					White Rock Rd Westbound					Latrobe Rd Northbound					White Rock Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	68	121	61	0	250	36	27	45	0	108	18	303	84	2	407	85	90	18	0	193	958
16:45	51	147	43	1	242	53	40	46	1	140	20	213	82	0	315	79	79	30	0	188	885
17:00	65	133	58	1	257	47	41	54	0	142	17	307	104	4	432	92	94	16	1	203	1034
17:15	59	173	61	0	293	58	56	49	0	163	18	226	76	0	320	93	73	22	1	189	965
Total Volume	243	574	223	2	1042	194	164	194	1	553	73	1049	346	6	1474	349	336	86	2	773	3842
% App Total	23.3%	55.1%	21.4%	0.2%		35.1%	29.7%	35.1%	0.2%		5.0%	71.2%	23.5%	0.4%		45.1%	43.5%	11.1%	0.3%		
PHF	.893	.829	.914	.500	.889	.836	.732	.898	.250	.848	.913	.854	.832	.375	.853	.938	.894	.717	.500	.952	.929

Analysis ID: 1473000
Analysis: Creekside #7 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-13
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Latrobe north (Southbound)			Monte Verde (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:30am	1	166	38	1	0	0	7	321	0
7:45am	2	348	54	0	1	1	6	264	0
8:00am	1	387	53	0	1	2	6	271	0
8:15am	0	231	50	0	4	1	6	221	0
Hourly Tot	4	1132	195	1	6	4	25	1077	0
Hourly Tot	0.003	0.8505	0.1465	0.0909	0.5455	0.3636	0.0227	0.9773	0
PHF	0.5	0.73	0.9	0.25	0.38	0.5	0.89	0.84	0

All Days, Peak PM

	Latrobe north (Southbound)			Monte Verde (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2:30pm	7	277	32	0	3	1	3	200	0
2:45pm	7	401	52	0	1	1	0	207	0
3:00pm	4	253	61	1	2	2	0	295	5
3:15pm	4	271	56	1	2	1	0	332	7
Hourly Tot	22	1202	201	2	8	5	3	1034	12
Hourly Tot	0.0154	0.8435	0.1411	0.1333	0.5333	0.3333	0.0029	0.9857	0.0114
PHF	0.79	0.75	0.82	0.5	0.67	0.62	0.25	0.78	0.43

Tues-Thurs, Peak AM

	Latrobe north (Southbound)			Monte Verde (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:30am	2	256	48	0	0	0	9	381	0
7:45am	4	427	71	0	0	2	7	316	0
8:00am	2	439	79	0	0	5	11	339	0
8:15am	0	317	74	0	2	2	11	251	0
Hourly Tot	8	1439	272	0	2	9	38	1287	0
Hourly Tot	0.0047	0.8371	0.1582	0	0.1818	0.8182	0.0287	0.9713	0
PHF	0.5	0.82	0.86	0	0.25	0.45	0.86	0.84	0

Tues-Thurs, Peak PM

	Latrobe north (Southbound)			Monte Verde (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2:45pm	12	473	72	0	0	2	0	266	0
3:00pm	7	317	92	0	2	5	0	376	7
3:15pm	2	294	70	0	2	2	0	412	9
3:30pm	0	287	51	0	0	0	0	246	5
Hourly Tot	21	1371	285	0	4	9	0	1300	21
Hourly Tot	0.0125	0.8175	0.1699	0	0.3077	0.6923	0	0.9841	0.0159
PHF	0.44	0.72	0.77	0	0.5	0.45	0	0.79	0.58

GF (north) (Eastbound)

Left	Thru	Right	Total	Total %
8	0	0	542	0.2107
26	0	0	702	0.2729
46	0	0	767	0.2982
46	0	2	561	0.2181
126	0	2	2572	1
0.9844	0	0.0156		
0.68	0	0.25		

GF (north) (Eastbound)

Left	Thru	Right	Total	Total %
56	0	19	598	0.216
58	0	9	736	0.2659
62	0	1	686	0.2478
73	1	0	748	0.2702
249	1	29	2768	1
0.8925	0.0036	0.1039		
0.85	0.25	0.38		

GF (north) (Eastbound)

Left	Thru	Right	Total	Total %
9	0	0	705	0.2187
32	0	0	859	0.2664
61	0	0	936	0.2903
65	0	2	724	0.2246
167	0	2	3224	1
0.9882	0	0.0118		
0.64	0	0.25		

GF (north) (Eastbound)

Left	Thru	Right	Total	Total %
77	0	11	913	0.2702
87	0	1	894	0.2646
97	2	0	890	0.2634
87	5	1	682	0.2018
348	7	13	3379	1
0.9457	0.019	0.0353		
0.9	0.35	0.3		

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

File Name : 17-07982-005
Date : 11/16/2017

#7

Unshifted Count = All Vehicles & Uturns

	Latrobe Rd Southbound					Golden Foothill Pkwy Westbound					Latrobe Rd Northbound					Golden Foothill Pkwy Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	0	103	15	1	119	0	0	1	0	1	1	85	0	0	86	8	0	0	0	8	214	1
6:15	0	112	19	0	131	0	0	2	0	2	1	90	0	0	91	3	0	0	0	3	227	0
6:30	1	135	29	0	165	0	0	1	0	1	0	115	0	0	115	1	0	0	0	1	282	0
6:45	1	208	57	0	266	0	0	2	0	2	3	110	0	0	113	5	0	0	0	5	386	0
Total	2	558	120	1	681	0	0	6	0	6	5	400	0	0	405	17	0	0	0	17	1109	1
7:00	0	183	77	1	261	0	1	3	0	4	0	113	0	0	113	12	0	1	0	13	391	1
7:15	0	209	50	0	259	1	1	3	0	5	3	132	1	0	136	13	0	0	0	13	413	0
7:30	0	306	61	1	368	0	0	4	0	4	1	153	0	0	154	9	0	0	0	9	535	1
7:45	0	301	117	0	418	0	3	4	0	7	6	178	1	1	186	19	2	1	0	22	633	1
Total	0	999	305	2	1306	1	5	14	0	20	10	576	2	1	589	53	2	2	0	57	1972	3
8:00	1	268	140	1	410	1	2	3	0	6	6	215	0	0	221	41	2	6	0	49	686	1
8:15	0	234	70	0	304	2	2	3	0	7	3	166	1	0	170	35	0	3	0	38	519	0
8:30	0	195	70	0	265	1	2	1	0	4	3	127	1	0	131	18	0	4	0	22	422	0
8:45	1	216	68	0	285	2	1	2	0	5	2	141	1	0	144	13	0	1	0	14	448	0
Total	2	913	348	1	1264	6	7	9	0	22	14	649	3	0	666	107	2	14	0	123	2075	1
16:00	1	162	30	0	193	0	0	1	0	1	3	210	1	0	214	67	0	4	0	71	479	0
16:15	3	178	33	0	214	0	1	1	0	2	0	327	2	0	329	122	1	3	0	126	671	0
16:30	3	205	29	0	237	0	0	0	0	0	0	230	2	0	232	93	1	3	0	97	566	0
16:45	4	161	34	0	199	0	1	2	0	3	3	295	3	0	301	117	1	5	0	123	626	0
Total	11	706	126	0	843	0	2	4	0	6	6	1062	8	0	1076	399	3	15	0	417	2342	0
17:00	5	158	42	0	205	1	2	4	0	7	3	223	1	1	228	76	1	4	0	81	521	1
17:15	8	191	29	1	229	1	1	6	0	8	1	199	0	0	200	69	1	4	0	74	511	1
17:30	3	188	23	0	214	1	0	2	0	3	1	215	1	0	217	46	1	2	0	49	483	0
17:45	2	150	19	1	172	1	3	0	0	4	3	229	0	0	232	43	1	3	0	47	455	1
Total	18	687	113	2	820	4	6	12	0	22	8	866	2	1	877	234	4	13	0	251	1970	3
18:00	1	161	17	1	180	3	0	1	0	4	1	128	1	0	130	42	1	2	0	45	359	1
18:15	3	124	14	1	142	1	0	5	0	6	0	107	1	0	108	58	1	0	0	59	315	1
18:30	6	127	16	0	149	0	0	0	0	0	0	93	0	0	93	34	0	3	0	37	279	0
18:45	6	127	16	0	149	0	0	0	0	0	0	93	0	0	93	34	0	3	0	37	279	0
Total	16	539	63	2	620	4	0	6	0	10	1	421	2	0	424	168	2	8	0	178	1232	2
Grand Total	49	4402	1075	8	5534	15	20	51	0	86	44	3974	17	2	4037	978	13	52	0	1043	10700	10
Apprch %	0.9%	79.5%	19.4%	0.1%		17.4%	23.3%	59.3%	0.0%		1.1%	98.4%	0.4%	0.0%		93.8%	1.2%	5.0%	0.0%			
Total %	0.5%	41.1%	10.0%	0.1%	51.7%	0.1%	0.2%	0.5%	0.0%	0.8%	0.4%	37.1%	0.2%	0.0%	37.7%	9.1%	0.1%	0.5%	0.0%	9.7%	100.0%	

AM PEAK HOUR	Latrobe Rd Southbound					Golden Foothill Pkwy Westbound					Latrobe Rd Northbound					Golden Foothill Pkwy Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	0	306	61	1	368	0	0	4	0	4	1	153	0	0	154	9	0	0	0	9	535
7:45	0	301	117	0	418	0	3	4	0	7	6	178	1	1	186	19	2	1	0	22	633
8:00	1	268	140	1	410	1	2	3	0	6	6	215	0	0	221	41	2	6	0	49	686
8:15	0	234	70	0	304	2	2	3	0	7	3	166	1	0	170	35	0	3	0	38	519
Total Volume	1	1109	388	2	1500	3	7	14	0	24	16	712	2	1	731	104	4	10	0	118	2373
% App Total	0.1%	73.9%	25.9%	0.1%		12.5%	29.2%	58.3%	0.0%		2.2%	97.4%	0.3%	0.1%		88.1%	3.4%	8.5%	0.0%		
PHF	.250	.906	.693	.500	.897	.375	.583	.875	.000	.857	.667	.828	.500	.250	.827	.634	.500	.417	.000	.602	.865

PM PEAK HOUR	Latrobe Rd Southbound					Golden Foothill Pkwy Westbound					Latrobe Rd Northbound					Golden Foothill Pkwy Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	3	178	33	0	214	0	1	1	0	2	0	327	2	0	329	122	1	3	0	126	671
16:30	3	205	29	0	237	0	0	0	0	0	0	230	2	0	232	93	1	3	0	97	566
16:45	4	161	34	0	199	0	1	2	0	3	3	295	3	0	301	117	1	5	0	123	626
17:00	5	158	42	0	205	1	2	4	0	7	3	223	1	1	228	76	1	4	0	81	521
Total Volume	15	702	138	0	855	1	4	7	0	12	6	1075	8	1	1090	408	4	15	0	427	2384
% App Total	1.8%	82.1%	16.1%	0.0%		8.3%	33.3%	58.3%	0.0%		0.6%	98.6%	0.7%	0.1%		95.6%	0.9%	3.5%	0.0%		
PHF	.750	.856	.821	.000	.902	.250	.500	.438	.000	.429	.500	.822	.667	.250	.828	.836	1.000	.750	.000	.847	.888

Analysis ID: 1473003
Analysis: Creekside #8 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-13
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Latrobe north (Southb		Suncaste (Eastbound)		Latrobe south (Northbound)			
	Thru	Right	Left	Right	Left	Thru	Total	Total %
7:30am	164	9	4	0	2	310	489	0.2428
7:45am	260	23	7	0	8	227	525	0.2607
8:00am	242	42	11	0	11	256	562	0.279
8:15am	166	36	7	0	22	207	438	0.2175
Hourly Tot	832	110	29	0	43	1000	2014	1
Hourly Tot	0.8832	0.1168	1	0	0.0412	0.9588		
PHF	0.8	0.65	0.66	0	0.49	0.81		

All Days, Peak PM

	Latrobe north (Southb		Suncaste (Eastbound)		Latrobe south (Northbound)			
	Thru	Right	Left	Right	Left	Thru	Total	Total %
2:30pm	292	18	25	14	7	172	528	0.2359
2:45pm	338	24	15	13	11	207	608	0.2717
3:00pm	160	25	25	9	11	277	507	0.2265
3:15pm	241	24	35	10	8	277	595	0.2659
Hourly Tot	1031	91	100	46	37	933	2238	1
Hourly Tot	0.9189	0.0811	0.6849	0.3151	0.0381	0.9619		
PHF	0.76	0.91	0.71	0.82	0.84	0.84		

Tues-Thurs, Peak AM

	Latrobe north (Southb		Suncaste (Eastbound)		Latrobe south (Northbound)			
	Thru	Right	Left	Right	Left	Thru	Total	Total %
7:30am	184	13	2	0	4	365	568	0.2397
7:45am	299	34	9	0	9	275	626	0.2641
8:00am	254	55	10	0	16	306	641	0.2705
8:15am	209	46	9	0	31	240	535	0.2257
Hourly Tot	946	148	30	0	60	1186	2370	1
Hourly Tot	0.8647	0.1353	1	0	0.0482	0.9518		
PHF	0.79	0.67	0.75	0	0.48	0.81		

Tues-Thurs, Peak PM

	Latrobe north (Southb		Suncaste (Eastbound)		Latrobe south (Northbound)			
	Thru	Right	Left	Right	Left	Thru	Total	Total %
2:30pm	347	21	28	20	12	188	616	0.2259
2:45pm	406	29	19	18	15	257	744	0.2728
3:00pm	245	28	30	11	12	346	672	0.2464
3:15pm	261	31	42	12	9	340	695	0.2549
Hourly Tot	1259	109	119	61	48	1131	2727	1
Hourly Tot	0.9203	0.0797	0.6611	0.3389	0.0407	0.9593		
PHF	0.78	0.88	0.71	0.76	0.8	0.82		

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

#8

File Name : 17-07982-004
Date : 11/16/2017

Unshifted Count = All Vehicles & Uturns

	Latrobe Rd Southbound					Suncast Ln Westbound					Latrobe Rd Northbound					Suncast Ln Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	0	102	5	0	107	0	0	0	0	0	1	89	0	0	90	2	0	0	0	2	199	0
6:15	0	108	5	0	113	0	0	0	0	0	0	90	0	0	90	2	0	1	0	3	206	0
6:30	0	132	9	0	141	0	0	0	0	0	1	122	0	0	123	1	0	0	0	1	265	0
6:45	0	195	17	0	212	0	0	0	0	0	1	109	0	0	110	2	0	0	0	2	324	0
Total	0	537	36	0	573	0	0	0	0	0	3	410	0	0	413	7	0	1	0	8	994	0
7:00	0	176	16	0	192	0	0	0	0	0	1	119	0	0	120	5	0	1	0	6	318	0
7:15	0	211	20	0	231	0	0	0	0	0	3	136	0	0	139	2	0	1	0	3	373	0
7:30	0	255	24	0	279	0	0	0	0	0	6	147	0	0	153	2	0	0	0	2	434	0
7:45	0	294	31	0	325	0	0	0	0	0	8	191	0	0	199	7	0	0	0	7	531	0
Total	0	936	91	0	1027	0	0	0	0	0	18	593	0	0	611	16	0	2	0	18	1656	0
8:00	0	207	41	0	248	0	0	0	0	0	14	205	0	1	220	16	0	1	0	17	485	1
8:15	0	223	22	0	245	0	0	0	0	0	5	133	0	0	138	10	0	4	0	14	397	0
8:30	0	180	25	0	205	0	0	0	0	0	3	144	0	0	147	5	0	1	0	6	358	0
8:45	0	174	41	0	215	0	0	0	0	0	3	129	0	0	132	10	0	0	0	10	357	0
Total	0	784	129	0	913	0	0	0	0	0	25	611	0	1	637	41	0	6	0	47	1597	1
16:00	0	140	23	0	163	0	0	0	0	0	5	270	0	0	275	43	0	10	0	53	491	0
16:15	0	151	17	0	168	0	0	0	0	0	0	180	0	0	180	29	0	4	0	33	381	0
16:30	0	167	21	0	188	0	0	0	0	0	0	292	0	0	292	45	0	3	0	48	528	0
16:45	0	185	16	0	201	0	0	0	0	0	2	213	0	0	215	30	0	6	0	36	452	0
Total	0	643	77	0	720	0	0	0	0	0	7	955	0	0	962	147	0	23	0	170	1852	0
17:00	0	169	12	0	181	0	0	0	0	0	3	234	0	0	237	71	0	6	0	77	495	0
17:15	0	156	14	0	170	0	0	0	0	0	3	182	0	0	185	35	0	6	0	41	396	0
17:30	0	186	9	0	195	0	0	0	0	0	0	193	0	1	194	26	0	4	0	30	419	1
17:45	0	175	11	0	186	0	0	0	0	0	0	179	0	0	179	29	0	4	0	33	398	0
Total	0	686	46	0	732	0	0	0	0	0	6	788	0	1	795	161	0	20	0	181	1708	1
18:00	0	152	19	0	171	0	0	0	0	0	1	205	0	0	206	23	0	3	0	26	403	0
18:15	0	139	13	0	152	0	0	0	0	0	1	106	0	0	107	10	0	2	0	12	271	0
18:30	0	116	9	0	125	0	0	0	0	0	2	101	0	0	103	10	0	1	0	11	239	0
18:45	0	119	12	0	131	0	0	0	0	0	0	75	0	0	75	12	0	1	0	13	219	0
Total	0	526	53	0	579	0	0	0	0	0	4	487	0	0	491	55	0	7	0	62	1132	0
Grand Total	0	4112	432	0	4544	0	0	0	0	0	63	3844	0	2	3909	427	0	59	0	486	8939	2
Apprch %	0.0%	90.5%	9.5%	0.0%		0.0%	0.0%	0.0%	0.0%		1.6%	98.3%	0.0%	0.1%		87.9%	0.0%	12.1%	0.0%			
Total %	0.0%	46.0%	4.8%	0.0%	50.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	43.0%	0.0%	0.0%	43.7%	4.8%	0.0%	0.7%	0.0%	5.4%	100.0%	

AM PEAK HOUR	Latrobe Rd Southbound					Suncast Ln Westbound					Latrobe Rd Northbound					Suncast Ln Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	0	255	24	0	279	0	0	0	0	0	6	147	0	0	153	2	0	0	0	2	434
7:45	0	294	31	0	325	0	0	0	0	0	8	191	0	0	199	7	0	0	0	7	531
8:00	0	207	41	0	248	0	0	0	0	0	14	205	0	1	220	16	0	1	0	17	485
8:15	0	223	22	0	245	0	0	0	0	0	5	133	0	0	138	10	0	4	0	14	397
Total Volume	0	979	118	0	1097	0	0	0	0	0	33	676	0	1	710	35	0	5	0	40	1847
% App Total	0.0%	89.2%	10.8%	0.0%		0.0%	0.0%	0.0%	0.0%		4.6%	95.2%	0.0%	0.1%		87.5%	0.0%	12.5%	0.0%		
PHF	.000	.832	.720	.000	.844	.000	.000	.000	.000	.000	.589	.824	.000	.250	.807	.547	.000	.313	.000	.588	.870

PM PEAK HOUR	Latrobe Rd Southbound					Suncast Ln Westbound					Latrobe Rd Northbound					Suncast Ln Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	0	167	21	0	188	0	0	0	0	0	0	292	0	0	292	45	0	3	0	48	528
16:45	0	185	16	0	201	0	0	0	0	0	2	213	0	0	215	30	0	6	0	36	452
17:00	0	169	12	0	181	0	0	0	0	0	3	234	0	0	237	71	0	6	0	77	495
17:15	0	156	14	0	170	0	0	0	0	0	3	182	0	0	185	35	0	6	0	41	396
Total Volume	0	677	63	0	740	0	0	0	0	0	8	921	0	0	929	181	0	21	0	202	1871
% App Total	0.0%	91.5%	8.5%	0.0%		0.0%	0.0%	0.0%	0.0%		0.9%	99.1%	0.0%	0.0%		89.6%	0.0%	10.4%	0.0%		
PHF	.000	.915	.750	.000	.920	.000	.000	.000	.000	.000	.667	.789	.000	.000	.795	.637	.000	.875	.000	.656	.886

Analysis ID: 1475494
Analysis: Creekside #9 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-19
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R126-M128

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Latrobe north (Southbound)			Clubview (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:30am	42	25	95	0	5	179	3	116	0
7:45am	48	39	158	0	13	90	9	144	2
8:00am	46	54	130	1	24	51	8	124	3
8:15am	35	61	101	0	24	41	3	107	0
Hourly Tot	171	179	484	1	66	361	23	491	5
Hourly Tot	0.205	0.2146	0.5803	0.0023	0.1542	0.8435	0.0443	0.9461	0.0096
PHF	0.89	0.73	0.77	0.25	0.69	0.5	0.64	0.85	0.42

All Days, Peak PM

	Latrobe north (Southbound)			Clubview (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2:30pm	52	109	139	0	17	32	2	109	0
2:45pm	54	100	199	2	19	28	4	111	3
3:00pm	55	78	106	3	14	26	4	124	5
3:15pm	58	75	72	4	6	28	10	123	4
Hourly Tot	219	362	516	9	56	114	20	467	12
Hourly Tot	0.1996	0.33	0.4704	0.0503	0.3128	0.6369	0.0401	0.9359	0.024
PHF	0.94	0.83	0.65	0.56	0.74	0.89	0.5	0.94	0.6

Tues-Thurs, Peak AM

	Latrobe north (Southbound)			Clubview (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:30am	40	23	122	1	8	143	6	139	0
7:45am	47	36	163	0	19	98	16	183	2
8:00am	55	54	159	0	35	48	14	159	4
8:15am	36	60	119	0	32	46	5	124	1
Hourly Tot	178	173	563	1	94	335	41	605	7
Hourly Tot	0.1947	0.1893	0.616	0.0023	0.2186	0.7791	0.0628	0.9265	0.0107
PHF	0.81	0.72	0.86	0.25	0.67	0.59	0.64	0.83	0.44

Tues-Thurs, Peak PM

	Latrobe north (Southbound)			Clubview (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2:30pm	56	120	182	1	22	33	3	113	0
2:45pm	62	114	192	2	26	24	6	129	2
3:00pm	63	78	131	4	20	22	8	153	5
3:15pm	67	73	98	6	9	24	12	150	4
Hourly Tot	248	385	603	13	77	103	29	545	11
Hourly Tot	0.2006	0.3115	0.4879	0.0674	0.399	0.5337	0.0496	0.9316	0.0188
PHF	0.93	0.8	0.79	0.54	0.74	0.78	0.6	0.89	0.55

GF (south) (Eastbound)

Left	Thru	Right	Total	Total %
25	7	0	497	0.2399
50	8	0	561	0.2708
90	9	1	541	0.2611
92	7	2	473	0.2283
257	31	3	2072	1
0.8832	0.1065	0.0103		
0.7	0.86	0.38		

GF (south) (Eastbound)

Left	Thru	Right	Total	Total %
53	14	2	529	0.2319
104	20	6	650	0.285
128	26	6	575	0.2521
121	19	7	527	0.231
406	79	21	2281	1
0.8024	0.1561	0.0415		
0.79	0.76	0.75		

GF (south) (Eastbound)

Left	Thru	Right	Total	Total %
26	9	0	517	0.2193
62	13	0	639	0.2711
110	11	2	651	0.2762
116	8	3	550	0.2333
314	41	5	2357	1
0.8722	0.1139	0.0139		
0.68	0.79	0.42		

GF (south) (Eastbound)

Left	Thru	Right	Total	Total %
62	14	2	608	0.2309
128	24	8	717	0.2723
154	35	8	681	0.2586
150	26	8	627	0.2381
494	99	26	2633	1
0.7981	0.1599	0.042		
0.8	0.71	0.81		

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

File Name : 17-07982-003
Date : 11/16/2017

#9

Unshifted Count = All Vehicles & Uturns

	Latrobe Rd Southbound					Golden Foothill Pkwy /Clubview Dr Westbound					Latrobe Rd Northbound					Golden Foothill Pkwy /Clubview Dr Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	6	46	64	0	116	3	0	23	0	26	3	50	1	0	54	19	4	0	0	23	219	0
6:15	9	46	33	0	88	1	1	30	0	32	2	53	2	0	57	7	0	0	0	7	184	0
6:30	14	64	59	0	137	2	3	36	0	41	2	62	1	0	65	11	0	0	0	11	254	0
6:45	27	82	64	0	173	1	6	50	0	57	4	60	2	0	66	5	3	0	0	8	304	0
Total	56	238	220	0	514	7	10	139	0	156	11	225	6	0	242	42	7	0	0	49	961	0
7:00	30	65	81	0	176	1	2	32	0	35	6	63	1	0	70	13	1	1	0	15	296	0
7:15	34	75	71	0	180	2	4	52	0	58	2	78	1	0	81	11	0	3	0	14	333	0
7:30	56	105	107	0	268	5	11	47	0	63	5	81	2	0	88	16	1	1	0	18	437	0
7:45	82	104	81	0	267	5	14	104	0	123	7	83	0	0	90	10	5	1	0	16	496	0
Total	202	349	340	0	891	13	31	235	0	279	20	305	4	0	329	50	7	6	0	63	1562	0
8:00	41	98	119	0	258	4	18	105	0	127	9	93	0	0	102	21	5	0	0	26	513	0
8:15	29	79	100	0	208	2	13	43	0	58	4	75	2	0	81	33	6	0	0	39	386	0
8:30	23	81	87	0	191	2	9	46	1	58	7	55	1	0	63	30	4	1	0	35	347	1
8:45	21	81	71	1	174	3	10	58	0	71	4	63	0	0	67	13	4	5	0	22	334	1
Total	114	339	377	1	831	11	50	252	1	314	24	286	3	0	313	97	19	6	0	122	1580	2
16:00	48	69	32	0	149	2	6	35	0	43	4	110	3	0	117	104	6	3	0	113	422	0
16:15	31	68	51	0	150	0	9	27	1	37	5	87	4	1	97	74	12	1	0	87	371	2
16:30	45	78	34	0	157	1	4	24	0	29	0	135	7	0	142	130	14	5	0	149	477	0
16:45	84	79	34	0	197	2	11	25	0	38	2	112	0	0	114	72	8	3	0	83	432	0
Total	208	294	151	0	653	5	30	111	1	147	11	444	14	1	470	380	40	12	0	432	1702	2
17:00	55	79	29	0	163	1	6	32	0	39	3	92	6	0	101	116	28	2	0	146	449	0
17:15	65	83	26	0	174	0	6	29	0	35	3	93	8	0	104	58	6	2	0	66	379	0
17:30	59	91	29	0	179	0	6	23	0	29	4	85	1	0	90	78	16	0	0	94	392	0
17:45	43	98	46	0	187	0	9	36	0	45	2	89	4	0	95	58	13	4	0	75	402	0
Total	222	351	130	0	703	1	27	120	0	148	12	359	19	0	390	310	63	8	0	381	1622	0
18:00	44	67	29	0	140	0	4	37	0	41	1	94	2	0	97	77	5	4	0	86	364	0
18:15	57	73	29	0	159	0	2	15	0	17	1	59	2	0	62	33	4	1	0	38	276	0
18:30	46	58	18	0	122	1	1	23	0	25	0	42	2	0	44	36	13	1	0	50	241	0
18:45	46	54	20	0	120	2	5	14	0	21	2	26	2	0	30	34	8	1	0	43	214	0
Total	193	252	96	0	541	3	12	89	0	104	4	221	8	0	233	180	30	7	0	217	1095	0
Grand Total	995	1823	1314	1	4133	40	160	946	2	1148	82	1840	54	1	1977	1059	166	39	0	1264	8522	4
Apprch %	24.1%	44.1%	31.8%	0.0%		3.5%	13.9%	82.4%	0.2%		4.1%	93.1%	2.7%	0.1%		83.8%	13.1%	3.1%	0.0%			
Total %	11.7%	21.4%	15.4%	0.0%	48.5%	0.5%	1.9%	11.1%	0.0%	13.5%	1.0%	21.6%	0.6%	0.0%	23.2%	12.4%	1.9%	0.5%	0.0%	14.8%	100.0%	

AM PEAK HOUR	Latrobe Rd Southbound					Golden Foothill Pkwy /Clubview Dr Westbound					Latrobe Rd Northbound					Golden Foothill Pkwy /Clubview Dr Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	56	105	107	0	268	5	11	47	0	63	5	81	2	0	88	16	1	1	0	18	437
7:45	82	104	81	0	267	5	14	104	0	123	7	83	0	0	90	10	5	1	0	16	496
8:00	41	98	119	0	258	4	18	105	0	127	9	93	0	0	102	21	5	0	0	26	513
8:15	29	79	100	0	208	2	13	43	0	58	4	75	2	0	81	33	6	0	0	39	386
Total Volume	208	386	407	0	1001	16	56	299	0	371	25	332	4	0	361	80	17	2	0	99	1832
% App Total	20.8%	38.6%	40.7%	0.0%		4.3%	15.1%	80.6%	0.0%		6.9%	92.0%	1.1%	0.0%		80.8%	17.2%	2.0%	0.0%		
PHF	.634	.919	.855	.000	.934	.800	.778	.712	.000	.730	.694	.892	.500	.000	.885	.606	.708	.500	.000	.635	.893

PM PEAK HOUR	Latrobe Rd Southbound					Golden Foothill Pkwy /Clubview Dr Westbound					Latrobe Rd Northbound					Golden Foothill Pkwy /Clubview Dr Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	45	78	34	0	157	1	4	24	0	29	0	135	7	0	142	130	14	5	0	149	477
16:45	84	79	34	0	197	2	11	25	0	38	2	112	0	0	114	72	8	3	0	83	432
17:00	55	79	29	0	163	1	6	32	0	39	3	92	6	0	101	116	28	2	0	146	449
17:15	65	83	26	0	174	0	6	29	0	35	3	93	8	0	104	58	6	2	0	66	379
Total Volume	249	319	123	0	691	4	27	110	0	141	8	432	21	0	461	376	56	12	0	444	1737
% App Total	36.0%	46.2%	17.8%	0.0%		2.8%	19.1%	78.0%	0.0%		1.7%	93.7%	4.6%	0.0%		84.7%	12.6%	2.7%	0.0%		
PHF	.741	.961	.904	.000	.877	.500	.614	.859	.000	.904	.667	.800	.656	.000	.812	.723	.500	.600	.000	.745	.910

Analysis ID: 1475496
Analysis: Creekside #10 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-19
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R126-M128

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Latrobe north (Southb		Investment (Eastboun		Latrobe south (Northbound)			
	Thru	Right	Left	Right	Left	Thru	Total	Total %
7:45am	47	0	47	2	6	123	225	0.2679
8:00am	68	0	46	8	6	97	225	0.2679
8:15am	71	0	38	12	3	74	198	0.2357
8:30am	66	0	16	8	2	100	192	0.2286
Hourly Tot	252	0	147	30	17	394	840	1
Hourly Tot	1	0	0.8305	0.1695	0.0414	0.9586		
PHF	0.89	0	0.78	0.62	0.71	0.8		

All Days, Peak PM

	Latrobe north (Southb		Investment (Eastboun		Latrobe south (Northbound)			
	Thru	Right	Left	Right	Left	Thru	Total	Total %
2:30pm	119	0	27	12	7	88	253	0.2336
2:45pm	117	0	45	9	11	76	258	0.2382
3:00pm	97	0	96	14	7	62	276	0.2548
3:15pm	107	0	102	19	3	65	296	0.2733
Hourly Tot	440	0	270	54	28	291	1083	1
Hourly Tot	1	0	0.8333	0.1667	0.0878	0.9122		
PHF	0.92	0	0.66	0.71	0.64	0.83		

Tues-Thurs, Peak AM

	Latrobe north (Southb		Investment (Eastboun		Latrobe south (Northbound)			
	Thru	Right	Left	Right	Left	Thru	Total	Total %
7:45am	45	0	64	1	9	158	277	0.2809
8:00am	67	0	65	11	9	119	271	0.2748
8:15am	71	0	49	16	6	80	222	0.2252
8:30am	71	0	24	9	4	108	216	0.2191
Hourly Tot	254	0	202	37	28	465	986	1
Hourly Tot	1	0	0.8452	0.1548	0.0568	0.9432		
PHF	0.89	0	0.78	0.58	0.78	0.74		

Tues-Thurs, Peak PM

	Latrobe north (Southb		Investment (Eastboun		Latrobe south (Northbound)			
	Thru	Right	Left	Right	Left	Thru	Total	Total %
2:45pm	135	0	48	11	14	84	292	0.2345
3:00pm	99	0	128	20	9	72	328	0.2635
3:15pm	108	0	132	26	4	71	341	0.2739
3:30pm	105	0	72	20	0	87	284	0.2281
Hourly Tot	447	0	380	77	27	314	1245	1
Hourly Tot	1	0	0.8315	0.1685	0.0792	0.9208		
PHF	0.83	0	0.72	0.74	0.48	0.9		

ALL TRAFFIC DATA

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orders@atdtraffic.com

File Name : 17-07982-002
Date : 11/16/2017

#10

Unshifted Count = All Vehicles & Uturns

	Latrobe Rd Southbound					Investment Blvd Westbound					Latrobe Rd Northbound					Investment Blvd Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	0	17	22	0	39	0	0	0	0	0	2	27	0	0	29	23	0	0	0	23	91	0
6:15	0	23	32	0	55	0	0	0	0	0	1	61	0	0	62	5	0	0	0	5	122	0
6:30	0	27	30	0	57	0	0	0	0	0	2	52	0	0	54	0	0	0	0	0	111	0
6:45	0	23	50	0	73	0	0	0	0	0	5	62	0	0	67	0	0	0	0	0	140	0
Total	0	90	134	0	224	0	0	0	0	0	10	202	0	0	212	28	0	0	0	28	464	0
7:00	0	37	36	0	73	0	0	0	0	0	1	68	0	0	69	3	0	0	0	3	145	0
7:15	0	37	40	0	77	0	0	0	0	0	2	70	0	0	72	3	0	0	0	3	152	0
7:30	0	30	87	0	117	0	0	0	0	0	2	85	0	0	87	5	0	1	0	6	210	0
7:45	0	33	75	0	108	0	0	0	0	0	6	81	0	0	87	8	0	0	0	8	203	0
Total	0	137	238	0	375	0	0	0	0	0	11	304	0	0	315	19	0	1	0	20	710	0
8:00	0	38	63	0	101	0	0	0	0	0	5	74	0	0	79	8	0	0	0	8	188	0
8:15	0	35	48	0	83	0	0	0	0	0	5	65	0	0	70	3	0	1	0	4	157	0
8:30	0	32	50	0	82	0	0	0	0	0	1	56	0	0	57	4	0	1	0	5	144	0
8:45	0	35	53	0	88	0	0	0	0	0	3	51	0	0	54	4	0	1	0	5	147	0
Total	0	140	214	0	354	0	0	0	0	0	14	246	0	0	260	19	0	3	0	22	636	0
16:00	0	74	6	0	80	0	0	0	0	0	1	36	0	0	37	71	0	5	0	76	193	0
16:15	0	65	3	0	68	0	0	0	0	0	0	40	0	0	40	39	0	0	0	39	147	0
16:30	0	76	8	0	84	0	0	0	0	0	2	49	0	0	51	112	0	7	0	119	254	0
16:45	0	75	7	0	82	0	0	0	0	0	1	40	0	0	41	55	0	3	0	58	181	0
Total	0	290	24	0	314	0	0	0	0	0	4	165	0	0	169	277	0	15	0	292	775	0
17:00	0	73	8	0	81	0	0	0	0	0	1	43	0	0	44	58	0	7	0	65	190	0
17:15	0	69	15	0	84	0	0	0	0	0	1	38	0	0	39	56	0	1	0	57	180	0
17:30	0	69	21	0	90	0	0	0	0	0	0	50	0	0	50	49	0	1	0	50	190	0
17:45	0	68	32	0	100	0	0	0	0	0	0	51	0	0	51	25	0	5	0	30	181	0
Total	0	279	76	0	355	0	0	0	0	0	2	182	0	0	184	188	0	14	0	202	741	0
18:00	0	60	9	0	69	0	0	0	0	0	0	39	0	0	39	58	0	4	0	62	170	0
18:15	0	67	8	0	75	0	0	0	0	0	0	35	0	0	35	15	0	0	0	15	125	0
18:30	0	53	5	0	58	0	0	0	0	0	0	24	0	0	24	16	0	1	0	17	99	0
18:45	0	51	6	0	57	0	0	0	0	0	1	26	0	0	27	5	0	1	0	6	90	0
Total	0	231	28	0	259	0	0	0	0	0	1	124	0	0	125	94	0	6	0	100	484	0
Grand Total	0	1167	714	0	1881	0	0	0	0	0	42	1223	0	0	1265	625	0	39	0	664	3810	0
Apprch %	0.0%	62.0%	38.0%	0.0%		0.0%	0.0%	0.0%	0.0%		3.3%	96.7%	0.0%	0.0%		94.1%	0.0%	5.9%	0.0%			
Total %	0.0%	30.6%	18.7%	0.0%	49.4%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	32.1%	0.0%	0.0%	33.2%	16.4%	0.0%	1.0%	0.0%	17.4%	100.0%	

AM PEAK HOUR	Latrobe Rd Southbound					Investment Blvd Westbound					Latrobe Rd Northbound					Investment Blvd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	0	30	87	0	117	0	0	0	0	0	2	85	0	0	87	5	0	1	0	6	210
7:45	0	33	75	0	108	0	0	0	0	0	6	81	0	0	87	8	0	0	0	8	203
8:00	0	38	63	0	101	0	0	0	0	0	5	74	0	0	79	8	0	0	0	8	188
8:15	0	35	48	0	83	0	0	0	0	0	5	65	0	0	70	3	0	1	0	4	157
Total Volume	0	136	273	0	409	0	0	0	0	0	18	305	0	0	323	24	0	2	0	26	758
% App Total	0.0%	33.3%	66.7%	0.0%		0.0%	0.0%	0.0%	0.0%		5.6%	94.4%	0.0%	0.0%		92.3%	0.0%	7.7%	0.0%		
PHF	.000	.895	.784	.000	.874	.000	.000	.000	.000	.000	.750	.897	.000	.000	.928	.750	.000	.500	.000	.813	.902

PM PEAK HOUR	Latrobe Rd Southbound					Investment Blvd Westbound					Latrobe Rd Northbound					Investment Blvd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	0	76	8	0	84	0	0	0	0	0	2	49	0	0	51	112	0	7	0	119	254
16:45	0	75	7	0	82	0	0	0	0	0	1	40	0	0	41	55	0	3	0	58	181
17:00	0	73	8	0	81	0	0	0	0	0	1	43	0	0	44	58	0	7	0	65	190
17:15	0	69	15	0	84	0	0	0	0	0	1	38	0	0	39	56	0	1	0	57	180
Total Volume	0	293	38	0	331	0	0	0	0	0	5	170	0	0	175	281	0	18	0	299	805
% App Total	0.0%	88.5%	11.5%	0.0%		0.0%	0.0%	0.0%	0.0%		2.9%	97.1%	0.0%	0.0%		94.0%	0.0%	6.0%	0.0%		
PHF	.000	.964	.633	.000	.985	.000	.000	.000	.000	.000	.625	.867	.000	.000	.858	.627	.000	.643	.000	.628	.792

Analysis ID: 1473012
Analysis: Creekside #11 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-13
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Latrobe north (Southb		Avanti (Westbound)		Latrobe south (Northbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
11:00am	0	66	0	4	88	0	158	0.2293
11:15am	0	77	0	7	92	0	176	0.2554
11:30am	0	98	0	2	85	0	185	0.2685
11:45am	0	93	0	4	73	0	170	0.2467
Hourly Tot	0	334	0	17	338	0	689	1
Hourly Tot	0	1	0	1	1	0		
PHF	0	0.85	0	0.61	0.92	0		

All Days, Peak PM

	Latrobe north (Southb		Avanti (Westbound)		Latrobe south (Northbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
3:45pm	2	129	0	3	82	0	216	0.2477
4:00pm	0	124	0	9	86	0	219	0.2511
4:15pm	1	107	0	16	94	0	218	0.25
4:30pm	3	101	0	17	98	0	219	0.2511
Hourly Tot	6	461	0	45	360	0	872	1
Hourly Tot	0.0128	0.9872	0	1	1	0		
PHF	0.5	0.89	0	0.66	0.92	0		

Tues-Thurs, Peak AM

	Latrobe north (Southb		Avanti (Westbound)		Latrobe south (Northbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
8:00am	0	64	0	5	122	0	191	0.252
8:15am	0	72	0	5	82	0	159	0.2098
8:30am	0	75	0	16	103	0	194	0.2559
8:45am	0	84	0	13	117	0	214	0.2823
Hourly Tot	0	295	0	39	424	0	758	1
Hourly Tot	0	1	0	1	1	0		
PHF	0	0.88	0	0.61	0.87	0		

Tues-Thurs, Peak PM

	Latrobe north (Southb		Avanti (Westbound)		Latrobe south (Northbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
3:45pm	0	131	0	2	88	0	221	0.2415
4:00pm	0	137	0	10	85	0	232	0.2536
4:15pm	2	111	0	19	102	0	234	0.2557
4:30pm	5	100	0	18	105	0	228	0.2492
Hourly Tot	7	479	0	49	380	0	915	1
Hourly Tot	0.0144	0.9856	0	1	1	0		
PHF	0.35	0.87	0	0.64	0.9	0		

Analysis ID: 1475498
Analysis: Creekside #12 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-19
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R126-M128

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Latrobe north (Southb		Royal Oaks (Westbour		Latrobe south (Northbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
11:00am	17	47	1	14	72	11	162	0.2411
11:15am	17	60	5	15	73	5	175	0.2604
11:30am	22	73	2	15	64	0	176	0.2619
11:45am	26	64	0	14	55	0	159	0.2366
Hourly Tot	82	244	8	58	264	16	672	1
Hourly Tot	0.2515	0.7485	0.1212	0.8788	0.9429	0.0571		
PHF	0.79	0.84	0.4	0.97	0.9	0.36		

All Days, Peak PM

	Latrobe north (Southb		Royal Oaks (Westbour		Latrobe south (Northbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
2:15pm	22	79	3	21	67	12	204	0.2503
2:30pm	21	104	6	14	77	4	226	0.2773
2:45pm	22	102	8	11	68	0	211	0.2589
3:00pm	27	78	6	16	47	0	174	0.2135
Hourly Tot	92	363	23	62	259	16	815	1
Hourly Tot	0.2022	0.7978	0.2706	0.7294	0.9418	0.0582		
PHF	0.85	0.87	0.72	0.74	0.84	0.33		

Tues-Thurs, Peak AM

	Latrobe north (Southb		Royal Oaks (Westbour		Latrobe south (Northbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
7:30am	5	27	0	36	99	7	174	0.2403
7:45am	5	35	0	35	127	18	220	0.3039
8:00am	2	61	0	20	98	7	188	0.2597
8:15am	2	65	0	12	63	0	142	0.1961
Hourly Tot	14	188	0	103	387	32	724	1
Hourly Tot	0.0693	0.9307	0	1	0.9236	0.0764		
PHF	0.7	0.72	0	0.72	0.76	0.44		

Tues-Thurs, Peak PM

	Latrobe north (Southb		Royal Oaks (Westbour		Latrobe south (Northbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
2:15pm	22	82	4	24	68	12	212	0.234
2:30pm	22	122	7	15	91	4	261	0.2881
2:45pm	23	118	10	14	79	0	244	0.2693
3:00pm	27	85	5	16	56	0	189	0.2086
Hourly Tot	94	407	26	69	294	16	906	1
Hourly Tot	0.1876	0.8124	0.2737	0.7263	0.9484	0.0516		
PHF	0.87	0.83	0.65	0.72	0.81	0.33		

ALL TRAFFIC DATA

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#12

File Name : 17-07982-001
Date : 11/16/2017

Unshifted Count = All Vehicles & Uturns

	Latrobe Rd Southbound					Royal Oaks Dr Westbound					Latrobe Rd Northbound					Royal Oaks Dr Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	0	17	0	0	17	0	0	4	0	4	0	24	0	0	24	0	0	0	0	0	45	0
6:15	1	20	0	0	21	0	0	9	0	9	0	46	0	0	46	0	0	0	0	0	76	0
6:30	3	27	0	0	30	0	0	12	0	12	0	48	0	0	48	0	0	0	0	0	90	0
6:45	8	23	0	0	31	2	0	8	0	10	0	49	2	0	51	0	0	0	0	0	92	0
Total	12	87	0	0	99	2	0	33	0	35	0	167	2	0	169	0	0	0	0	0	303	0
7:00	3	26	0	0	29	0	0	15	0	15	0	58	0	0	58	0	0	0	0	0	102	0
7:15	6	36	0	0	42	1	0	12	0	13	0	57	1	0	58	0	0	0	0	0	113	0
7:30	7	21	0	0	28	0	0	21	0	21	0	62	2	0	64	0	0	0	0	0	113	0
7:45	15	23	0	0	38	0	0	19	0	19	0	69	3	0	72	0	0	0	0	0	129	0
Total	31	106	0	0	137	1	0	67	0	68	0	246	6	0	252	0	0	0	0	0	457	0
8:00	13	27	0	0	40	2	0	14	0	16	0	69	0	0	69	0	0	0	0	0	125	0
8:15	4	29	0	0	33	1	0	9	0	10	0	58	0	0	58	0	0	0	0	0	101	0
8:30	5	25	0	0	30	0	0	11	0	11	0	42	0	0	42	0	0	0	0	0	83	0
8:45	6	35	0	0	41	0	0	11	0	11	0	45	1	0	46	0	0	0	0	0	98	0
Total	28	116	0	0	144	3	0	45	0	48	0	214	1	0	215	0	0	0	0	0	407	0
16:00	8	63	0	0	71	0	0	6	0	6	0	26	1	0	27	0	0	0	0	0	104	0
16:15	9	64	0	0	73	0	0	5	0	5	0	29	0	0	29	0	0	0	0	0	107	0
16:30	9	67	0	0	76	1	0	4	0	5	0	51	0	0	51	0	0	0	0	0	132	0
16:45	10	76	0	0	86	0	0	5	0	5	0	38	2	0	40	0	0	0	0	0	131	0
Total	36	270	0	0	306	1	0	20	0	21	0	144	3	0	147	0	0	0	0	0	474	0
17:00	11	68	0	0	79	0	0	7	0	7	0	31	0	0	31	0	0	0	0	0	117	0
17:15	15	56	0	0	71	0	0	5	0	5	0	34	0	0	34	0	0	0	0	0	110	0
17:30	8	68	0	0	76	0	0	6	0	6	0	43	1	0	44	0	0	0	0	0	126	0
17:45	23	52	0	0	75	2	0	3	0	5	0	50	1	0	51	0	0	0	0	0	131	0
Total	57	244	0	0	301	2	0	21	0	23	0	158	2	0	160	0	0	0	0	0	484	0
18:00	15	53	0	0	68	1	0	7	0	8	0	31	0	0	31	0	0	0	0	0	107	0
18:15	9	56	0	0	65	0	0	5	0	5	0	25	1	0	26	0	0	0	0	0	96	0
18:30	6	51	0	0	57	0	0	5	0	5	0	19	0	0	19	0	0	0	0	0	81	0
18:45	11	41	0	0	52	1	0	7	0	8	0	19	0	0	19	0	0	0	0	0	79	0
Total	41	201	0	0	242	2	0	24	0	26	0	94	1	0	95	0	0	0	0	0	363	0
Grand Total	205	1024	0	0	1229	11	0	210	0	221	0	1023	15	0	1038	0	0	0	0	0	2488	0
Apprch %	16.7%	83.3%	0.0%	0.0%		5.0%	0.0%	95.0%	0.0%		0.0%	98.6%	1.4%	0.0%		0.0%	0.0%	0.0%	0.0%			
Total %	8.2%	41.2%	0.0%	0.0%	49.4%	0.4%	0.0%	8.4%	0.0%	8.9%	0.0%	41.1%	0.6%	0.0%	41.7%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

AM PEAK HOUR	Latrobe Rd Southbound					Royal Oaks Dr Westbound					Latrobe Rd Northbound					Royal Oaks Dr Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:15 to 08:15																					
Peak Hour For Entire Intersection Begins at 07:15																					
7:15	6	36	0	0	42	1	0	12	0	13	0	57	1	0	58	0	0	0	0	0	113
7:30	7	21	0	0	28	0	0	21	0	21	0	62	2	0	64	0	0	0	0	0	113
7:45	15	23	0	0	38	0	0	19	0	19	0	69	3	0	72	0	0	0	0	0	129
8:00	13	27	0	0	40	2	0	14	0	16	0	69	0	0	69	0	0	0	0	0	125
Total Volume	41	107	0	0	148	3	0	66	0	69	0	257	6	0	263	0	0	0	0	0	480
% App Total	27.7%	72.3%	0.0%	0.0%		4.3%	0.0%	95.7%	0.0%		0.0%	97.7%	2.3%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.683	.743	.000	.000	.881	.375	.000	.786	.000	.821	.000	.931	.500	.000	.913	.000	.000	.000	.000	.000	.930

PM PEAK HOUR	Latrobe Rd Southbound					Royal Oaks Dr Westbound					Latrobe Rd Northbound					Royal Oaks Dr Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	9	67	0	0	76	1	0	4	0	5	0	51	0	0	51	0	0	0	0	0	132
16:45	10	76	0	0	86	0	0	5	0	5	0	38	2	0	40	0	0	0	0	0	131
17:00	11	68	0	0	79	0	0	7	0	7	0	31	0	0	31	0	0	0	0	0	117
17:15	15	56	0	0	71	0	0	5	0	5	0	34	0	0	34	0	0	0	0	0	110
Total Volume	45	267	0	0	312	1	0	21	0	22	0	154	2	0	156	0	0	0	0	0	490
% App Total	14.4%	85.6%	0.0%	0.0%		4.5%	0.0%	95.5%	0.0%		0.0%	98.7%	1.3%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.750	.878	.000	.000	.907	.250	.000	.750	.000	.786	.000	.755	.250	.000	.765	.000	.000	.000	.000	.000	.928

Analysis ID: 1473014
Analysis: #13 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-13
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	GF west (Eastbound)		GF east (Westbound)		RJM (Northbound)			
	Thru	Right	Left	Thru	Left	Right	Total	Total %
7:45am	26	10	238	27	2	33	336	0.294
8:00am	30	20	203	30	4	63	350	0.3062
8:15am	23	9	143	21	5	62	263	0.2301
8:30am	27	2	92	17	6	50	194	0.1697
Hourly Tot	106	41	676	95	17	208	1143	1
Hourly Tot	0.7211	0.2789	0.8768	0.1232	0.0756	0.9244		
PHF	0.88	0.51	0.71	0.79	0.71	0.83		

All Days, Peak PM

	GF west (Eastbound)		GF east (Westbound)		RJM (Northbound)			
	Thru	Right	Left	Thru	Left	Right	Total	Total %
2:30pm	32	6	146	26	4	42	256	0.1902
2:45pm	34	7	209	40	17	99	406	0.3016
3:00pm	41	11	132	37	32	128	381	0.2831
3:15pm	41	13	85	36	22	106	303	0.2251
Hourly Tot	148	37	572	139	75	375	1346	1
Hourly Tot	0.8	0.2	0.8045	0.1955	0.1667	0.8333		
PHF	0.9	0.71	0.68	0.87	0.59	0.73		

Tues-Thurs, Peak AM

	GF west (Eastbound)		GF east (Westbound)		RJM (Northbound)			
	Thru	Right	Left	Thru	Left	Right	Total	Total %
7:45am	32	15	320	39	4	45	455	0.306
8:00am	32	31	257	42	6	82	450	0.3026
8:15am	28	11	177	29	8	77	330	0.2219
8:30am	34	0	129	22	7	60	252	0.1695
Hourly Tot	126	57	883	132	25	264	1487	1
Hourly Tot	0.6885	0.3115	0.87	0.13	0.0865	0.9135		
PHF	0.93	0.46	0.69	0.79	0.78	0.8		

Tues-Thurs, Peak PM

	GF west (Eastbound)		GF east (Westbound)		RJM (Northbound)			
	Thru	Right	Left	Thru	Left	Right	Total	Total %
2:30pm	32	8	188	37	5	51	321	0.1929
2:45pm	40	10	216	54	23	126	469	0.2819
3:00pm	48	15	164	50	46	157	480	0.2885
3:15pm	48	15	124	44	27	136	394	0.2368
Hourly Tot	168	48	692	185	101	470	1664	1
Hourly Tot	0.7778	0.2222	0.7891	0.2109	0.1769	0.8231		
PHF	0.88	0.8	0.8	0.86	0.55	0.75		

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

#13

File Name : 17-07982-007
Date : 11/16/2017

Unshifted Count = All Vehicles & Uturns

	Robert J Matthews Pkwy Southbound					Golden Foothill Pkwy Westbound					Robert J Matthews Pkwy Northbound					Golden Foothill Pkwy Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	0	0	0	0	0	38	13	0	0	51	8	0	20	0	28	0	2	2	0	4	83	0
6:15	0	0	0	0	0	38	8	0	0	46	1	0	6	0	7	0	0	5	0	5	58	0
6:30	0	0	0	0	0	41	13	0	0	54	2	0	9	0	11	0	4	4	0	8	73	0
6:45	0	0	0	0	0	62	32	0	0	94	1	0	4	0	5	0	3	9	0	12	111	0
Total	0	0	0	0	0	179	66	0	0	245	12	0	39	0	51	0	9	20	0	29	325	0
7:00	0	0	0	0	0	59	20	0	0	79	2	0	14	0	16	0	6	3	0	9	104	0
7:15	0	0	0	0	0	78	18	0	0	96	1	0	5	0	6	0	6	15	0	21	123	0
7:30	0	0	0	0	0	87	21	0	0	108	3	0	9	0	12	0	8	8	0	16	136	0
7:45	0	0	0	0	0	92	33	0	0	125	4	0	8	0	12	0	11	17	0	28	165	0
Total	0	0	0	0	0	316	92	0	0	408	10	0	36	0	46	0	31	43	0	74	528	0
8:00	0	0	0	0	0	91	31	0	0	122	2	0	21	0	23	0	7	6	0	13	158	0
8:15	0	0	0	0	0	102	18	0	0	120	4	0	31	0	35	0	6	14	0	20	175	0
8:30	0	0	0	0	0	69	25	0	0	94	3	0	20	0	23	0	6	8	0	14	131	0
8:45	0	0	0	0	0	68	23	0	0	91	2	0	16	0	18	0	15	14	0	29	138	0
Total	0	0	0	0	0	330	97	0	0	427	11	0	88	0	99	0	34	42	0	76	602	0
16:00	0	0	0	0	0	26	15	0	0	41	18	0	108	0	126	0	12	7	0	19	186	0
16:15	0	0	0	0	0	50	14	0	0	64	13	0	75	0	88	0	10	5	0	15	167	0
16:30	0	0	0	0	0	27	11	0	0	38	19	0	108	0	127	0	38	7	0	45	210	0
16:45	0	0	0	0	0	35	17	0	0	52	17	0	69	0	86	0	15	5	0	20	158	0
Total	0	0	0	0	0	138	57	0	0	195	67	0	360	0	427	0	75	24	0	99	721	0
17:00	0	0	0	0	0	19	16	0	1	36	17	0	111	0	128	0	27	10	0	37	201	1
17:15	0	0	0	0	0	21	17	0	0	38	14	0	56	0	70	0	16	3	0	19	127	0
17:30	0	0	0	0	0	31	13	0	0	44	11	0	71	0	82	0	22	12	0	34	160	0
17:45	0	0	0	0	0	41	10	0	0	51	9	0	49	0	58	0	25	7	0	32	141	0
Total	0	0	0	0	0	112	56	0	1	169	51	0	287	0	338	0	90	32	0	122	629	1
18:00	0	0	0	0	0	25	10	0	0	35	17	0	78	0	95	0	12	4	0	16	146	0
18:15	0	0	0	0	0	18	10	0	0	28	6	0	27	0	33	0	10	3	0	13	74	0
18:30	0	0	0	0	0	14	5	0	0	19	2	0	40	0	42	0	14	1	0	15	76	0
18:45	0	0	0	0	0	20	8	0	0	28	2	0	31	0	33	0	8	6	0	14	75	0
Total	0	0	0	0	0	77	33	0	0	110	27	0	176	0	203	0	44	14	0	58	371	0
Grand Total	0	0	0	0	0	1152	401	0	1	1554	178	0	986	0	1164	0	283	175	0	458	3176	1
Apprch %	0.0%	0.0%	0.0%	0.0%		74.1%	25.8%	0.0%	0.1%		15.3%	0.0%	84.7%	0.0%		0.0%	61.8%	38.2%	0.0%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	36.3%	12.6%	0.0%	0.0%	48.9%	5.6%	0.0%	31.0%	0.0%	36.6%	0.0%	8.9%	5.5%	0.0%	14.4%	100.0%	

AM PEAK HOUR	Robert J Matthews Pkwy Southbound					Golden Foothill Pkwy Westbound					Robert J Matthews Pkwy Northbound					Golden Foothill Pkwy Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	0	0	0	0	0	87	21	0	0	108	3	0	9	0	12	0	8	8	0	16	136
7:45	0	0	0	0	0	92	33	0	0	125	4	0	8	0	12	0	11	17	0	28	165
8:00	0	0	0	0	0	91	31	0	0	122	2	0	21	0	23	0	7	6	0	13	158
8:15	0	0	0	0	0	102	18	0	0	120	4	0	31	0	35	0	6	14	0	20	175
Total Volume	0	0	0	0	0	372	103	0	0	475	13	0	69	0	82	0	32	45	0	77	634
% App Total	0.0%	0.0%	0.0%	0.0%		78.3%	21.7%	0.0%	0.0%		15.9%	0.0%	84.1%	0.0%		0.0%	41.6%	58.4%	0.0%		
PHF	.000	.000	.000	.000	.000	.912	.780	.000	.000	.950	.813	.000	.556	.000	.586	.000	.727	.662	.000	.688	.906

PM PEAK HOUR	Robert J Matthews Pkwy Southbound					Golden Foothill Pkwy Westbound					Robert J Matthews Pkwy Northbound					Golden Foothill Pkwy Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	0	0	0	0	0	50	14	0	0	64	13	0	75	0	88	0	10	5	0	15	167
16:30	0	0	0	0	0	27	11	0	0	38	19	0	108	0	127	0	38	7	0	45	210
16:45	0	0	0	0	0	35	17	0	0	52	17	0	69	0	86	0	15	5	0	20	158
17:00	0	0	0	0	0	19	16	0	1	36	17	0	111	0	128	0	27	10	0	37	201
Total Volume	0	0	0	0	0	131	58	0	1	190	66	0	363	0	429	0	90	27	0	117	736
% App Total	0.0%	0.0%	0.0%	0.0%		68.9%	30.5%	0.0%	0.5%		15.4%	0.0%	84.6%	0.0%		0.0%	76.9%	23.1%	0.0%		
PHF	.000	.000	.000	.000	.000	.655	.853	.000	.250	.742	.868	.000	.818	.000	.838	.000	.592	.675	.000	.650	.876

Analysis ID: 1473016
Analysis: Creekside #14 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-14
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	RJM north (Southbound)			Investment east (Westbound)			RJM south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:30am	15	43	1	11	1	1	0	2	10
7:45am	8	107	1	51	5	11	1	6	21
8:00am	4	108	0	67	2	15	0	14	18
8:15am	4	61	1	33	0	8	0	18	5
Hourly Tot	31	319	3	162	8	35	1	40	54
Hourly Tot	0.0878	0.9037	0.0085	0.7902	0.039	0.1707	0.0105	0.4211	0.5684
PHF	0.52	0.74	0.75	0.6	0.4	0.58	0.25	0.56	0.64

All Days, Peak PM

	RJM north (Southbound)			Investment east (Westbound)			RJM south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2:30pm	6	46	2	32	0	2	0	0	2
2:45pm	7	86	3	43	0	7	3	25	9
3:00pm	5	73	5	36	0	12	4	65	17
3:15pm	8	40	2	24	0	9	3	40	12
Hourly Tot	26	245	12	135	0	30	10	130	40
Hourly Tot	0.0919	0.8657	0.0424	0.8182	0	0.1818	0.0556	0.7222	0.2222
PHF	0.81	0.71	0.6	0.78	0	0.62	0.62	0.5	0.59

Tues-Thurs, Peak AM

	RJM north (Southbound)			Investment east (Westbound)			RJM south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:30am	16	64	0	20	2	3	0	0	12
7:45am	6	143	0	71	7	13	0	3	28
8:00am	2	154	0	90	2	22	0	14	19
8:15am	6	82	0	44	0	8	0	22	4
Hourly Tot	30	443	0	225	11	46	0	39	63
Hourly Tot	0.0634	0.9366	0	0.7979	0.039	0.1631	0	0.3824	0.6176
PHF	0.47	0.72	0	0.62	0.39	0.52	0	0.44	0.56

Tues-Thurs, Peak PM

	RJM north (Southbound)			Investment east (Westbound)			RJM south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2:30pm	8	57	4	53	0	3	0	0	3
2:45pm	4	116	6	67	0	11	2	39	14
3:00pm	3	93	8	55	0	18	5	99	25
3:15pm	10	53	4	36	0	13	2	57	17
Hourly Tot	25	319	22	211	0	45	9	195	59
Hourly Tot	0.0683	0.8716	0.0601	0.8242	0	0.1758	0.0342	0.7414	0.2243
PHF	0.62	0.69	0.69	0.79	0	0.62	0.45	0.49	0.59

Investment west (Eastbound)

Left	Thru	Right	Total	Total %
0	1	0	85	0.129
0	3	0	214	0.3247
0	2	0	230	0.349
0	0	0	130	0.1973
0	6	0	659	1
0	1	0		
0	0.5	0		

Investment west (Eastbound)

Left	Thru	Right	Total	Total %
0	4	3	97	0.1499
0	3	6	192	0.2968
0	1	2	220	0.34
0	0	0	138	0.2133
0	8	11	647	1
0	0.4211	0.5789		
0	0.5	0.46		

Investment west (Eastbound)

Left	Thru	Right	Total	Total %
0	2	0	119	0.1374
0	5	0	276	0.3187
0	2	0	305	0.3522
0	0	0	166	0.1917
0	9	0	866	1
0	1	0		
0	0.45	0		

Investment west (Eastbound)

Left	Thru	Right	Total	Total %
0	2	5	135	0.1479
0	5	10	274	0.3001
0	2	4	312	0.3417
0	0	0	192	0.2103
0	9	19	913	1
0	0.3214	0.6786		
0	0.45	0.47		

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

File Name : 17-07982-006
Date : 11/16/2017

#14

Unshifted Count = All Vehicles & Uturns

	Robert J Matthews Pkwy Southbound					Investment Blvd Westbound					Robert J Matthews Pkwy Northbound					Investment Blvd Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	1	2	0	0	3	7	3	1	0	11	0	10	7	0	17	8	7	0	0	15	46	0
6:15	1	3	1	0	5	8	3	1	0	12	0	1	3	0	4	0	3	0	0	3	24	0
6:30	2	3	3	1	9	8	3	5	0	16	0	1	0	0	1	1	0	0	0	1	27	1
6:45	2	1	3	0	6	11	6	4	0	21	0	1	0	0	1	0	0	0	0	0	28	0
Total	6	9	7	1	23	34	15	11	0	60	0	13	10	0	23	9	10	0	0	19	125	1
7:00	0	0	0	0	0	9	3	2	0	14	0	0	1	0	1	0	0	0	0	0	15	0
7:15	1	3	1	1	6	4	7	4	0	15	0	0	0	0	0	0	2	0	0	2	23	1
7:30	2	2	4	0	8	19	4	3	0	26	0	1	0	0	1	1	2	0	0	3	38	0
7:45	4	3	2	0	9	14	9	4	0	27	0	0	2	0	2	1	1	0	0	2	40	0
Total	7	8	7	1	23	46	23	13	0	82	0	1	3	0	4	2	5	0	0	7	116	1
8:00	3	2	5	0	10	20	6	6	0	32	0	1	3	0	4	1	1	0	0	2	48	0
8:15	2	6	1	0	9	12	5	3	0	20	1	1	0	0	2	0	0	0	0	0	31	0
8:30	4	2	5	2	13	15	6	3	0	24	1	0	1	0	2	0	1	0	0	1	40	2
8:45	0	4	1	0	5	11	4	6	0	21	0	0	1	0	1	0	2	0	0	2	29	0
Total	9	14	12	2	37	58	21	18	0	97	2	2	5	0	9	1	4	0	0	5	148	2
16:00	4	0	0	0	4	0	1	3	0	4	0	7	28	0	35	2	8	0	0	10	53	0
16:15	6	1	2	1	10	0	0	1	0	1	0	7	16	0	23	0	5	0	0	5	39	1
16:30	13	1	1	0	15	3	0	4	0	7	0	5	19	0	24	4	8	0	0	12	58	0
16:45	3	2	1	0	6	2	0	4	0	6	0	6	11	0	17	2	5	0	0	7	36	0
Total	26	4	4	1	35	5	1	12	0	18	0	25	74	0	99	8	26	0	0	34	186	1
17:00	14	3	3	0	20	1	1	2	0	4	0	2	14	0	16	3	8	0	0	11	51	0
17:15	1	1	2	0	4	4	4	0	0	8	0	3	13	0	16	3	5	0	0	8	36	0
17:30	0	6	6	0	12	12	5	0	0	17	0	6	16	0	22	1	4	0	0	5	56	0
17:45	1	12	3	0	16	19	7	0	0	26	0	6	15	0	21	2	3	0	0	5	68	0
Total	16	22	14	0	52	36	17	2	0	55	0	17	58	0	75	9	20	0	0	29	211	0
18:00	3	4	1	0	8	2	0	0	0	2	0	15	28	0	43	10	11	0	0	21	74	0
18:15	2	0	0	0	2	2	0	0	0	2	0	3	4	0	7	0	0	0	0	0	11	0
18:30	0	1	0	0	1	1	0	0	0	1	0	3	2	0	5	0	5	0	0	5	12	0
18:45	2	0	0	0	2	2	2	2	0	6	0	1	1	0	2	1	0	0	0	1	11	0
Total	7	5	1	0	13	7	2	2	0	11	0	22	35	0	57	11	16	0	0	27	108	0
Grand Total	71	62	45	5	183	186	79	58	0	323	2	80	185	0	267	40	81	0	0	121	894	5
Apprch %	38.8%	33.9%	24.6%	2.7%		57.6%	24.5%	18.0%	0.0%		0.7%	30.0%	69.3%	0.0%		33.1%	66.9%	0.0%	0.0%			
Total %	7.9%	6.9%	5.0%	0.6%	20.5%	20.8%	8.8%	6.5%	0.0%	36.1%	0.2%	8.9%	20.7%	0.0%	29.9%	4.5%	9.1%	0.0%	0.0%	13.5%	100.0%	

AM PEAK HOUR	Robert J Matthews Pkwy Southbound					Investment Blvd Westbound					Robert J Matthews Pkwy Northbound					Investment Blvd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	4	3	2	0	9	14	9	4	0	27	0	0	2	0	2	1	1	0	0	2	40
8:00	3	2	5	0	10	20	6	6	0	32	0	1	3	0	4	1	1	0	0	2	48
8:15	2	6	1	0	9	12	5	3	0	20	1	1	0	0	2	0	0	0	0	0	31
8:30	4	2	5	2	13	15	6	3	0	24	1	0	1	0	2	0	1	0	0	1	40
Total Volume	13	13	13	2	41	61	26	16	0	103	2	2	6	0	10	2	3	0	0	5	159
% App Total	31.7%	31.7%	31.7%	4.9%		59.2%	25.2%	15.5%	0.0%		20.0%	20.0%	60.0%	0.0%		40.0%	60.0%	0.0%	0.0%		
PHF	.813	.542	.650	.250	.788	.763	.722	.667	.000	.805	.500	.500	.500	.000	.625	.500	.750	.000	.000	.625	.828

PM PEAK HOUR	Robert J Matthews Pkwy Southbound					Investment Blvd Westbound					Robert J Matthews Pkwy Northbound					Investment Blvd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 17:15 to 18:15																					
Peak Hour For Entire Intersection Begins at 17:15																					
17:15	1	1	2	0	4	4	4	0	0	8	0	3	13	0	16	3	5	0	0	8	36
17:30	0	6	6	0	12	12	5	0	0	17	0	6	16	0	22	1	4	0	0	5	56
17:45	1	12	3	0	16	19	7	0	0	26	0	6	15	0	21	2	3	0	0	5	68
18:00	3	4	1	0	8	2	0	0	0	2	0	15	28	0	43	10	11	0	0	21	74
Total Volume	5	23	12	0	40	37	16	0	0	53	0	30	72	0	102	16	23	0	0	39	234
% App Total	12.5%	57.5%	30.0%	0.0%		69.8%	30.2%	0.0%	0.0%		0.0%	29.4%	70.6%	0.0%		41.0%	59.0%	0.0%	0.0%		
PHF	.417	.479	.500	.000	.625	.487	.571	.000	.000	.510	.000	.500	.643	.000	.593	.400	.523	.000	.000	.464	.791

Analysis ID: 1473017
Analysis: Creekside #15 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-14
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	driveway (Southbound)			GF east (Westbound)			Carson Crossing (Northbound)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11:00am	0	0	0	20	17	0	2	0	17	
11:15am	0	0	0	25	12	0	0	0	21	
11:30am	0	0	0	22	8	0	1	0	26	
11:45am	0	0	0	19	13	0	1	0	27	
Hourly Tot	0	0	0	86	50	0	4	0	91	
Hourly Tot	0	0	0	0.6324	0.3676	0	0.0421	0	0.9579	
PHF	0	0	0	0.86	0.74	0	0.5	0	0.84	

All Days, Peak PM

	driveway (Southbound)			GF east (Westbound)			Carson Crossing (Northbound)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3:00pm	0	0	0	20	47	0	2	0	17	
3:15pm	0	0	0	20	36	0	2	0	21	
3:30pm	0	0	0	24	24	0	2	0	19	
3:45pm	0	0	0	31	25	0	2	0	26	
Hourly Tot	0	0	0	95	132	0	8	0	83	
Hourly Tot	0	0	0	0.4185	0.5815	0	0.0879	0	0.9121	
PHF	0	0	0	0.77	0.7	0	1	0	0.8	

Tues-Thurs, Peak AM

	driveway (Southbound)			GF east (Westbound)			Carson Crossing (Northbound)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:45am	0	0	0	15	19	0	3	0	30	
8:00am	0	0	0	12	31	0	9	0	40	
8:15am	0	0	0	11	26	0	10	0	18	
8:30am	0	0	0	11	15	0	9	0	20	
Hourly Tot	0	0	0	49	91	0	31	0	108	
Hourly Tot	0	0	0	0.35	0.65	0	0.223	0	0.777	
PHF	0	0	0	0.82	0.73	0	0.78	0	0.68	

Tues-Thurs, Peak PM

	driveway (Southbound)			GF east (Westbound)			Carson Crossing (Northbound)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3:00pm	0	0	0	22	69	0	0	0	17	
3:15pm	0	0	0	21	51	0	2	0	16	
3:30pm	0	0	0	29	36	0	3	0	15	
3:45pm	0	0	0	37	34	0	1	0	32	
Hourly Tot	0	0	0	109	190	0	6	0	80	
Hourly Tot	0	0	0	0.3645	0.6355	0	0.0698	0	0.9302	
PHF	0	0	0	0.74	0.69	0	0.5	0	0.62	

GF west (Eastbound)

Left	Thru	Right	Total	Total %
0	16	0	72	0.2416
0	17	3	78	0.2617
0	10	5	72	0.2416
0	10	6	76	0.255
0	53	14	298	1
0	0.791	0.209		
0	0.78	0.58		

GF west (Eastbound)

Left	Thru	Right	Total	Total %
0	26	5	117	0.274
0	29	4	112	0.2623
0	22	0	91	0.2131
0	22	1	107	0.2506
0	99	10	427	1
0	0.9083	0.0917		
0	0.85	0.5		

GF west (Eastbound)

Left	Thru	Right	Total	Total %
0	14	0	81	0.2269
0	21	3	116	0.3249
0	18	6	89	0.2493
0	12	4	71	0.1989
0	65	13	357	1
0	0.8333	0.1667		
0	0.77	0.54		

GF west (Eastbound)

Left	Thru	Right	Total	Total %
0	39	7	154	0.2836
0	45	6	141	0.2597
0	31	1	115	0.2118
0	28	1	133	0.2449
0	143	15	543	1
0	0.9051	0.0949		
0	0.79	0.54		

Carson Crossing Rd & Golden Foothill Pkwy

#15

Peak Hour Turning Movement Count

ID: 18-07183-016
City: El Dorado Hills

Day: Wednesday
Date: 05/16/2018

PEAK HOURS

AM	07:30 AM - 08:30 AM
NOON	NONE
PM	04:00 PM - 05:00 PM

COUNT PERIODS

AM	06:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 07:00 PM

Carson Crossing Rd — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

Golden Foothill Pkwy — EASTBOUND

AM	NOON	PM		
81	0	78		
1	0	0	0	
0	0	0	0	
62	0	65	2	
3	0	16	0	
AM	NOON	PM		

Golden Foothill Pkwy — WESTBOUND

PM	NOON	AM	
0	0	0	0
75	0	72	1
102	0	44	1
2	0	1	0
118	0	135	
PM	NOON	AM	

CONTROL: 1-Way Stop(NB)

TEV	263 AM	0 NOON	314 PM
PHF	0.95		0.84

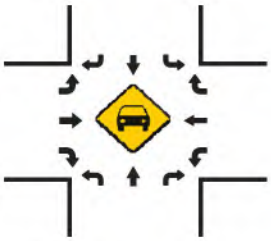
0 1 0 0

0 0 1 1

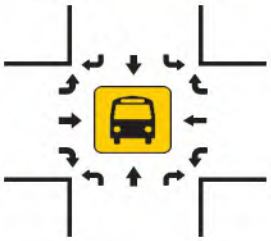
Carson Crossing Rd — NORTHBOUND

PM	118	0	3	0	51	PM
NOON	0	0	0	0	0	NOON
AM	47	0	8	0	72	AM

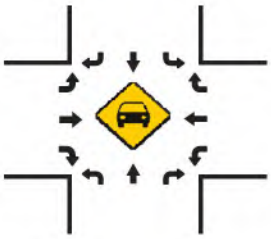
Total Vehicles (AM)



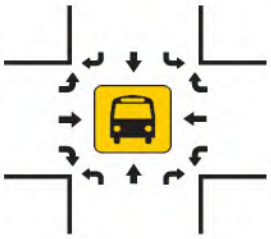
Total Vehicles (AM)



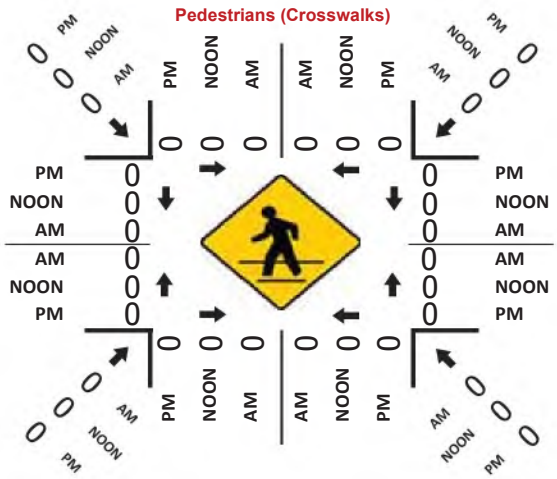
Total Vehicles (NOON)



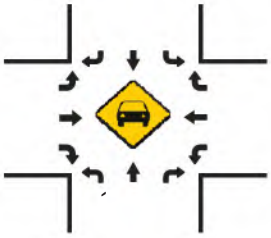
Total Vehicles (NOON)



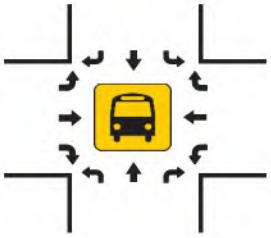
Pedestrians (Crosswalks)



Total Vehicles (PM)



Total Vehicles (PM)



Analysis ID: 1477557
Analysis: revised Creekside #16 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-24
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R126-M128

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	CC east (Westbound)		Palmdale (Northboun		CC west (Eastbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
11:00am	13	5	10	8	7	7	50	0.1969
11:15am	15	9	13	11	8	10	66	0.2598
11:30am	15	11	13	14	12	6	71	0.2795
11:45am	14	10	7	15	13	8	67	0.2638
Hourly Tot	57	35	43	48	40	31	254	1
Hourly Tot	0.6196	0.3804	0.4725	0.5275	0.5634	0.4366		
PHF	0.95	0.8	0.83	0.8	0.77	0.78		

All Days, Peak PM

	CC east (Westbound)		Palmdale (Northboun		CC west (Eastbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
4:00pm	9	33	1	11	17	10	81	0.2555
4:15pm	13	34	4	9	17	5	82	0.2587
4:30pm	11	30	6	8	15	4	74	0.2334
4:45pm	14	25	5	11	16	9	80	0.2524
Hourly Tot	47	122	16	39	65	28	317	1
Hourly Tot	0.2781	0.7219	0.2909	0.7091	0.6989	0.3011		
PHF	0.84	0.9	0.67	0.89	0.96	0.7		

Tues-Thurs, Peak AM

	CC east (Westbound)		Palmdale (Northboun		CC west (Eastbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
11:00am	13	7	9	6	9	7	51	0.1889
11:15am	17	11	16	8	11	11	74	0.2741
11:30am	17	11	15	12	12	6	73	0.2704
11:45am	18	13	5	17	12	7	72	0.2667
Hourly Tot	65	42	45	43	44	31	270	1
Hourly Tot	0.6075	0.3925	0.5114	0.4886	0.5867	0.4133		
PHF	0.9	0.81	0.7	0.63	0.92	0.7		

Tues-Thurs, Peak PM

	CC east (Westbound)		Palmdale (Northboun		CC west (Eastbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
4:00pm	9	44	1	16	24	11	105	0.2699
4:15pm	7	49	2	11	21	8	98	0.2519
4:30pm	9	46	5	8	20	5	93	0.2391
4:45pm	12	35	4	8	22	12	93	0.2391
Hourly Tot	37	174	12	43	87	36	389	1
Hourly Tot	0.1754	0.8246	0.2182	0.7818	0.7073	0.2927		
PHF	0.77	0.89	0.6	0.67	0.91	0.75		

Analysis ID: 1473487
Analysis: Creekside #17 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-17
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	CC north (Southbounc		Four Seasons (Westbc		CC south (Northbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
8:00am	0	28	0	1	14	0	43	0.2671
8:15am	0	23	0	2	15	0	40	0.2484
8:30am	0	19	0	1	17	0	37	0.2298
8:45am	1	17	0	2	21	0	41	0.2547
Hourly Tot	1	87	0	6	67	0	161	1
Hourly Tot	0.0114	0.9886	0	1	1	0		
PHF	0.25	0.78	0	0.75	0.8	0		

All Days, Peak PM

	CC north (Southbounc		Four Seasons (Westbc		CC south (Northbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
4:00pm	0	25	0	0	36	0	61	0.2618
4:15pm	0	24	0	0	39	0	63	0.2704
4:30pm	3	21	0	0	32	0	56	0.2403
4:45pm	4	27	0	1	21	0	53	0.2275
Hourly Tot	7	97	0	1	128	0	233	1
Hourly Tot	0.0673	0.9327	0	1	1	0		
PHF	0.44	0.9	0	0.25	0.82	0		

Tues-Thurs, Peak AM

	CC north (Southbounc		Four Seasons (Westbc		CC south (Northbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
7:45am	0	25	0	1	11	0	37	0.2151
8:00am	0	35	0	2	14	0	51	0.2965
8:15am	0	27	0	1	14	0	42	0.2442
8:30am	1	27	0	0	14	0	42	0.2442
Hourly Tot	1	114	0	4	53	0	172	1
Hourly Tot	0.0087	0.9913	0	1	1	0		
PHF	0.25	0.81	0	0.5	0.95	0		

Tues-Thurs, Peak PM

	CC north (Southbounc		Four Seasons (Westbc		CC south (Northbound)			
	Left	Thru	Left	Right	Thru	Right	Total	Total %
4:00pm	0	31	0	0	48	0	79	0.2508
4:15pm	1	28	0	0	51	0	80	0.254
4:30pm	5	29	0	1	48	0	83	0.2635
4:45pm	7	37	0	2	27	0	73	0.2317
Hourly Tot	13	125	0	3	174	0	315	1
Hourly Tot	0.0942	0.9058	0	1	1	0		
PHF	0.46	0.84	0	0.38	0.85	0		

Analysis ID: 1475500
Analysis: Creekside #18 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-19
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R126-M128

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	WR north (Southbound)			CC (Westbound)			WR south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:45am	11	53	0	12	0	3	0	29	7
8:00am	14	60	3	11	0	4	0	33	10
8:15am	7	50	7	11	0	7	0	34	14
8:30am	3	56	4	14	0	5	0	36	15
Hourly Tot	35	219	14	48	0	19	0	132	46
Hourly Tot	0.1306	0.8172	0.0522	0.7164	0	0.2836	0	0.7416	0.2584
PHF	0.62	0.91	0.5	0.86	0	0.68	0	0.92	0.77

All Days, Peak PM

	WR north (Southbound)			CC (Westbound)			WR south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:45pm	4	50	4	21	0	6	3	70	15
4:00pm	10	42	4	23	0	9	0	69	15
4:15pm	9	57	2	30	1	7	0	59	14
4:30pm	14	71	2	26	0	6	0	41	12
Hourly Tot	37	220	12	100	1	28	3	239	56
Hourly Tot	0.1375	0.8178	0.0446	0.7752	0.0078	0.2171	0.0101	0.802	0.1879
PHF	0.66	0.77	0.75	0.83	0.25	0.78	0.25	0.85	0.93

Tues-Thurs, Peak AM

	WR north (Southbound)			CC (Westbound)			WR south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:45am	13	69	0	12	0	2	0	29	8
8:00am	16	67	3	11	0	6	0	32	14
8:15am	6	63	8	10	0	7	0	42	18
8:30am	2	60	4	9	0	3	1	44	22
Hourly Tot	37	259	15	42	0	18	1	147	62
Hourly Tot	0.119	0.8328	0.0482	0.7	0	0.3	0.0048	0.7	0.2952
PHF	0.58	0.94	0.47	0.88	0	0.64	0.25	0.84	0.7

Tues-Thurs, Peak PM

	WR north (Southbound)			CC (Westbound)			WR south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:00pm	8	46	4	34	1	9	1	87	21
4:15pm	10	60	4	40	3	9	1	69	18
4:30pm	21	90	1	42	1	5	1	46	15
4:45pm	27	70	2	22	1	2	2	63	15
Hourly Tot	66	266	11	138	6	25	5	265	69
Hourly Tot	0.1924	0.7755	0.0321	0.8166	0.0355	0.1479	0.0147	0.7817	0.2035
PHF	0.61	0.74	0.69	0.82	0.5	0.69	0.62	0.76	0.82

Terra Alta (Eastbound)

Left	Thru	Right	Total	Total %
10	0	3	128	0.2218
18	0	2	155	0.2686
18	0	1	149	0.2582
12	0	0	145	0.2513
58	0	6	577	1
0.9062	0	0.0938		
0.81	0	0.5		

Terra Alta (Eastbound)

Left	Thru	Right	Total	Total %
5	1	0	179	0.2479
8	0	3	183	0.2535
2	0	4	185	0.2562
0	0	3	175	0.2424
15	1	10	722	1
0.5769	0.0385	0.3846		
0.47	0.25	0.62		

Terra Alta (Eastbound)

Left	Thru	Right	Total	Total %
12	0	1	146	0.2236
23	0	2	174	0.2665
18	0	2	174	0.2665
13	0	1	159	0.2435
66	0	6	653	1
0.9167	0	0.0833		
0.72	0	0.75		

Terra Alta (Eastbound)

Left	Thru	Right	Total	Total %
4	1	5	221	0.2511
2	0	5	221	0.2511
0	0	6	228	0.2591
1	0	5	210	0.2386
7	1	21	880	1
0.2414	0.0345	0.7241		
0.44	0.25	0.88		

Prepared by National Data & Surveying Services

White Rock Rd & Carson Crossing Rd

#18

Peak Hour Turning Movement Count

ID: 18-07183-018
City: El Dorado Hills

Day: Wednesday
Date: 05/16/2018

PEAK HOURS
AM: 07:45 AM - 08:45 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS
AM: 06:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 07:00 PM

SOUTHBOUND (White Rock Rd)

AM	1	439	16	0	246	AM
NOON	0	0	0	0	0	NOON
PM	0	397	22	0	423	PM

EASTBOUND (Carson Crossing Rd)

AM	NOON	PM	
5	0	7	
0	0	0	0
7	0	4	0
1	0	1	1
8	0	1	0

WESTBOUND (Carson Crossing Rd)

PM	NOON	AM	
11	0	12	1
2	0	0	0
108	0	65	1
0	0	0	0
108	0	88	

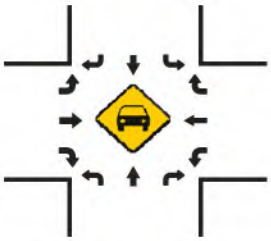
NORTHBOUND (White Rock Rd)

PM	506	0	5	408	85	PM
NOON	0	0	0	0	0	NOON
AM	512	0	4	227	71	AM

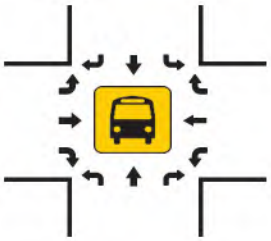
CONTROL: 2-Way Stop(EB/WB)

TEV	851	0	1044
	AM	NOON	PM
PHF	0.97		0.93

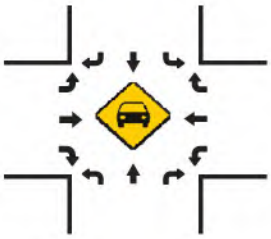
Total Vehicles (AM)



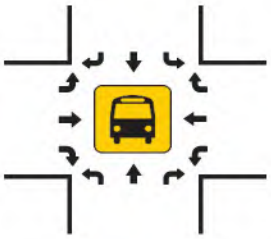
Total Vehicles (AM)



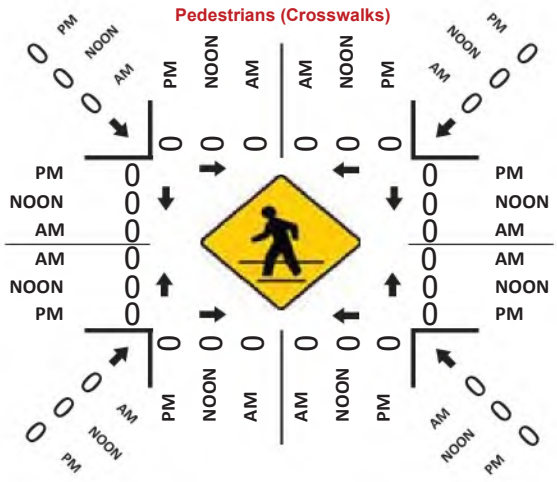
Total Vehicles (NOON)



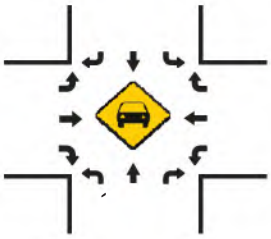
Total Vehicles (NOON)



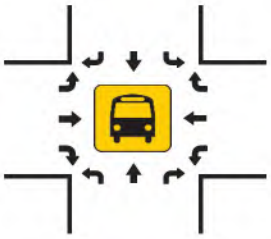
Pedestrians (Crosswalks)



Total Vehicles (PM)



Total Vehicles (PM)



Analysis ID: 1473494
Analysis: Creekside #19 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-17
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Town Center (Southbound)			WR east (Westbound)			Windfield (Northbound)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8:00am	0	0	0	66	54	0	17	0	20	
8:15am	0	0	0	60	59	0	15	0	32	
8:30am	0	0	0	53	77	0	4	0	27	
8:45am	0	0	0	52	79	0	2	0	18	
Hourly Tot	0	0	0	231	269	0	38	0	97	
Hourly Tot	0	0	0	0.462	0.538	0	0.2815	0	0.7185	
PHF	0	0	0	0.88	0.85	0	0.56	0	0.76	

All Days, Peak PM

	Town Center (Southbound)			WR east (Westbound)			Windfield (Northbound)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3:45pm	0	0	0	34	91	0	9	0	30	
4:00pm	0	0	0	32	76	0	12	0	51	
4:15pm	0	0	0	28	73	0	18	0	49	
4:30pm	0	0	0	19	86	0	24	0	42	
Hourly Tot	0	0	0	113	326	0	63	0	172	
Hourly Tot	0	0	0	0.2574	0.7426	0	0.2681	0	0.7319	
PHF	0	0	0	0.83	0.9	0	0.66	0	0.84	

Tues-Thurs, Peak AM

	Town Center (Southbound)			WR east (Westbound)			Windfield (Northbound)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8:00am	0	0	0	85	54	0	23	0	26	
8:15am	0	0	0	78	66	0	20	0	42	
8:30am	0	0	0	63	79	0	6	0	32	
8:45am	0	0	0	58	88	0	2	0	17	
Hourly Tot	0	0	0	284	287	0	51	0	117	
Hourly Tot	0	0	0	0.4974	0.5026	0	0.3036	0	0.6964	
PHF	0	0	0	0.84	0.82	0	0.55	0	0.7	

Tues-Thurs, Peak PM

	Town Center (Southbound)			WR east (Westbound)			Windfield (Northbound)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3:45pm	0	0	0	41	100	0	12	0	40	
4:00pm	0	0	0	38	75	0	13	0	66	
4:15pm	0	0	0	37	74	0	24	0	58	
4:30pm	0	0	0	28	99	0	36	0	53	
Hourly Tot	0	0	0	144	348	0	85	0	217	
Hourly Tot	0	0	0	0.2927	0.7073	0	0.2815	0	0.7185	
PHF	0	0	0	0.88	0.87	0	0.59	0	0.82	

WR west (Eastbound)

Left	Thru	Right	Total	Total %
0	69	34	260	0.2544
0	82	18	266	0.2603
0	93	10	264	0.2583
0	76	5	232	0.227
0	320	67	1022	1
0	0.8269	0.1731		
0	0.86	0.49		

WR west (Eastbound)

Left	Thru	Right	Total	Total %
0	93	11	268	0.2543
0	94	11	276	0.2619
0	81	14	263	0.2495
0	68	8	247	0.2343
0	336	44	1054	1
0	0.8842	0.1158		
0	0.89	0.79		

WR west (Eastbound)

Left	Thru	Right	Total	Total %
0	70	47	305	0.2554
0	93	28	327	0.2739
0	107	13	300	0.2513
0	89	8	262	0.2194
0	359	96	1194	1
0	0.789	0.211		
0	0.84	0.51		

WR west (Eastbound)

Left	Thru	Right	Total	Total %
0	99	13	305	0.2496
0	101	19	312	0.2553
0	87	23	303	0.248
0	76	10	302	0.2471
0	363	65	1222	1
0	0.8481	0.1519		
0	0.9	0.71		

National Data and Surveying Services

(323) 782-0090
info@ndsdata.com

City of El Dorado Hills
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

File Name : 17-7192-006 White Rock Rd & Windfield Way/Town Center Blvd
Date : 3/14/2017

Unshifted Count = All Vehicles & Uturns

	White Rock Rd Southbound					Windfield Way/Town Center Blvd Westbound					White Rock Rd Northbound					Windfield Way/Town Center Blvd Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	0	0	0	0	0	16	19	0	0	35	4	0	5	0	9	0	13	3	0	16	60	0
6:15	0	0	0	0	0	7	35	0	0	42	1	0	2	0	3	0	21	8	0	29	74	0
6:30	0	0	0	0	0	15	54	0	0	69	1	0	6	0	7	0	31	11	0	42	118	0
6:45	0	0	0	0	0	21	54	0	0	75	2	0	7	0	9	0	43	26	0	69	153	0
Total	0	0	0	0	0	59	162	0	0	221	8	0	20	0	28	0	108	48	0	156	405	0
7:00	0	0	0	0	0	35	78	0	0	113	6	0	10	0	16	0	57	16	0	73	202	0
7:15	0	0	0	0	0	42	80	0	1	123	11	0	11	0	22	0	62	20	0	82	227	1
7:30	0	0	0	0	0	32	105	0	4	141	11	0	10	0	21	0	76	24	0	100	262	4
7:45	0	0	0	0	0	73	96	0	3	172	10	0	9	0	19	0	87	33	0	120	311	3
Total	0	0	0	0	0	182	359	0	8	549	38	0	40	0	78	0	282	93	0	375	1002	8
8:00	0	0	0	0	0	76	91	0	0	167	20	0	22	0	42	0	68	28	0	96	305	0
8:15	0	0	0	0	0	77	73	0	2	152	12	0	25	0	37	0	68	27	0	95	284	2
8:30	0	0	0	0	0	74	90	0	3	167	11	0	23	0	34	0	80	27	0	107	308	3
8:45	0	0	0	0	0	55	69	0	1	125	9	0	11	0	20	0	84	30	0	114	259	1
Total	0	0	0	0	0	282	323	0	6	611	52	0	81	0	133	0	300	112	0	412	1156	6
16:00	0	0	0	0	0	27	84	0	5	116	49	0	45	0	94	0	95	8	0	103	313	5
16:15	0	0	0	0	0	24	96	0	4	124	38	0	41	0	79	0	128	18	0	146	349	4
16:30	0	0	0	0	0	22	78	0	3	103	80	0	54	0	134	0	127	14	0	141	378	3
16:45	0	0	0	0	0	27	73	0	7	107	40	0	45	0	85	0	136	22	0	158	350	7
Total	0	0	0	0	0	100	331	0	19	450	207	0	185	0	392	0	486	62	0	548	1390	19
17:00	0	0	0	0	0	21	89	0	1	111	70	0	86	0	156	0	123	17	0	140	407	1
17:15	0	0	0	0	0	29	109	0	3	141	48	0	54	0	102	0	134	18	0	152	395	3
17:30	0	0	0	0	0	24	81	0	3	108	38	0	38	0	76	0	134	21	0	155	339	3
17:45	0	0	0	0	0	38	77	0	0	115	31	0	44	0	75	0	117	21	0	138	328	0
Total	0	0	0	0	0	112	356	0	7	475	187	0	222	0	409	0	508	77	0	585	1469	7
18:00	0	0	0	0	0	10	69	0	2	81	43	0	56	0	99	0	86	11	0	97	277	2
18:15	0	0	0	0	0	12	84	0	3	99	16	0	27	0	43	0	60	3	0	63	205	3
18:30	0	0	0	0	0	9	55	0	0	64	15	0	17	0	32	0	76	8	0	84	180	0
18:45	0	0	0	0	0	14	37	0	0	51	19	0	16	0	35	0	47	5	0	52	138	0
Total	0	0	0	0	0	45	245	0	5	295	93	0	116	0	209	0	269	27	0	296	800	5
Grand Total	0	0	0	0	0	780	1776	0	45	2601	585	0	664	0	1249	0	1953	419	0	2372	6222	45
Apprch %	0.0%	0.0%	0.0%	0.0%		30.0%	68.3%	0.0%	1.7%		46.8%	0.0%	53.2%	0.0%		0.0%	82.3%	17.7%	0.0%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	12.5%	28.5%	0.0%	0.7%	41.8%	9.4%	0.0%	10.7%	0.0%	20.1%	0.0%	31.4%	6.7%	0.0%	38.1%	100.0%	

AM PEAK HOUR	White Rock Rd Southbound					Windfield Way/Town Center Blvd Westbound					White Rock Rd Northbound					Windfield Way/Town Center Blvd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	0	0	0	0	73	96	0	3	172	10	0	9	0	19	0	87	33	0	120	311
8:00	0	0	0	0	0	76	91	0	0	167	20	0	22	0	42	0	68	28	0	96	305
8:15	0	0	0	0	0	77	73	0	2	152	12	0	25	0	37	0	68	27	0	95	284
8:30	0	0	0	0	0	74	90	0	3	167	11	0	23	0	34	0	80	27	0	107	308
Total Volume	0	0	0	0	0	300	350	0	8	658	53	0	79	0	132	0	303	115	0	418	1208
% App Total	0.0%	0.0%	0.0%	0.0%		45.6%	53.2%	0.0%	1.2%		40.2%	0.0%	59.8%	0.0%		0.0%	72.5%	27.5%	0.0%		
PHF	.000	.000	.000	.000	.000	.974	.911	.000	.667	.956	.663	.000	.790	.000	.786	.000	.871	.871	.000	.871	.971

PM PEAK HOUR	White Rock Rd Southbound					Windfield Way/Town Center Blvd Westbound					White Rock Rd Northbound					Windfield Way/Town Center Blvd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	0	0	0	0	0	22	78	0	3	103	80	0	54	0	134	0	127	14	0	141	378
16:45	0	0	0	0	0	27	73	0	7	107	40	0	45	0	85	0	136	22	0	158	350
17:00	0	0	0	0	0	21	89	0	1	111	70	0	86	0	156	0	123	17	0	140	407
17:15	0	0	0	0	0	29	109	0	3	141	48	0	54	0	102	0	134	18	0	152	395
Total Volume	0	0	0	0	0	99	349	0	14	462	238	0	239	0	477	0	520	71	0	591	1530
% App Total	0.0%	0.0%	0.0%	0.0%		21.4%	75.5%	0.0%	3.0%		49.9%	0.0%	50.1%	0.0%		0.0%	88.0%	12.0%	0.0%		
PHF	.000	.000	.000	.000	.000	.853	.800	.000	.500	.819	.744	.000	.695	.000	.764	.000	.956	.807	.000	.935	.940

Analysis ID: 1473497
Analysis: Creekside #20 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-17
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Post (Southbound)			WR east (Westbound)			Drwy (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
11:00am	35	1	37	10	98	41	18	3	8
11:15am	27	2	29	13	168	44	11	3	3
11:30am	26	2	33	11	106	50	14	2	3
11:45am	29	1	40	8	118	45	12	0	3
Hourly Tot	117	6	139	42	490	180	55	8	17
Hourly Tot	0.4466	0.0229	0.5305	0.059	0.6882	0.2528	0.6875	0.1	0.2125
PHF	0.84	0.75	0.87	0.81	0.73	0.9	0.76	0.67	0.53

All Days, Peak PM

	Post (Southbound)			WR east (Westbound)			Drwy (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:15pm	21	2	35	4	96	30	10	1	1
3:30pm	33	0	35	7	94	31	11	3	5
3:45pm	36	0	43	4	99	43	9	3	8
4:00pm	38	0	38	5	92	47	7	3	7
Hourly Tot	128	2	151	20	381	151	37	10	21
Hourly Tot	0.4555	0.0071	0.5374	0.0362	0.6902	0.2736	0.5441	0.1471	0.3088
PHF	0.84	0.25	0.88	0.71	0.96	0.8	0.84	0.83	0.66

Tues-Thurs, Peak AM

	Post (Southbound)			WR east (Westbound)			Drwy (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
11:00am	26	1	40	11	87	31	22	2	9
11:15am	27	2	31	15	106	37	13	2	5
11:30am	28	1	31	16	102	45	12	2	4
11:45am	33	0	45	11	119	49	10	1	2
Hourly Tot	114	4	147	53	414	162	57	7	20
Hourly Tot	0.4302	0.0151	0.5547	0.0843	0.6582	0.2576	0.6786	0.0833	0.2381
PHF	0.86	0.5	0.82	0.83	0.87	0.83	0.65	0.88	0.56

Tues-Thurs, Peak PM

	Post (Southbound)			WR east (Westbound)			Drwy (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:30pm	36	0	44	19	143	39	11	0	7
4:45pm	46	1	53	28	121	45	13	0	5
5:00pm	36	2	52	24	93	49	9	0	6
5:15pm	28	1	28	15	99	37	6	1	8
Hourly Tot	146	4	177	86	456	170	39	1	26
Hourly Tot	0.4465	0.0122	0.5413	0.1208	0.6404	0.2388	0.5909	0.0152	0.3939
PHF	0.79	0.5	0.83	0.77	0.8	0.87	0.75	0.25	0.81

WR west (Eastbound)

Left	Thru	Right	Total	Total %
27	80	4	362	0.224
35	109	2	446	0.276
36	118	4	405	0.2506
38	105	4	403	0.2494
136	412	14	1616	1
0.242	0.7331	0.0249		
0.89	0.87	0.88		

WR west (Eastbound)

Left	Thru	Right	Total	Total %
27	176	0	403	0.2492
35	146	1	401	0.248
36	128	5	414	0.256
51	105	6	399	0.2468
149	555	12	1617	1
0.2081	0.7751	0.0168		
0.73	0.79	0.5		

WR west (Eastbound)

Left	Thru	Right	Total	Total %
28	89	2	348	0.2222
31	116	1	386	0.2465
41	121	4	407	0.2599
45	105	5	425	0.2714
145	431	12	1566	1
0.2466	0.733	0.0204		
0.81	0.89	0.6		

WR west (Eastbound)

Left	Thru	Right	Total	Total %
32	122	1	454	0.2397
42	148	2	504	0.2661
44	179	1	495	0.2614
38	180	0	441	0.2328
156	629	4	1894	1
0.1977	0.7972	0.0051		
0.89	0.87	0.5		

National Data and Surveying Services

City of El Dorado Hills
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7192-007 White Rock Rd & Post St
Date : 3/14/2017

#20

Unshifted Count = All Vehicles & Uturns

	White Rock Rd Southbound					Post St Westbound					White Rock Rd Northbound					Post St Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	2	1	7	0	10	2	22	29	0	53	6	1	0	0	7	6	14	0	0	20	90	0
6:15	10	0	11	0	21	1	47	23	0	71	2	1	1	0	4	5	7	0	0	12	108	0
6:30	14	0	16	0	30	5	58	41	0	104	1	2	2	0	5	7	17	1	0	25	164	0
6:45	7	1	30	0	38	4	82	34	0	120	4	1	1	0	6	7	27	1	0	35	199	0
Total	33	2	64	0	99	12	209	127	0	348	13	5	4	0	22	25	65	2	0	92	561	0
7:00	9	0	17	0	26	5	95	35	0	135	6	1	1	0	8	11	26	2	1	40	209	1
7:15	21	1	24	0	46	4	97	47	0	148	12	3	0	0	15	14	31	1	0	46	255	0
7:30	10	1	26	0	37	6	92	32	0	130	7	1	2	0	10	12	38	1	1	52	229	1
7:45	11	4	26	0	41	11	150	60	0	221	5	2	6	0	13	16	51	4	0	71	346	0
Total	51	6	93	0	150	26	434	174	0	634	30	7	9	0	46	53	146	8	2	209	1039	2
8:00	11	4	21	0	36	9	134	60	0	203	10	0	7	0	17	24	49	0	0	73	329	0
8:15	10	3	28	0	41	8	107	36	0	151	10	1	2	0	13	18	61	1	0	80	285	0
8:30	8	0	29	0	37	14	117	48	0	179	7	1	5	0	13	17	51	4	0	72	301	0
8:45	20	8	34	0	62	4	101	54	0	159	14	3	3	0	20	12	44	2	1	59	300	1
Total	49	15	112	0	176	35	459	198	0	692	41	5	17	0	63	71	205	7	1	284	1215	1
16:00	43	2	38	0	83	10	75	58	0	143	9	7	5	0	21	50	148	5	1	204	451	1
16:15	31	4	33	0	68	15	91	35	0	141	15	3	5	0	23	37	137	4	1	179	411	1
16:30	38	4	30	0	72	9	71	34	0	114	13	6	5	0	24	53	177	5	0	235	445	0
16:45	31	3	33	0	67	10	91	51	0	152	10	5	8	0	23	50	151	7	0	208	450	0
Total	143	13	134	0	290	44	328	178	0	550	47	21	23	0	91	190	613	21	2	826	1757	2
17:00	75	6	62	0	143	13	66	56	0	135	15	3	10	0	28	61	191	5	2	259	565	2
17:15	42	2	50	0	94	11	105	37	0	153	12	2	6	0	20	41	165	4	1	211	478	1
17:30	47	6	40	0	93	12	68	40	0	120	11	0	2	0	13	43	167	1	1	212	438	1
17:45	39	4	30	0	73	5	80	43	0	128	14	5	5	0	24	34	128	0	0	162	387	0
Total	203	18	182	0	403	41	319	176	0	536	52	10	23	0	85	179	651	10	4	844	1868	4
18:00	48	2	31	0	81	6	64	30	0	100	15	1	13	0	29	26	127	1	2	156	366	2
18:15	29	3	29	0	61	8	75	22	0	105	7	0	4	0	11	16	105	1	0	122	299	0
18:30	37	0	19	0	56	5	63	40	0	108	16	3	5	0	24	17	101	4	2	124	312	2
18:45	35	4	20	0	59	6	49	28	0	83	9	5	4	0	18	16	58	2	0	76	236	0
Total	149	9	99	0	257	25	251	120	0	396	47	9	26	0	82	75	391	8	4	478	1213	4
Grand Total	628	63	684	0	1375	183	2000	973	0	3156	230	57	102	0	389	593	2071	56	13	2733	7653	13
Apprch %	45.7%	4.6%	49.7%	0.0%		5.8%	63.4%	30.8%	0.0%		59.1%	14.7%	26.2%	0.0%		21.7%	75.8%	2.0%	0.5%			
Total %	8.2%	0.8%	8.9%	0.0%	18.0%	2.4%	26.1%	12.7%	0.0%	41.2%	3.0%	0.7%	1.3%	0.0%	5.1%	7.7%	27.1%	0.7%	0.2%	35.7%	100.0%	

AM PEAK HOUR	White Rock Rd Southbound					Post St Westbound					White Rock Rd Northbound					Post St Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	11	4	26	0	41	11	150	60	0	221	5	2	6	0	13	16	51	4	0	71	346
8:00	11	4	21	0	36	9	134	60	0	203	10	0	7	0	17	24	49	0	0	73	329
8:15	10	3	28	0	41	8	107	36	0	151	10	1	2	0	13	18	61	1	0	80	285
8:30	8	0	29	0	37	14	117	48	0	179	7	1	5	0	13	17	51	4	0	72	301
Total Volume	40	11	104	0	155	42	508	204	0	754	32	4	20	0	56	75	212	9	0	296	1261
% App Total	25.8%	7.1%	67.1%	0.0%		5.6%	67.4%	27.1%	0.0%		57.1%	7.1%	35.7%	0.0%		25.3%	71.6%	3.0%	0.0%		
PHF	.909	.688	.897	.000	.945	.750	.847	.850	.000	.853	.800	.500	.714	.000	.824	.781	.869	.563	.000	.925	.911

PM PEAK HOUR	White Rock Rd Southbound					Post St Westbound					White Rock Rd Northbound					Post St Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	38	4	30	0	72	9	71	34	0	114	13	6	5	0	24	53	177	5	0	235	445
16:45	31	3	33	0	67	10	91	51	0	152	10	5	8	0	23	50	151	7	0	208	450
17:00	75	6	62	0	143	13	66	56	0	135	15	3	10	0	28	61	191	5	2	259	565
17:15	42	2	50	0	94	11	105	37	0	153	12	2	6	0	20	41	165	4	1	211	478
Total Volume	186	15	175	0	376	43	333	178	0	554	50	16	29	0	95	205	684	21	3	913	1938
% App Total	49.5%	4.0%	46.5%	0.0%		7.8%	60.1%	32.1%	0.0%		52.6%	16.8%	30.5%	0.0%		22.5%	74.9%	2.3%	0.3%		
PHF	.620	.625	.706	.000	.657	.827	.793	.795	.000	.905	.833	.667	.725	.000	.848	.840	.895	.750	.375	.881	.858

Analysis ID: 1473504
Analysis: Creekside #21 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-17
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Vine (Southbound)			WR east (Westbound)			Valley View (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
11:00am	29	11	8	16	109	49	22	12	39
11:15am	36	15	15	13	111	53	30	12	31
11:30am	38	15	12	18	109	68	22	20	21
11:45am	35	10	9	28	100	69	17	17	16
Hourly Tot	138	51	44	75	429	239	91	61	107
Hourly Tot	0.5923	0.2189	0.1888	0.1009	0.5774	0.3217	0.3514	0.2355	0.4131
PHF	0.91	0.85	0.73	0.67	0.97	0.87	0.76	0.76	0.69

All Days, Peak PM

	Vine (Southbound)			WR east (Westbound)			Valley View (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:15pm	46	22	6	50	98	47	14	13	56
4:30pm	51	21	8	36	108	42	8	16	60
4:45pm	51	24	8	37	118	60	7	18	48
5:00pm	53	24	10	42	100	60	9	19	41
Hourly Tot	201	91	32	165	424	209	38	66	205
Hourly Tot	0.6204	0.2809	0.0988	0.2068	0.5313	0.2619	0.123	0.2136	0.6634
PHF	0.95	0.95	0.8	0.82	0.9	0.87	0.68	0.87	0.85

Tues-Thurs, Peak AM

	Vine (Southbound)			WR east (Westbound)			Valley View (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
8:00am	8	1	1	38	178	65	23	14	61
8:15am	20	8	4	18	137	63	29	13	30
8:30am	54	11	19	12	130	60	25	11	16
8:45am	73	16	22	12	136	50	18	12	26
Hourly Tot	155	36	46	80	581	238	95	50	133
Hourly Tot	0.654	0.1519	0.1941	0.089	0.6463	0.2647	0.3417	0.1799	0.4784
PHF	0.53	0.56	0.52	0.53	0.82	0.92	0.82	0.89	0.55

Tues-Thurs, Peak PM

	Vine (Southbound)			WR east (Westbound)			Valley View (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:00pm	60	23	4	80	109	44	12	13	63
4:15pm	58	26	6	70	119	37	10	13	71
4:30pm	58	24	9	43	130	32	9	16	78
4:45pm	54	27	9	41	129	44	8	19	56
Hourly Tot	230	100	28	234	487	157	39	61	268
Hourly Tot	0.6425	0.2793	0.0782	0.2665	0.5547	0.1788	0.106	0.1658	0.7283
PHF	0.96	0.93	0.78	0.73	0.94	0.89	0.81	0.8	0.86

WR west (Eastbound)

Left	Thru	Right	Total	Total %
11	77	16	399	0.2409
18	74	10	418	0.2524
13	76	14	426	0.2572
7	82	23	413	0.2494
49	309	63	1656	1
0.1164	0.734	0.1496		
0.68	0.94	0.68		

WR west (Eastbound)

Left	Thru	Right	Total	Total %
6	96	22	476	0.242
5	97	17	469	0.2384
13	112	21	517	0.2628
13	113	21	505	0.2567
37	418	81	1967	1
0.069	0.7799	0.1511		
0.71	0.92	0.92		

WR west (Eastbound)

Left	Thru	Right	Total	Total %
11	27	7	434	0.258
12	36	11	381	0.2265
21	52	9	420	0.2497
24	55	3	447	0.2658
68	170	30	1682	1
0.2537	0.6343	0.1119		
0.71	0.77	0.68		

WR west (Eastbound)

Left	Thru	Right	Total	Total %
6	134	28	576	0.2619
4	108	25	547	0.2487
7	108	18	532	0.2419
16	124	17	544	0.2474
33	474	88	2199	1
0.0555	0.7966	0.1479		
0.52	0.88	0.79		

Prepared by National Data & Surveying Services

Valley View Pkwy & White Rock Rd

Peak Hour Turning Movement Count

#21

ID: 18-07183-021
City: El Dorado Hills

Day: Wednesday
Date: 05/16/2018

PEAK HOURS

AM: 07:30 AM - 08:30 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS

AM: 06:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 07:00 PM

Valley View Pkwy

SOUTHBOUND

AM	27	19	50	0	229	AM
NOON	0	0	0	0	0	NOON
PM	36	66	222	0	231	PM

EASTBOUND (White Rock Rd)

AM	NOON	PM		
691	0	411	⇦	
0	0	0	↩	0
19	0	31	↱	1
194	0	514	→	1
25	0	121	↳	0

WESTBOUND (White Rock Rd)

PM	NOON	AM		
158	0	172	↰	0
318	0	578	←	1
130	0	162	↲	1
0	0	0	↪	0
880	0	500	⇨	

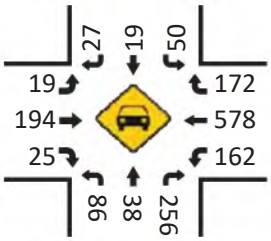
NORTHBOUND

PM	317	0	57	42	144	PM
NOON	0	0	0	0	0	NOON
AM	206	0	86	38	256	AM

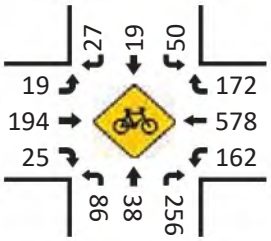
Valley View Pkwy

CONTROL			
Signalized			
TEV	1626	0	1839
	AM	NOON	PM
PHF	0.87		0.97

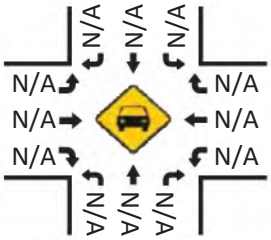
Total Vehicles (AM)



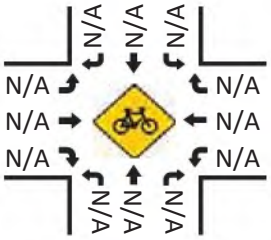
(AM)



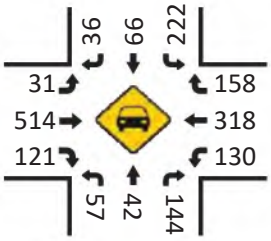
Total Vehicles (Noon)



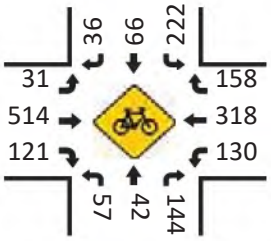
(NOON)



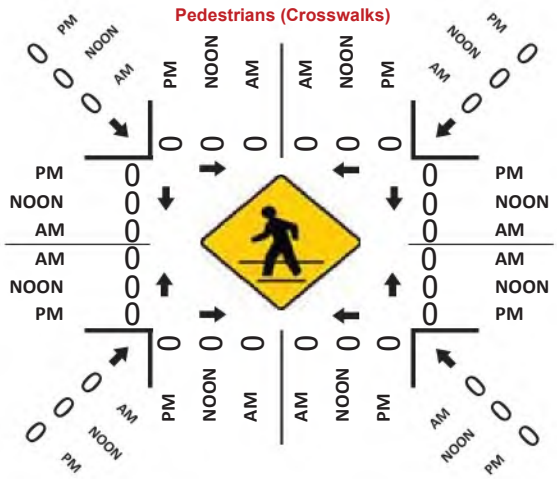
Total Vehicles (PM)



(PM)



Pedestrians (Crosswalks)



Analysis ID: 1473513
Analysis: Creekside #22 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-17
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Clarksville north (Southbound)			WR east (Westbound)			Clarksville south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
8:00am	0	0	92	0	190	0	0	0	0
8:15am	0	0	87	0	148	0	0	0	0
8:30am	0	0	74	0	141	0	0	0	0
8:45am	0	0	60	0	182	0	0	0	0
Hourly Tot	0	0	313	0	661	0	0	0	0
Hourly Tot	0	0	1	0	1	0	0	0	0
PHF	0	0	0.85	0	0.87	0	0	0	0

All Days, Peak PM

	Clarksville north (Southbound)			WR east (Westbound)			Clarksville south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:00pm	0	0	83	0	137	0	0	0	0
4:15pm	0	0	71	0	140	0	0	0	0
4:30pm	0	0	59	0	147	0	0	0	0
4:45pm	0	0	73	0	207	0	0	0	0
Hourly Tot	0	0	286	0	631	0	0	0	0
Hourly Tot	0	0	1	0	1	0	0	0	0
PHF	0	0	0.86	0	0.76	0	0	0	0

Tues-Thurs, Peak AM

	Clarksville north (Southbound)			WR east (Westbound)			Clarksville south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
8:00am	0	0	103	0	214	0	0	0	0
8:15am	0	0	100	0	161	0	0	0	0
8:30am	0	0	87	0	157	0	0	0	0
8:45am	0	0	64	0	167	0	0	0	0
Hourly Tot	0	0	354	0	699	0	0	0	0
Hourly Tot	0	0	1	0	1	0	0	0	0
PHF	0	0	0.86	0	0.82	0	0	0	0

Tues-Thurs, Peak PM

	Clarksville north (Southbound)			WR east (Westbound)			Clarksville south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:45pm	1	0	76	0	159	0	0	0	0
4:00pm	0	0	100	0	150	0	0	0	0
4:15pm	0	0	88	0	159	0	0	0	0
4:30pm	0	0	70	0	152	0	0	0	0
Hourly Tot	1	0	334	0	620	0	0	0	0
Hourly Tot	0.003	0	0.997	0	1	0	0	0	0
PHF	0.25	0	0.83	0	0.97	0	0	0	0

WR west (Eastbound)

Left	Thru	Right	Total	Total %
0	97	0	379	0.2647
0	94	0	329	0.2297
0	123	0	338	0.236
0	144	0	386	0.2696
0	458	0	1432	1
0	1	0		
0	0.8	0		

WR west (Eastbound)

Left	Thru	Right	Total	Total %
0	242	0	462	0.2577
0	195	0	406	0.2264
0	223	0	429	0.2393
0	216	0	496	0.2766
0	876	0	1793	1
0	1	0		
0	0.9	0		

WR west (Eastbound)

Left	Thru	Right	Total	Total %
0	98	0	415	0.2693
0	92	0	353	0.2291
0	133	0	377	0.2446
0	165	0	396	0.257
0	488	0	1541	1
0	1	0		
0	0.74	0		

WR west (Eastbound)

Left	Thru	Right	Total	Total %
0	250	0	486	0.2406
1	315	0	566	0.2802
0	250	0	497	0.246
0	249	0	471	0.2332
1	1064	0	2020	1
0.0009	0.9991	0		
0.25	0.84	0		

Prepared by National Data & Surveying Services

White Rock Rd & Clarksville Crossing

#22

Peak Hour Turning Movement Count

ID: 18-07183-022
City: El Dorado Hills

Day: Wednesday
Date: 05/16/2018

PEAK HOURS

AM: 07:30 AM - 08:30 AM
NOON: NONE
PM: 04:45 PM - 05:45 PM

COUNT PERIODS

AM: 06:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 07:00 PM

SOUTHBOUND (White Rock Rd)

AM	3	599	0	0	493	AM
NOON	0	0	0	0	0	NOON
PM	2	404	0	0	889	PM
	1	2	1	0		

EASTBOUND (Clarksville Crossing)

AM	NOON	PM	
6	0	10	
0	0	0	0
1	0	2	0.5
0	0	0	0.5
310	0	181	1
AM	NOON	PM	

WESTBOUND (Clarksville Crossing)

PM	NOON	AM	
1	0	0	1
0	0	0	0.5
0	0	0	0.5
0	0	0	0
0	0	0	
PM	NOON	AM	

CONTROL

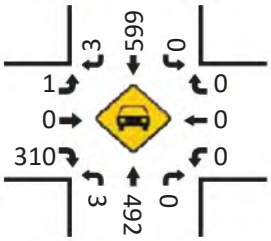
Signalized

TEV	1408 AM	0 NOON	1484 PM
PHF	0.78		0.96

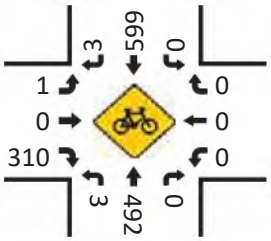
NORTHBOUND (White Rock Rd)

PM	585	0	8	886	0	PM
NOON	0	0	0	0	0	NOON
AM	909	0	3	492	0	AM
		0	1	1.5	0.5	

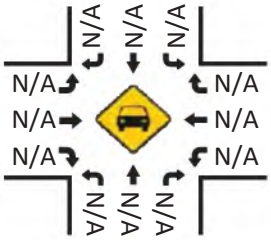
Total Vehicles (AM)



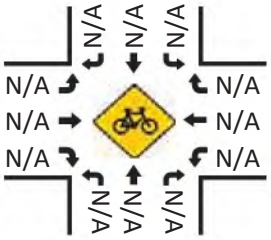
(AM)



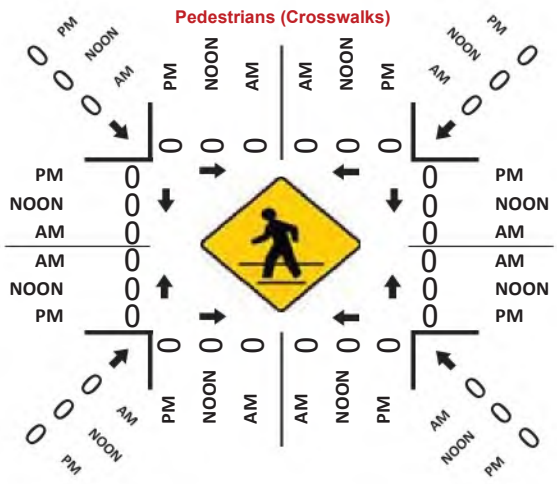
Total Vehicles (Noon)



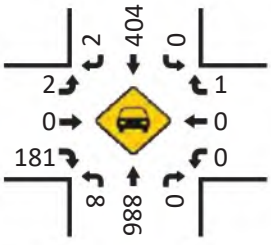
(NOON)



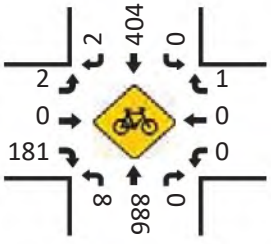
Pedestrians (Crosswalks)



Total Vehicles (PM)



(PM)



Analysis ID: 1475501
Analysis: Creekside #23 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-19
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R126-M128

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	WR north (Southboun		WR south (Northboun		WB ramps (Westbound)			
	Thru	Right	Left	Thru	Left	Right	Total	Total %
11:00am	106	33	85	89	59	23	395	0.2552
11:15am	119	23	93	82	45	12	374	0.2416
11:30am	115	21	95	78	52	27	388	0.2506
11:45am	125	15	89	69	64	29	391	0.2526
Hourly Tot	465	92	362	318	220	91	1548	1
Hourly Tot	0.8348	0.1652	0.5324	0.4676	0.7074	0.2926		
PHF	0.93	0.7	0.95	0.89	0.86	0.78		

All Days, Peak PM

	WR north (Southboun		WR south (Northboun		WB ramps (Westbound)			
	Thru	Right	Left	Thru	Left	Right	Total	Total %
4:15pm	125	35	119	123	122	23	547	0.24
4:30pm	135	39	130	119	112	21	556	0.244
4:45pm	206	45	129	113	107	16	616	0.2703
5:00pm	142	46	138	107	112	15	560	0.2457
Hourly Tot	608	165	516	462	453	75	2279	1
Hourly Tot	0.7865	0.2135	0.5276	0.4724	0.858	0.142		
PHF	0.74	0.9	0.93	0.94	0.93	0.82		

Tues-Thurs, Peak AM

	WR north (Southboun		WR south (Northboun		WB ramps (Westbound)			
	Thru	Right	Left	Thru	Left	Right	Total	Total %
8:00am	207	39	73	41	53	10	423	0.2622
8:15am	153	29	55	57	42	13	349	0.2164
8:30am	161	39	77	95	28	6	406	0.2517
8:45am	176	28	90	108	33	0	435	0.2697
Hourly Tot	697	135	295	301	156	29	1613	1
Hourly Tot	0.8377	0.1623	0.495	0.505	0.8432	0.1568		
PHF	0.84	0.87	0.82	0.7	0.74	0.56		

Tues-Thurs, Peak PM

	WR north (Southboun		WR south (Northboun		WB ramps (Westbound)			
	Thru	Right	Left	Thru	Left	Right	Total	Total %
4:15pm	141	42	145	144	138	26	636	0.2534
4:30pm	140	47	152	140	125	23	627	0.2498
4:45pm	158	56	156	125	121	12	628	0.2502
5:00pm	148	55	170	114	120	12	619	0.2466
Hourly Tot	587	200	623	523	504	73	2510	1
Hourly Tot	0.7459	0.2541	0.5436	0.4564	0.8735	0.1265		
PHF	0.93	0.89	0.92	0.91	0.91	0.7		

Prepared by National Data & Surveying Services

White Rock Rd & U.S. 50 EB

#23

Peak Hour Turning Movement Count

ID: 18-07183-023
City: El Dorado Hills

Day: Wednesday
Date: 05/16/2018

PEAK HOURS

AM	07:30 AM - 08:30 AM
NOON	NONE
PM	04:45 PM - 05:45 PM

COUNT PERIODS

AM	06:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 07:00 PM

SOUTHBOUND — White Rock Rd

AM	118	562	0	0	426	AM
NOON	0	0	0	0	0	NOON
PM	111	342	0	0	925	PM

EASTBOUND — U.S. 50 EB

AM	NOON	PM	
292	0	518	
0	0	0	0
111	0	429	1.5
0	0	0	0
33	0	56	1.5

WESTBOUND — U.S. 50 EB

PM	NOON	AM	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	

NORTHBOUND — White Rock Rd

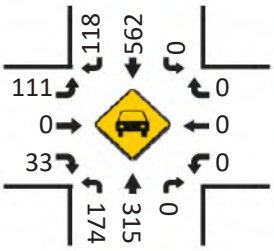
PM	398	0	407	496	0	PM
NOON	0	0	0	0	0	NOON
AM	595	0	174	315	0	AM

	1	2	0	0
	0	2	2	0

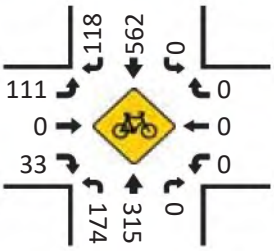
CONTROL: Signalized

TEV	1313 AM	0 NOON	1841 PM
PHF	0.83		0.91

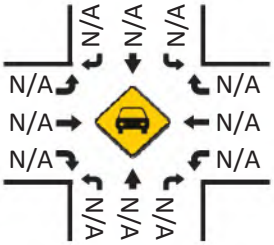
Total Vehicles (AM)



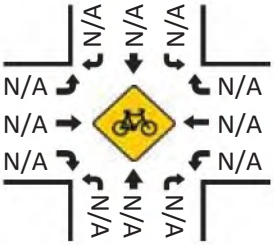
(AM)



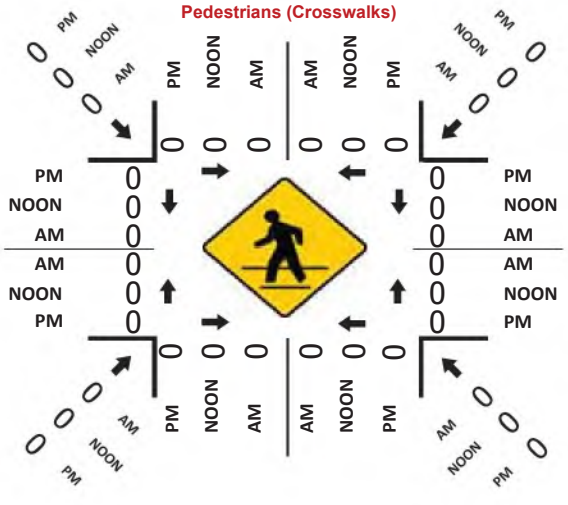
Total Vehicles (Noon)



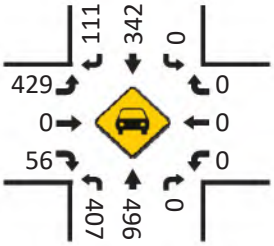
(NOON)



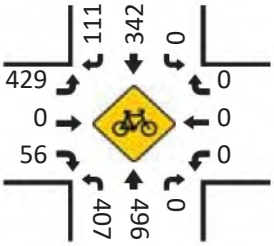
Pedestrians (Crosswalks)



Total Vehicles (PM)



(PM)



Analysis ID: 1473534
Analysis: Creekside #24 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-17
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	WR north (Southbound)			offramp (Westbound)			WR south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:30am	0	30	129	149	0	41	9	93	0
7:45am	0	51	184	203	0	36	14	81	0
8:00am	0	74	124	139	0	24	23	69	0
8:15am	0	66	107	102	0	17	24	70	0
Hourly Tot	0	221	544	593	0	118	70	313	0
Hourly Tot	0	0.2889	0.7111	0.834	0	0.166	0.1828	0.8172	0
PHF	0	0.75	0.74	0.73	0	0.72	0.73	0.84	0

All Days, Peak PM

	WR north (Southbound)			offramp (Westbound)			WR south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:45pm	0	66	68	100	0	40	27	216	0
4:00pm	0	62	53	89	0	44	37	192	0
4:15pm	0	77	51	83	0	49	37	188	0
4:30pm	0	81	52	92	0	46	22	224	0
Hourly Tot	0	286	224	364	0	179	123	820	0
Hourly Tot	0	0.5608	0.4392	0.6703	0	0.3297	0.1304	0.8696	0
PHF	0	0.88	0.82	0.91	0	0.91	0.83	0.92	0

Tues-Thurs, Peak AM

	WR north (Southbound)			offramp (Westbound)			WR south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:15am	0	15	106	147	0	44	6	110	0
7:30am	0	29	151	187	0	52	7	114	0
7:45am	0	55	186	201	0	43	17	87	0
8:00am	0	83	147	159	0	30	22	67	0
Hourly Tot	0	182	590	694	0	169	52	378	0
Hourly Tot	0	0.2358	0.7642	0.8042	0	0.1958	0.1209	0.8791	0
PHF	0	0.55	0.79	0.86	0	0.81	0.59	0.83	0

Tues-Thurs, Peak PM

	WR north (Southbound)			offramp (Westbound)			WR south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3:45pm	0	68	64	113	1	41	35	213	0
4:00pm	0	62	51	101	0	42	48	215	0
4:15pm	0	83	42	97	0	61	43	229	0
4:30pm	0	89	50	94	0	54	26	224	0
Hourly Tot	0	302	207	405	1	198	152	881	0
Hourly Tot	0	0.5933	0.4067	0.6705	0.0017	0.3278	0.1471	0.8529	0
PHF	0	0.85	0.81	0.9	0.25	0.81	0.79	0.96	0

onramp (Eastbound)

Left	Thru	Right	Total	Total %
0	0	0	451	0.2426
0	0	0	569	0.3061
0	0	0	453	0.2437
0	0	0	386	0.2076
0	0	0	1859	1
0	0	0		
0	0	0		

onramp (Eastbound)

Left	Thru	Right	Total	Total %
0	0	0	517	0.259
0	0	0	477	0.239
0	0	0	485	0.243
0	0	0	517	0.259
0	0	0	1996	1
0	0	0		
0	0	0		

onramp (Eastbound)

Left	Thru	Right	Total	Total %
0	0	0	428	0.2073
0	0	0	540	0.2615
0	0	0	589	0.2852
0	0	0	508	0.246
0	0	0	2065	1
0	0	0		
0	0	0		

onramp (Eastbound)

Left	Thru	Right	Total	Total %
0	0	0	535	0.2493
0	0	0	519	0.2418
0	0	0	555	0.2586
0	0	0	537	0.2502
0	0	0	2146	1
0	0	0		
0	0	0		

Prepared by National Data & Surveying Services

#24

Silva Valley Pkwy & U.S. 50 WB

Peak Hour Turning Movement Count

ID: 18-07183-024
City: El Dorado Hills

Day: Wednesday
Date: 05/16/2018

PEAK HOURS

AM	07:15 AM - 08:15 AM
NOON	NONE
PM	05:00 PM - 06:00 PM

COUNT PERIODS

AM	06:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 07:00 PM

Silva Valley Pkwy — SOUTHBOUND

AM	483	223	0	0	494	AM
NOON	0	0	0	0	0	NOON
PM	207	200	0	0	1019	PM
	1	2	0	0		

U.S. 50 WB — EASTBOUND

AM	NOON	PM	
561	0	279	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

CONTROL

Signalized

TEV	1721	0	1755
	AM	NOON	PM
PHF	0.79		0.90

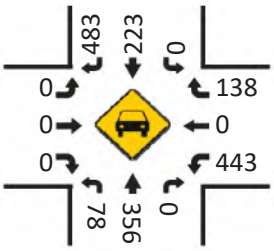
U.S. 50 WB — WESTBOUND

PM	NOON	AM	
154	0	138	1
0	0	0	0.5
256	0	443	1.5
0	0	0	0
0	0	0	

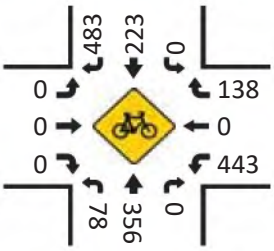
Silva Valley Pkwy — NORTHBOUND

PM	457	1	72	865	0	PM
NOON	0	0	0	0	0	NOON
AM	666	0	78	356	0	AM
		0	1	2	0	

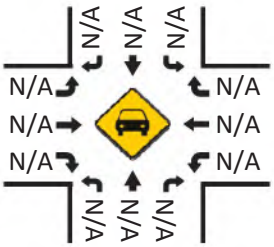
Total Vehicles (AM)



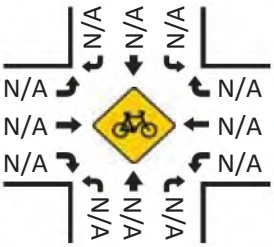
(AM)



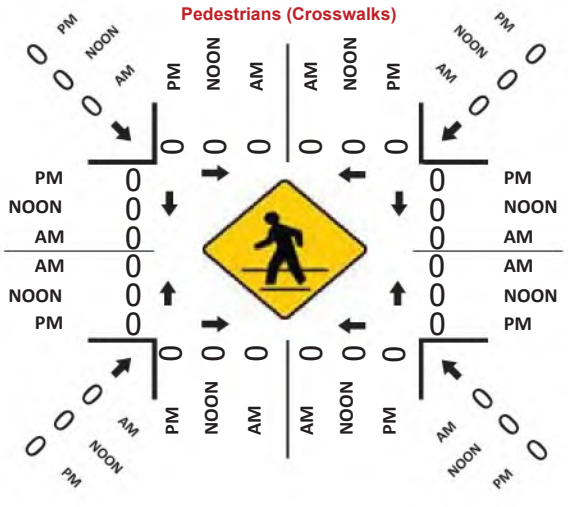
Total Vehicles (Noon)



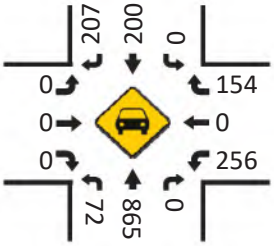
(NOON)



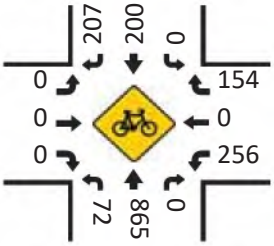
Pedestrians (Crosswalks)



Total Vehicles (PM)



(PM)



Analysis ID: 1473537
Analysis: Creekside #26 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-17
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Latrobe north (Southb		Latrobe south (Northb		Wetsel-Oviatt (Eastbound)			
	Thru	Right	Left	Right	Left	Right	Total	Total %
8:00am	60	1	0	89	0	0	150	0.2613
8:15am	66	0	0	61	0	0	127	0.2213
8:30am	56	3	0	82	2	0	143	0.2491
8:45am	58	3	0	91	2	0	154	0.2683
Hourly Tot	240	7	0	323	4	0	574	1
Hourly Tot	0.9717	0.0283	0	1	1	0		
PHF	0.91	0.58	0	0.89	0.5	0		

All Days, Peak PM

	Latrobe north (Southb		Latrobe south (Northb		Wetsel-Oviatt (Eastbound)			
	Thru	Right	Left	Right	Left	Right	Total	Total %
2:00pm	69	0	0	70	4	0	143	0.2072
2:15pm	87	0	0	79	1	0	167	0.242
2:30pm	112	0	0	81	3	0	196	0.2841
2:45pm	112	2	0	64	6	0	184	0.2667
Hourly Tot	380	2	0	294	14	0	690	1
Hourly Tot	0.9948	0.0052	0	1	1	0		
PHF	0.85	0.25	0	0.91	0.58	0		

Tues-Thurs, Peak AM

	Latrobe north (Southb		Latrobe south (Northb		Wetsel-Oviatt (Eastbound)			
	Thru	Right	Left	Right	Left	Right	Total	Total %
7:45am	33	3	0	149	0	0	185	0.2859
8:00am	63	1	0	111	0	0	175	0.2705
8:15am	68	0	0	68	1	0	137	0.2117
8:30am	62	1	0	84	3	0	150	0.2318
Hourly Tot	226	5	0	412	4	0	647	1
Hourly Tot	0.9784	0.0216	0	1	1	0		
PHF	0.83	0.42	0	0.69	0.33	0		

Tues-Thurs, Peak PM

	Latrobe north (Southb		Latrobe south (Northb		Wetsel-Oviatt (Eastbound)			
	Thru	Right	Left	Right	Left	Right	Total	Total %
2:15pm	88	0	0	81	1	0	170	0.2196
2:30pm	130	0	0	93	3	0	226	0.292
2:45pm	128	3	0	73	11	0	215	0.2778
3:00pm	95	3	0	53	12	0	163	0.2106
Hourly Tot	441	6	0	300	27	0	774	1
Hourly Tot	0.9866	0.0134	0	1	1	0		
PHF	0.85	0.5	0	0.81	0.56	0		

Analysis ID: 1473546
Analysis: Creekside #27 4/18-27/2023
Created by: tkear@tkearinc.com
Created on: 2023-07-17
Organization: T. Kear/Creekside Village Intersection Studies

Analysis Setup Details:
Analysis Type: Turning Movement Analysis
Unit of Measurement: Miles
Mode of Travel: All Vehicles CVD+
Output Type: StL All Vehicles Volume

Analysis Options:
Data Periods: Apr 18, 2023 - Apr 27, 2023

Day Type:
0: All Days (M-Su)
1: Tues-Thurs (Tu-Th)

Day Part:
00: 6:00am-6:15am
01: 6:15am-6:30am
02: 6:30am-6:45am
03: 6:45am-7:00am
04: 7:00am-7:15am
05: 7:15am-7:30am
06: 7:30am-7:45am
07: 7:45am-8:00am
08: 8:00am-8:15am
09: 8:15am-8:30am
10: 8:30am-8:45am
11: 8:45am-9:00am
12: 9:00am-9:15am
13: 9:15am-9:30am
14: 9:30am-9:45am
15: 9:45am-10:00am
16: 3:00pm-3:15pm
17: 3:15pm-3:30pm
18: 3:30pm-3:45pm
19: 3:45pm-4:00pm
20: 4:00pm-4:15pm
21: 4:15pm-4:30pm
22: 4:30pm-4:45pm
23: 4:45pm-5:00pm
24: 5:00pm-5:15pm
25: 5:15pm-5:30pm
26: 5:30pm-5:45pm
27: 5:45pm-6:00pm
28: 6:00pm-6:15pm
29: 6:15pm-6:30pm
30: 6:30pm-6:45pm
31: 6:45pm-7:00pm

Country: USA
Metrics Version: R125-M127

Metric results for this analysis include rows generated using an upsampling technique that uses data from adjacent day parts and analogous day parts outside of the original data period to synthesize a representative metric in cases where sample size would have been otherwise too low to provide a high-quality result. Please contact support@streetlightdata.com with any questions.

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All Days, Peak AM

	Latrobe north (Southbound)			SS east (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:45am	4	30	2	4	8	5	1	39	0
8:00am	10	40	1	1	1	9	0	35	1
8:15am	21	38	0	7	0	7	0	47	1
8:30am	17	39	0	7	0	5	0	54	0
Hourly Tot	52	147	3	19	9	26	1	175	2
Hourly Tot	0.2574	0.7277	0.0149	0.3519	0.1667	0.4815	0.0056	0.9831	0.0112
PHF	0.62	0.92	0.38	0.68	0.28	0.72	0.25	0.81	0.5

All Days, Peak PM

	Latrobe north (Southbound)			SS east (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2:00pm	6	43	12	3	2	3	0	45	10
2:15pm	5	52	5	3	1	13	0	40	14
2:30pm	9	67	7	3	2	29	0	34	15
2:45pm	15	74	3	4	8	16	1	28	10
Hourly Tot	35	236	27	13	13	61	1	147	49
Hourly Tot	0.1174	0.7919	0.0906	0.1494	0.1494	0.7011	0.0051	0.7462	0.2487
PHF	0.58	0.8	0.56	0.81	0.41	0.53	0.25	0.82	0.82

Tues-Thurs, Peak AM

	Latrobe north (Southbound)			SS east (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:30am	0	29	2	6	21	3	4	60	0
7:45am	5	27	5	5	10	8	2	47	0
8:00am	16	34	2	3	0	15	0	37	0
8:15am	31	35	0	4	0	12	0	53	0
Hourly Tot	52	125	9	18	31	38	6	197	0
Hourly Tot	0.2796	0.672	0.0484	0.2069	0.3563	0.4368	0.0296	0.9704	0
PHF	0.42	0.89	0.45	0.75	0.37	0.63	0.38	0.82	0

Tues-Thurs, Peak PM

	Latrobe north (Southbound)			SS east (Westbound)			Latrobe south (Northbound)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2:00pm	8	45	11	1	0	4	0	38	11
2:15pm	3	50	6	0	0	18	0	40	21
2:30pm	13	75	8	1	2	37	0	33	22
2:45pm	19	71	6	3	11	20	0	30	12
Hourly Tot	43	241	31	5	13	79	0	141	66
Hourly Tot	0.1365	0.7651	0.0984	0.0515	0.134	0.8144	0	0.6812	0.3188
PHF	0.57	0.8	0.7	0.42	0.3	0.53	0	0.88	0.75

SS west (Eastbound)

Left	Thru	Right	Total	Total %
19	20	0	132	0.2645
7	10	0	115	0.2305
2	1	0	124	0.2485
6	0	0	128	0.2565
34	31	0	499	1
0.5231	0.4769	0		
0.45	0.39	0		

SS west (Eastbound)

Left	Thru	Right	Total	Total %
6	20	2	152	0.2424
1	9	0	143	0.2281
2	2	0	170	0.2711
2	0	1	162	0.2584
11	31	3	627	1
0.2444	0.6889	0.0667		
0.46	0.39	0.38		

SS west (Eastbound)

Left	Thru	Right	Total	Total %
14	22	0	161	0.272
22	33	0	164	0.277
7	16	0	130	0.2196
1	1	0	137	0.2314
44	72	0	592	1
0.3793	0.6207	0		
0.5	0.55	0		

SS west (Eastbound)

Left	Thru	Right	Total	Total %
6	23	0	147	0.2217
2	9	0	149	0.2247
0	0	0	191	0.2881
2	0	2	176	0.2655
10	32	2	663	1
0.2273	0.7273	0.0455		
0.42	0.35	0.25		

PHASE TIMING

LOCATION: El Dorado Hills Boulevard at Serrano Parkway/Lassen Lane

PROGRAM: C7 DATE: 3/24/92

F PAGE

	INTERVAL	PHASE 1	2	3	4	5	6	7	8	9
0	WALK		7						7	CLK RST
1	DON'T WALK		12						19	CHK SUM
2	MIN GREEN	3	6			3	3	3	3	
3	TYPE 3 DET		10				10		5	
4	ADD/VEH	0.0	2.5			0.0	2.5	0.0	1.0	
5	PASSAGE	2.0	2.0			2.0	2.0	2.0	4.0	
6	MAX GAP									
7	MIN GAP									
8	MAX EXT	25	40			25	40	35	35	
9	MAX 2									YEAR
A	MAX 3									MONTH
B										DAY
C	REDUCE BY									DAY OF WEEK
D	REDUCE EVERY									HOUR
E	YELLOW	3.0	4.7			3.0	4.7	3.0	3.0	MINUTE
F	RED	0	0.5			0	0.5	0.0	0.0	SECOND

	PRE-EMPTION	E
	EV SELECT	
	RR1 CLEAR	
	EVA DELAY	0
	EVA CLEAR	5
	EVB DELAY	0
	EVB CLEAR	5
	EVC DELAY	10
	EVC CLEAR	5
	EVD DELAY	5
	EVD CLEAR	5
	MAX EV	30
	RR2 CLEAR	

	F FLAGS	1	2	3	4	5	6	7	8
0	PERMIT	X	X			X	X	X	X
1	RED LOCK								
2	YEL LOCK								
3	V RECALL		X				X		
4	P RECALL								
5	PED PHASES		X						X
6	ARROW A								
7	ARROW B								
8	DBL ENTRY								
9	MAX 2 PH								
A	LAG PHASES	FOR OBSERVATION ONLY							
B	RED REST								
C	REST IN WALK								
D	MAX 3 PH								
E	YEL STARTUP								X
F	FIRST PHASE		X				X		

F0E	MAX VAR INITIAL	
FC0	GAP SET	
FC1	MAX SET	
FC2		
FCA	OLA-GREEN	
FCB	OLB-GREEN	
FCC	OLC-GREEN	
FCD	OLD-GREEN	

F0F	RED REVERT	
FD0	TIME BASE SELECT	
FD3	PED SELECT	
FD4	7 - WIRE SELECT	
FD8	OFFSET SEEKING	
C05	FLASH TYPE	
F0C	LONG FAIL	
F0D	SHORT FAIL	

LOCATION: El Dorado Hills Boulevard at Serrano Parkway/Lassen Lane

PROGRAM: C7 DATE: 3/24/92

D PAGE

INPUT	ADDRESS	DELAY	OBSV DELAY	ADDRESS	CARRY	OBSV CARRY		INPUT	ADDRESS	DELAY	OBSV DELAY	ADDRESS	CARRY	OBSV CARRY
1I1	D-1-0		D-7-0	D-3-0		D-9-0	0	5J1	D-2-0		D-8-0	D-4-0		D-A-0
2I2U	D-1-1		D-7-1	D-3-1	1.2	D-9-1	1	6J2U	D-2-1		D-8-1	D-4-1	1.2	D-A-1
2I2L	D-1-2		D-7-2	D-3-2	1.2	D-9-2	2	6J2L	D-2-2		D-8-2	D-4-2	1.2	D-A-2
2I3U	D-1-3		D-7-3	D-3-3	1.2	D-9-3	3	6J3U	D-2-3		D-8-3	D-4-3	1.2	D-A-3
2I3L	D-1-4		D-7-4	D-3-4	1.2	D-9-4	4	6J3L	D-2-4		D-8-4	D-4-4	1.2	D-A-4
2I4	D-1-5		D-7-5	D-3-5		D-9-5	5	6J4	D-2-5		D-8-5	D-4-5		D-A-5
3I5	D-1-6		D-7-6	D-3-6		D-9-6	6	7J5	D-2-6	2.0	D-8-6	D-4-6		D-A-6
4I6U	D-1-7		D-7-7	D-3-7		D-9-7	7	8J6U	D-2-7	2.0	D-8-7	D-4-7		D-A-7
4I6L	D-1-8		D-7-8	D-3-8		D-9-8	8	8J6L	D-2-8	2.0	D-8-8	D-4-8		D-A-8
4I7U	D-1-9		D-7-9	D-3-9		D-9-9	9	8J7U	D-2-9	2.0	D-8-9	D-4-9		D-A-9
4I7L	D-1-A		D-7-A	D-3-A		D-9-A	A	8J7L	D-2-A	8.0	D-8-A	D-4-A		D-A-A
4I8	D-1-B		D-7-B	D-3-B		D-9-B	B	8J8	D-2-B		D-8-B	D-4-B		D-A-B
1I9U	D-1-C		D-7-C	D-3-C		D-9-C	C	5J9U	D-2-C		D-8-C	D-4-C		D-A-C
3I9L	D-1-D		D-7-D	D-3-D		D-9-D	D	7J9L	D-2-D	8.0	D-8-D	D-4-D		D-A-D

Assignable Detectors - (FCF)=123
Key Action = "E" + X Coord. + Y Coord. (See Shaded Areas)
Select Phase/Function Using Call Lights
EX. E-C-0 = 1 (FZ 1) E-D-0 =5,6 (Ext../Cnt. i.e. TYPE)
*5 = Ext..
6 = Cnt.
7 = Call
8 = Type 3

NOTE: Reset location F-C-F to zero after viewing or assigning detectors.

PHASE TIMING

LOCATION: El Dorado Hills Bl @ Park Dr BY: _____

PROGRAM: C8 DATE: 6/28/2005

F PAGE

	INTERVAL	PHASE 1	2	3	4	5	6	7	8	9
0	WALK		7				7	6	6	CLK RST
1	DON'T WALK		18				16	24	24	CHK SUM
2	MIN GREEN	4	5			4	4	5	5	
3	TYPE 3 DET		15				15			
4	ADD/VEH	0	0			0	0	0	0	
5	PASSAGE	2.0	3.5			2.0	3.5	2.0	2.0	
6	MAX GAP		4.2				4.2			
7	MIN GAP		1.2				1.2			
8	MAX EXT	20	50			20	50	20	20	
9	MAX 2									YEAR
A	MAX 3									MONTH
B										DAY
C	REDUCE BY		0.1				0.1			DAY OF WK
D	REDUCE EVERY		1.0				1.0			HOUR
E	YELLOW	3.0	4.7			3.0	4.7	3.0	3.0	MINUTE
F	RED	1.0	1.0			1.0	1.0	1.0	1.0	SECOND
	PED XING - FT									

PRE-EMPTION	E
EV SELECT	
RR1 CLR	
EVA DLY	
EVA CLR	5
EVB DLY	
EVB CLR	5
EVC DLY	
EVC CLR	5
EVD DLY	
EVD CLR	5
MAX EV	40
RR2 CLR	

	FLAGS	F 1	2	3	4	5	6	7	8	
0	PERMIT	X	X			X	X	X	X	0
1	RED LOCK									1
2	YEL LOCK		X				X			2
3	V RECALL		X				X			3
4	P RECALL									4
5	PED PHASES		X				X	X	X	5
6	ARROW A									6
7	ARROW B									7
8	DBL ENTRY									8
9	MAX 2 PH									9
A	LAG PHASES	FOR OBSERVATION ONLY								A
B	RED REST									B
C	REST IN WALK									C
D	MAX 3 PH									D
E	YEL STARTUP							X		E
F	FIRST PHASE		X				X			F

F0E	MAX VAR INITIAL	
FC0	GAP SET	
FC1	MAX SET	
FC2		
FCA	OLA-GREEN	
FCB	OLB-GREEN	
FCC	OLC-GREEN	
FCD	OLD-GREEN	

F0F	RED REVERT	2.0
FD0	TIME BASE SELECT	
FD3	PED SELECT	
FD4	7 - WIRE SELECT	
FD8	OFFSET SEEKING	
C05	FLASH TYPE	
F0C	LONG FAIL	
F0D	SHORT FAIL	

LOCATION: El Dorado Hills Bl @ Park Dr

PROGRAM: C8 **DATE:** 6/28/2005

D PAGE

INPUT	ADDRESS	DELAY	OBSV DELAY	ADDRESS	CARRY	OBSV CARRY		INPUT	ADDRESS	DELAY	OBSV DELAY	ADDRESS	CARRY	OBSV CARRY
1I1	D-1-0		D-7-0	D-3-0		D-9-0	0	5J1	D-2-0		D-8-0	D-4-0		D-A-0
2I2U	D-1-1		D-7-1	D-3-1		D-9-1	1	6J2U	D-2-1		D-8-1	D-4-1		D-A-1
2I2L	D-1-2		D-7-2	D-3-2		D-9-2	2	6J2L	D-2-2		D-8-2	D-4-2		D-A-2
2I3U	D-1-3		D-7-3	D-3-3		D-9-3	3	6J3U	D-2-3		D-8-3	D-4-3		D-A-3
2I3L	D-1-4		D-7-4	D-3-4		D-9-4	4	6J3L	D-2-4		D-8-4	D-4-4		D-A-4
2I4	D-1-5		D-7-5	D-3-5		D-9-5	5	6J4	D-2-5		D-8-5	D-4-5		D-A-5
3I5	D-1-6		D-7-6	D-3-6		D-9-6	6	7J5	D-2-6	5.0	D-8-6	D-4-6		D-A-6
4I6U	D-1-7		D-7-7	D-3-7		D-9-7	7	8J6U	D-2-7		D-8-7	D-4-7		D-A-7
4I6L	D-1-8		D-7-8	D-3-8		D-9-8	8	8J6L	D-2-8		D-8-8	D-4-8		D-A-8
4I7U	D-1-9		D-7-9	D-3-9		D-9-9	9	8J7U	D-2-9	15.0	D-8-9	D-4-9		D-A-9
4I7L	D-1-A		D-7-A	D-3-A		D-9-A	A	8J7L	D-2-A	10.0	D-8-A	D-4-A		D-A-A
4I8	D-1-B		D-7-B	D-3-B		D-9-B	B	8J8	D-2-B	5.0	D-8-B	D-4-B		D-A-B
1I9U	D-1-C		D-7-C	D-3-C		D-9-C	C	5J9U	D-2-C		D-8-C	D-4-C		D-A-C
3I9L	D-1-D		D-7-D	D-3-D		D-9-D	D	7J9L	D-2-D	10.0	D-8-D	D-4-D		D-A-D

Assignable Detectors - (FCF)=123
Key Action = "E" + X Coord. + Y Coord. (See Shaded Areas)
Select Phase/Function Using Call Lights
EX. E-C-0 = 1 (FZ 1) E-D-0 =5,6 (Ext../Cnt. i.e. TYPE)
*5 = Ext..
6 = Cnt.
7 = Call
8 = Type 3

NOTE: Reset location F-C-F to zero after viewing or assigning detectors.

LOCATION: El Dorado Hills Bl @ Park Dr

PROGRAM: C8

DATE: 6/28/2005

D PAGE

	D	FLAGS								E	FLAGS								F	FLAGS							
	MAX	1	2	3	4	5	6	7	8	MIN	1	2	3	4	5	6	7	8	PED	1	2	3	4	5	6	7	8
0	RCL									RCL									RCL								
1	CP 1									CP 1									CP 1								
2	CP 2									CP 2									CP 2								
3	CP 3									CP 3									CP 3								
4	CP 4									CP 4									CP 4								
5	CP 5									CP 5									CP 5								
6	CP 6									CP 6									CP 6								
7	CP 7									CP 7									CP 7								
8	CP 8									CP 8									CP 8								
9	CP 9									CP 9									CP 9								
A																											
B																											
C																											
D																											
E										VER.																	
F										BAT.																	

NOTE: IF THIS IS THE MASTER FOR SYSTEM, ENTER NO. OF SLAVES IN RAM LOCATION D-0-0

CONTROL CODE "D" SYSTEM DETECTOR	
	0
0	
1	
2	
3	
4	
5	
6	
7	
8	

E PAGE

	E	FLAGS								F	FLAGS							
	FUNCTION	1	2	3	4	5	6	7	8	FUNCTION	1	2	3	4	5	6	7	8
0										CODE 4								
1										CODE 5								
2										"Y" RCL C								
3										"Y" RCL D								
4	Bike - A									Bike - B								
5	OLA OUT									2 PED		X						
6	OLB OUT									6 PED						X		
7	OLC OUT									4 PED							X	
8	OLD OUT									8 PED								X
9																		
A	OLA NOT									OLA ON								
B	OLB NOT									OLB ON								
C	OLC NOT									OLC ON								
D	OLD NOT									OLD ON								
E																		
F																		

C8 VERSION NUMBER = D-E-E

CONTROL CODE "D"				
		A	B	C
LAST PWR FAIL	E	H	M	D
LAST FLASH	F	H	M	D

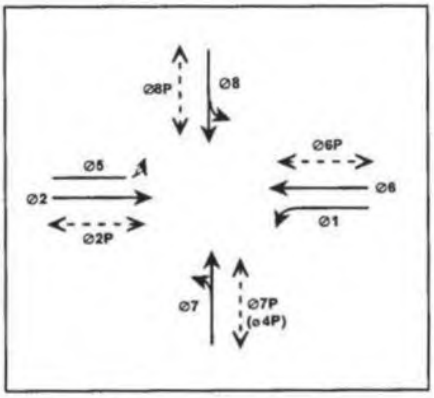
LOCATION: El Dorado Hills Bl @ Park Dr BY: SLK

DATE: 6/28/2005

TYPE 170 CONTROLLER MODEL 210
CONFLICT MONITOR PROGRAMMING INSTRUCTIONS

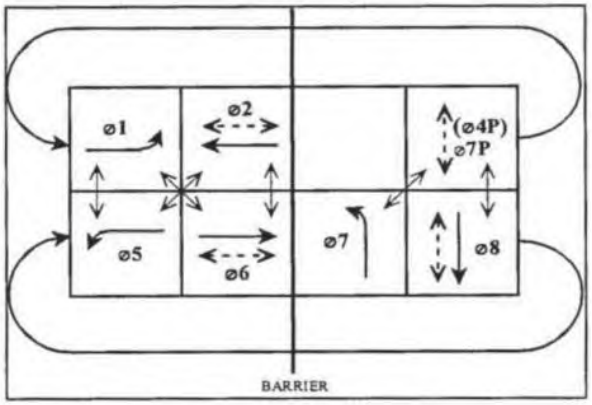
CHANNELS AND PHASES

CHANNEL 16 = Ø8 PED	CHANNEL 15 = Ø6 PED	CHANNEL 14 = Ø4 PED	CHANNEL 13 = Ø2 PED	CHANNEL 12 = SPECIAL	CHANNEL 11 = SPECIAL	CHANNEL 10 = OVERLAP "B"	CHANNEL 9 = OVERLAP "A"
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	
10	10	10	10	10	10		
11	11	11	11	11			
12	12	12	12				
13	13	13					
14	14						
15							



CHANNELS AND PHASES

CHANNEL 8 = Ø8	CHANNEL 7 = Ø7	CHANNEL 6 = Ø6	CHANNEL 5 = Ø5	CHANNEL 4 = Ø4	CH. 3 = Ø3	CH2= Ø2
1	1	1	1	1	1	1
2	2	2	2	2	2	
3	3	3	3	3		
4	4	4	4			
5	5	5				
6	6					
7						



The conflict monitor program card is supplied with all 120 diodes installed. Diodes for phases **NOT** in conflict must be removed.

1. Mark channels (phases) that are not conflicting.
2. Remove corresponding diodes from diode board.
3. Mark diode board with name of intersection.

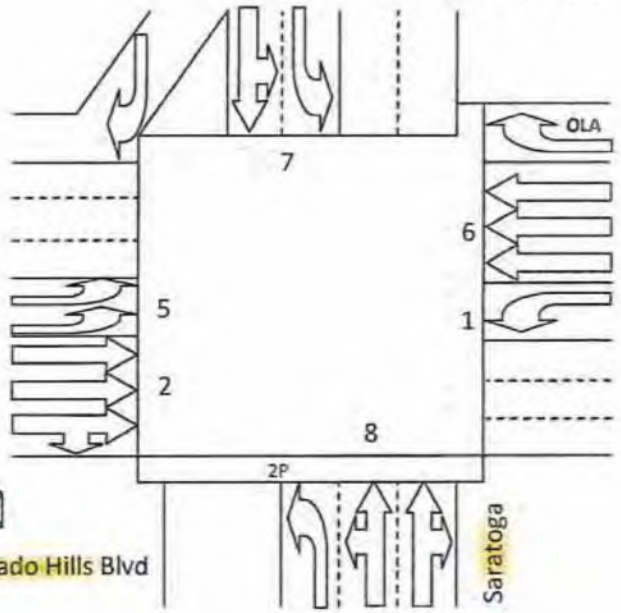
Location: ED 50 @ El Dorado Hills WB Ramp
System: **District:**
Master At: This Location **I/C:**

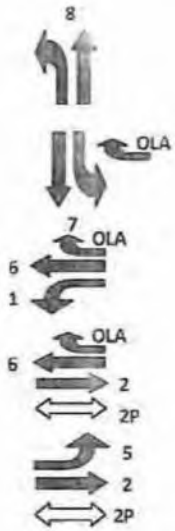
Designed By: El Dorado Co, Y&C Trans.
Installed By: EA 03-2E5104
Service Info: 03250500000860b

Timing Change: **Date Start:** **Date End:** **Designed:** **Installed:**

		FLASH
PHASE	1) SB El Dorado Hills LT to Saratoga	[ ]
	2) NB El Dorado Hills	[ ]
	3)	[ ]
	4)	[ ]
	5) NB LT to WB on	[ ]
	6) SB El Dorado Hills	[ ]
	7) WB Off	[ ]
	8) WB On from Saratoga Shopping Cente	[ ]
OVERLAP	A) 6+7 ***load resistor on 4 Ped Green***	[ ]
	B)	[ ]
	C)	[ ]
	D)	[ ]
	E)	[ ]
	F)	[ ]

Intersection Layout





Comments and Notes:
2000-01-04 MODIFIED SIGNAL: CHANGED TO 6 PHASE OPERATION BY: P.A.DIAZ, A. HEBERT, B. MURPHY, J. ELAM AND S. KOCH (ED CO) AND M. VAN DORMICK (ED CO)
2000-04-19 APPLIED QUICNET
2003-08-27 CHANGED FROM C8V3 TO C8V4 BY P.A.DIAZ
2005-11-11 REMOVED PHASE 5 & 7 BY: P.A.DIAZ & S. KOCH
2009-03-20 installed 2070 by PAD
2013-07-28 Upgrade to TSCP 2.17, prohibit 1 & 5 due to new on-ramp.
2014-08-22 New 332 w/new 2070E TSCP v2.20 Build 118 at SE corner, new location: dh

RAM Checksum

Page 2: 2A0C	Page 8: 69C8 CF64
Page 3: 76FB	Page 9: D2FD
Page 4: 6FD6	Page 10: 6F66
Page 5: 191A	Page 11: FDAC
Page 6: 191A	Page 12: 27C3
Page 7: 554E	Page 13: 86F7

Post Mile: ED 50 @ (EDH) El Dorado Hills WB Ramp ***Printed: 4/2/2018***

CONFIGURATION PHASE FLAGS

Cabinet
332
Configuration
CALTRANS

Phases (2-1-1-1)	
Permitted	12..5678
Restricted	.....

Phase Recalls (2-1-1-2)	
Vehicle Min	.2...6..
Vehicle Max	.....
Pedestrian	.....
Bicycle	.....

Phase Locks (2-1-1-3)	
Red	.....
Yellow	.....
Force/Max	.....

Phase Features (2-1-1-4)	
Double Entry	.....
Rest In Walk	.....
Rest In Red	.....
Walk 2	.....
Max Green 2	.....
Max Green 3	.....

Startup (2-1-1-5)	
First Green Phases	.2...6..
Yellow Start Phases	.....
Vehicle Calls	12..5678
Pedestrian Calls	.2.....
Yellow Start Overlaps	.....
Startup All-Red	6.0

Call To Phase (2-1-2-1)		Omit On Green	
1	.....	1	.....
2	.....	2	.....
3	.....	3	.....
4	.....	4	.....
5	.....	5	.....
6	.....	6	.....
7	.....	7	.....
8	.....	8	.....

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	.....
Yellow Flash Overlap	.....
Flash In Red Phases	.....
Flash In Red Overlap	.....

Special Operation (2-1-2-3)	
Single Exit Phase	.....
Driveway Signal Phases	.....
Driveway Signal Overlaps	.....
Leading Ped Phases	.....

Protected Permissive (2-1-2-4)	
Protected Permissive	.....

Pedestrian (2-1-3)	
P1	.....
P2	.2.....
P3	.....
P4	...4....
P5	.....
P6	.....
P7	.....
P8	.....

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
A	.....67.	.....6..	.....	.....
B	.....	.....	.....	.....
C	.....	.....	.....	.....
D	.....	.....	.....	.....
E	.....	.....	.....	.....
F	.....	.....	.....	.....

PHASE TIMING

Phase (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	7	0	0	0	0	0	0
Flash Don't Walk	0	19	0	0	0	0	0	0
Minimum Green	8	10	0	0	10	10	10	10
Det Limit	10	10	0	0	10	10	10	10
Max Initial	0	0	0	0	0	0	0	0
Max Green 1	15	60	0	0	60	40	40	20
Max Green 2	50	50	0	0	40	50	50	50
Max Green 3	50	50	0	0	50	50	50	50
Extension	2.0	3.0	0.0	0.0	2.0	2.0	2.5	2.0
Maximum Gap	2.0	3.5	0.0	0.0	5.0	2.5	2.5	2.0
Minimum Gap	2.0	1.0	0.0	0.0	2.0	1.0	2.5	2.0
Add Per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Gap By	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0
Reduce Every	1.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0
Yellow	3.6	4.8	3.0	3.0	3.6	4.8	4.1	3.6
All-Red	1.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0
Ped/Bike (2-3)	**-1-**	**-2-**	**-3-**	**-4-**	**-5-**	**-6-**	**-7-**	**-8-**
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	20	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A	B	C	D	E	F
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	4.3	5.0	5.0	5.0	5.0	5.0
Red	1.0	0.0	0.0	0.0	0.0	0.0

Red Revert

Red Revert (2-5)	
Time	5.0
All-Red Sec/Min (2-6)	
All-Red Sec/Min:	OFF

Max 2 Extension

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor	90		.....				10	26			15	18	20	14
Plan 2	Green Factor	120		.....				10	51			26	33	21	16
Plan 3	Green Factor	136		.....				14	62			35	39	22	16
Plan 4	Green Factor	136		.....				14	62			45	29	22	16
Plan 5	Green Factor			.....											
Plan 6	Green Factor			.....											
Plan 7	Green Factor			.....											
Plan 8	Green Factor			.....											
Plan 9	Green Factor			.....											

Master Timer Sync (7-A)	
Enable in Plans	
1-9	.....
11-19	.....
21-29	.....

Master Sub Master	
Input	
Output	

FREE PLAN PHASE FLAGS

(7-E) Free	
Lag	Omit
.2.45.7.	.....
Veh Min	Veh Max
.....	.....
Ped	Bike
.....	.....
Cond	Cond Grn
.....	10

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	.2.45.7.	.2...6..	.....	.....	.....	.....	.....	.....
Plan 2	.2.45.7.	.2...6..	.....	.....	.....	.....	.....	.....
Plan 3	.2.45.7.	.2...6..	.....	.....	.....	.....	.....	.....
Plan 4	.2.45.7.	.2...6..	.....	.....	.....	.....	.....	....5...
Plan 5	.....	.....	.....	.....	.....	.....	.....	.....
Plan 6	.....	.....	.....	.....	.....	.....	.....	.....
Plan 7	.....	.....	.....	.....	.....	.....	.....	.....
Plan 8	.....	.....	.....	.....	.....	.....	.....	.....
Plan 9	.....	.....	.....	.....	.....	.....	.....	.....

MANUAL COMMANDS

Manual Plan (4-1)	
Plan	OffSet
	A

Plan: 1-9
15 or 254 = Flash
14 or 255 = Free
Offset A, B, or C

Special Function Override (4-2)			
#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

DETECTORS

Detector Attributes (5-1)				Slot	Detector Configuration (5-2)				
Det	Type	Phases	Lock		Det	Delay	Extend	Recall	Port
1	COUNT+CALL+EXTEND	1.....	NO	I1U	1			10	3.2
2	COUNT+CALL+EXTEND	1.....	NO	I1L	2			10	7.2
3	COUNT+CALL+EXTEND	.2.....	NO	I2U	3		2.0	10	1.1
4	COUNT+CALL+EXTEND	.2.....	NO	I2L	4		2.0	10	1.5
5	COUNT+CALL+EXTEND	.2.....	NO	I3U	5		2.0	10	4.5
6	CALL+EXTEND	.2.....	NO	I3L	6		2.0	10	6.2
7	LIMITED	.2.....	NO	I4U	7			10	2.1
8	LIMITED	.2.....	NO	I4L	8			10	7.4
9	LIMITED	.2.....	NO	I5U	9			10	3.4
10	LIMITED	.2.....	NO	I5L	10			10	7.6
11	LIMITED	.....6..	NO	I6U	11			10	1.3
12	LIMITED	.....6..	NO	I6L	12			10	1.7
13	COUNT+CALL+EXTEND	.....7.	NO	I7U	13		2.0	10	4.7
14	COUNT+CALL+EXTEND	.....7.	NO	I7L	14		2.0	10	6.4
15	LIMITED	.....7.	NO	I8U	15			10	2.3
16	LIMITED	.....7.	NO	I8L	16			10	7.8
17	COUNT+CALL+EXTEND	1.....	NO	I9U	17		2.0	10	3.6
18	COUNT+CALL+EXTEND	..3....	NO	I9L	18			10	3.8
19	COUNT+CALL+EXTEND	.2.....	NO	I10U	19			10	4.1
20	COUNT+CALL+EXTEND	...4....	NO	I10L	20			10	4.2
21	COUNT+CALL+EXTEND	....5...	NO	J1U	21			10	3.1
22	COUNT+CALL+EXTEND	....5...	NO	J1L	22			10	7.1
23	COUNT+CALL+EXTEND	.....6..	NO	J2U	23		2.0	10	1.2
24	COUNT+CALL+EXTEND	.....6..	NO	J2L	24		2.0	10	1.6
25	COUNT+CALL+EXTEND	.....6..	NO	J3U	25		2.0	10	4.6
26	COUNT+CALL+EXTEND	.....6..	NO	J3L	26		2.0	10	6.3
27	LIMITED	.....6..	NO	J4U	27			10	2.2
28	LIMITED	.....6..	NO	J4L	28			10	7.3
29	COUNT+CALL+EXTEND	.....7.	NO	J5U	29			10	3.3
30	COUNT+CALL+EXTEND	.....7.	NO	J5L	30			10	7.5
31	COUNT+CALL+EXTEND	8	NO	J6U	31			10	1.4
32	COUNT+CALL+EXTEND	8	NO	J6L	32			10	1.8
33	COUNT+CALL+EXTEND	....5...	NO	J7U	33		3.0	10	4.8
34	CALL+EXTEND	8	NO	J7L	34			10	6.5
35	COUNT+CALL+EXTEND	8	NO	J8U	35			10	2.4
36	COUNT+CALL+EXTEND	8	NO	J8L	36			10	7.7
37	COUNT+CALL+EXTEND	.2.....	NO	J9U	37			10	3.5
38	COUNT+CALL+EXTEND	.2.....	NO	J9L	38			10	3.7
39	COUNT+CALL+EXTEND	.....6..	NO	J10U	39			10	4.3
40	COUNT+CALL+EXTEND	8	NO	J10L	40			10	4.4
41	PEDESTRIAN	.2.....	NO	I12U	41			10	5.1
42	PEDESTRIAN	...4....	NO	I12L	42			10	5.3
43	PEDESTRIAN	.....6..	NO	I13U	43			10	5.2
44	PEDESTRIAN	8	NO	I13L	44			10	5.4

Failure Times(5-3)	Minutes
Maximum On Time	
Fail Reset Time	

Failure Override (5-4)	
Detectors 1-8	.....
Detectors 9-16	.....
Detectors17-24	.....
Detectors 25-32	.....
Detectors 33-40	.....
Detectors 41-44	.....

System Detector Assignment (5-5)

Sys Det	1	2	3	4	5	6	7	8
Det Nu	2	3	23	24				
Sys Det	9	10	11	12	13	14	15	16
Det Nu								

CIC Operation (5-6-1)	
Enable in Plans	.....

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.00	

Detector-to-Phase Assignment (5-6-3)

Sys Det	1	2	3	4	5	6	7	8
Phase								
Sys Det	9	10	11	12	13	14	15	16
Phase								

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1)		
Time	Plan	OS
0001	255	A
0600	2	A
0700	3	A
1500	4	A
1900	255	A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 2 (8-2-2)		
Time	Plan	OS
0001	255	A
0600	2	A
1900	255	A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 3 (8-2-3)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 4 (8-2-4)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 5 (8-2-5)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 6 (8-2-6)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

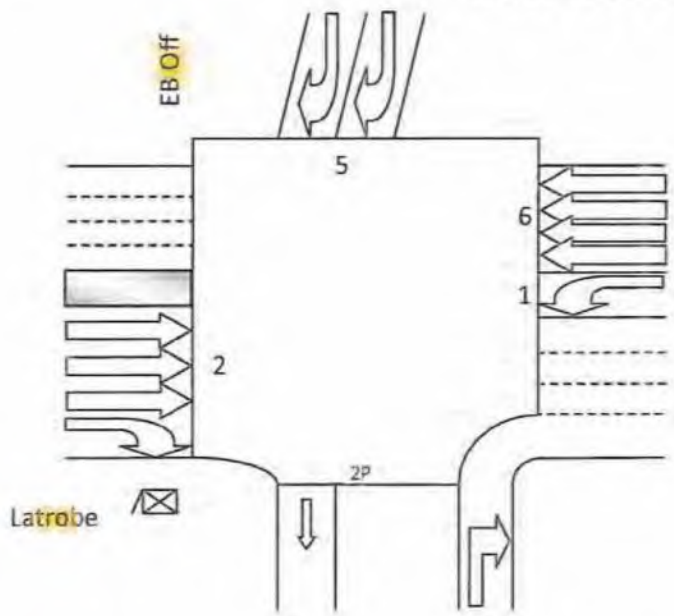
Location: ED 50 @ Latrobe Rd & EB Ramps
System: District:
Master At: WB off to El Dorado I/C:

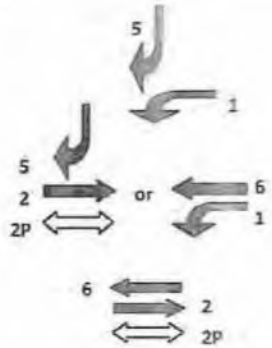
Designed By:
Installed By:
Service Info:

Timing Change: Date Start: Date End: Designed: Installed:

		FLASH
PHASE	1) SB El Dorado LT to EB on	[ ]
	2) NB thru to El Dorado Hills Blvd	[ ]
	3)	[ ]
	4)	[ ]
	5) EB off to Latrobe	[ ]
	6) SB thru to Latrobe	[ ]
	7)	[ ]
	8)	[ ]
OVERLAP	A)	[ ]
	B)	[ ]
	C)	[ ]
	D)	[ ]
	E)	[ ]
	F)	[ ]

Intersection Layout







Comments and Notes:
2000-01-05 O.T.O. @ 12:40 BY P.A. DIAZ, A. HEBERT, J. ELEM (CT), S. KOCH, M. VAN DORMICK (ED CO)
2000-04-19 APPLIED QUICNET BY P.A.DIAZ
2002-05-09 @ Appproximate 11:05 Removed phase 8 & Permitted Phase 5. Modified Traffic Signal Interseciton - New EB Off-Ramp. By P.A.Diaz, State Maintenance: Gary B. & Robert R.
2003-08-29 Changed from C8V3 to C8V4 and Applied CTNet by P.A.Diaz
????-??-?? Upgrade to 2070 w/TSCP Vers. 2.16 - add bicycle detection.
2013-07-28 Upgraded to TSCP 2.17
2014-08-29 Upgraded to TSCP 2.20 Build 118 dh

RAM Checksum

Page 2: 2F29	Page 8: ~~E578~~ 692B
Page 3: 407E	Page 9: D2FD
Page 4: D732	Page 10: 8564
Page 5: 191A	Page 11: FDAC
Page 6: 191A	Page 12: EF20
Page 7: 2980	Page 13: 86F7

Post Mile: ED 50 @ (EDH) Latrobe Rd & EB Ramps

Printed: 4/2/2018

CONFIGURATION PHASE FLAGS

Cabinet
332
Configuration
CALTRANS

Phases (2-1-1-1)	
Permitted	1 2 . . 5 6 . .
Restricted	. . . . .

Phase Recalls (2-1-1-2)	
Vehicle Min	. 2 . . . 6 . .
Vehicle Max	. . . . .
Pedestrian	. . . . .
Bicycle	. . . . .

Phase Locks (2-1-1-3)	
Red	. . . . .
Yellow	1 . . . . .
Force/Max	. . . . .

Phase Features (2-1-1-4)	
Double Entry	. 2 . . . 6 . .
Rest In Walk	. . . . .
Rest In Red	. . . . .
Walk 2	. . . . .
Max Green 2	. . . . .
Max Green 3	. . . . .

Startup (2-1-1-5)	
First Green Phases	. 2 . . . 6 . .
Yellow Start Phases	. . . . .
Vehicle Calls	1 2 . . 5 6 . .
Pedestrian Calls	. 2 . . . . .
Yellow Start Overlaps	. . . . .
Startup All-Red	6.0

Call To Phase (2-1-2-1)		Omit On Green	
1	. . . . .	1	. . . . .
2	. . . . .	2	. . . . .
3	. . . . .	3	. . . . .
4	. . . . .	4	. . . . .
5	. . . . .	5	. . . . .
6	. . . . .	6	. . . . .
7	. . . . .	7	. . . . .
8	. . . . .	8	. . . . .

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	. . . . .
Yellow Flash Overlap	. . . . .
Flash In Red Phases	. . . . .
Flash In Red Overlap	. . . . .

Special Operation (2-1-2-3)	
Single Exit Phase	. . . . .
Driveway Signal Phases	. . . . .
Driveway Signal Overlaps	. . . . .
Leading Ped Phases	. . . . .

Protected Permissive (2-1-2-4)	
Protected Permissive	. . . . .

Pedestrian (2-1-3)	
P1	. . . . .
P2	. 2 . . . . .
P3	. . . . .
P4	. . . . .
P5	. . . . .
P6	. . . . .
P7	. . . . .
P8	. . . . .

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
A	. . . . .	. . . . .	. . . . .	. . . . .
B	. . . . .	. . . . .	. . . . .	. . . . .
C	. . . . .	. . . . .	. . . . .	. . . . .
D	. . . . .	. . . . .	. . . . .	. . . . .
E	. . . . .	. . . . .	. . . . .	. . . . .
F	. . . . .	. . . . .	. . . . .	. . . . .

PHASE TIMING

Phase (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	7	0	0	0	0	0	0
Flash Don't Walk	0	22	0	0	0	0	0	0
Minimum Green	10	15	0	0	10	15	0	0
Det Limit	10	10	0	0	10	10	0	0
Max Initial	6	9	0	0	5	9	0	0
Max Green 1	39	50	0	0	45	50	0	0
Max Green 2	20	50	0	0	50	15	0	0
Max Green 3	10	50	0	0	50	50	0	0
Extension	2.5	1.0	0.0	0.0	1.0	1.0	0.0	0.0
Maximum Gap	2.5	3.2	0.0	0.0	2.5	3.2	0.0	0.0
Minimum Gap	2.5	1.0	0.0	0.0	1.0	1.0	0.0	0.0
Add Per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Gap By	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0
Reduce Every	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0
Yellow	3.6	5.2	3.0	3.0	3.6	5.2	3.0	3.0
All-Red	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0
Ped/Bike (2-3)	**-1-**	**-2-**	**-3-**	**-4-**	**-5-**	**-6-**	**-7-**	**-8-**
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A	B	C	D	E	F
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert

Red Revert (2-5)	
Time	5.0
All-Red Sec/Min (2-6)	
All-Red Sec/Min:	OFF

Max 2 Extension

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor	90		.....	74			39	39			30	48		
Plan 2	Green Factor	60		.....	59			18	30			20	28		
Plan 3	Green Factor	68		.....	26			26	30			22	34		
Plan 4	Green Factor	68		.....	26			26	30			22	34		
Plan 5	Green Factor			.....											
Plan 6	Green Factor			.....											
Plan 7	Green Factor			.....											
Plan 8	Green Factor			.....											
Plan 9	Green Factor			.....											

Master Timer Sync (7-A)	
Enable in Plans	
1-9	.....
11-19	.....
21-29	.....

Master Sub Master	
Input	
Output	

FREE PLAN PHASE FLAGS

(7-E) Free	
Lag	Omit
.2.4.6.8	.....
Veh Min	Veh Max
.....	.....
Ped	Bike
.....	.....
Cond	Cond Grn
.....	10

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	.2.4.6.8	.2...6..	.....	.....	.....	.....	.....	.....
Plan 2	.2.4.6.8	.2...6..	.....	.....	.....	.....	.....	.....
Plan 3	.2.4.6.8	.2...6..	.....	.....	.....	.....	.....	.....
Plan 4	.2.4.6.8	.2...6..	.....	.....	.....	.....	.....	.....
Plan 5	.....	.....	.....	.....	.....	.....	.....	.....
Plan 6	.....	.....	.....	.....	.....	.....	.....	.....
Plan 7	.....	.....	.....	.....	.....	.....	.....	.....
Plan 8	.....	.....	.....	.....	.....	.....	.....	.....
Plan 9	.....	.....	.....	.....	.....	.....	.....	.....

MANUAL COMMANDS

Manual Plan (4-1)	
Plan	OffSet
	A

Plan: 1-9
15 or 254 = Flash
14 or 255 = Free
Offset A, B, or C

Special Function Override (4-2)			
#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

DETECTORS

Detector Attributes (5-1) / Detector Configuration (5-2)

Det	Type	Phases	Lock	Slot	Det	Delay	Extend	Recall	Port
1	COUNT+CALL+EXTEND	1.....	NO	I1U	1	2		10	3.2
2	COUNT+CALL+EXTEND	1.....	NO	I1L	2	2		10	7.2
3	COUNT+CALL+EXTEND	.2.....	YEL	I2U	3		1.2	10	1.1
4	COUNT+CALL+EXTEND	.2.....	NO	I2L	4		1.0	10	1.5
5	LIMITED	.2.....	NO	I3U	5			10	4.5
6	CALL+EXTEND	.2.....	NO	I3L	6			10	6.2
7	LIMITED	.2.....	NO	I4U	7			10	2.1
8	COUNT+CALL+EXTEND	.2.....	NO	I4L	8			10	7.4
9	LIMITED	.2.....	NO	I5U	9			10	3.4
10	LIMITED	.2.....	NO	I5L	10			10	7.6
11	LIMITED	.2.....	NO	I6U	11			10	1.3
12	COUNT+CALL+EXTEND	...4....	NO	I6L	12			10	1.7
13	COUNT+CALL+EXTEND	...4....	NO	I7U	13			10	4.7
14	CALL+EXTEND	...4....	NO	I7L	14			10	6.4
15	LIMITED	.....6..	NO	I8U	15			10	2.3
16	LIMITED	.....6..	NO	I8L	16			10	7.8
17	COUNT+CALL+EXTEND	1.....	NO	I9U	17			10	3.6
18	COUNT+CALL+EXTEND	..3....	NO	I9L	18		2.2	10	3.8
19	COUNT+CALL+EXTEND	.2.....	NO	I10U	19			10	4.1
20	COUNT+CALL+EXTEND	...4....	NO	I10L	20			10	4.2
21	COUNT+CALL+EXTEND	....5...	NO	J1U	21	2	2.0	10	3.1
22	COUNT+CALL+EXTEND	....5...	NO	J1L	22	2	2.0	10	7.1
23	COUNT+CALL+EXTEND	.....6..	YEL	J2U	23		1.2	10	1.2
24	COUNT+CALL+EXTEND	.....6..	YEL	J2L	24		1.2	10	1.6
25	COUNT+CALL+EXTEND	.....6..	YEL	J3U	25		1.2	10	4.6
26	CALL+EXTEND	.....6..	NO	J3L	26		1.0	10	6.3
27	LIMITED	.....6..	NO	J4U	27			10	2.2
28	LIMITED	.....6..	NO	J4L	28			10	7.3
29	LIMITED	.....6..	NO	J5U	29			10	3.3
30	LIMITED	.....6..	NO	J5L	30			10	7.5
31	COUNT+CALL+EXTEND	.....6..	NO	J6U	31		1.0	10	1.4
32	COUNT+CALL+EXTEND	.2.....	NO	J6L	32			10	1.8
33	LIMITED	.....6..	NO	J7U	33			10	4.8
34	LIMITED	.....6..	NO	J7L	34			10	6.5
35	CALL+EXTEND	....5...	NO	J8U	35		0.5	10	2.4
36	CALL+EXTEND	....5...	NO	J8L	36		2.0	10	7.7
37	COUNT+CALL+EXTEND	....5...	NO	J9U	37		0.5	10	3.5
38	COUNT+CALL+EXTEND	....5...	NO	J9L	38		0.5	10	3.7
39	COUNT+CALL+EXTEND	.....6..	NO	J10U	39			10	4.3
40	COUNT+CALL+EXTEND	8	NO	J10L	40			10	4.4
41	PEDESTRIAN	.2.....	NO	I12U	41			10	5.1
42	PEDESTRIAN	...4....	NO	I12L	42			10	5.3
43	PEDESTRIAN	.....6..	NO	I13U	43			10	5.2
44	PEDESTRIAN	8	NO	I13L	44			10	5.4

Failure Times(5-3)	Minutes
Maximum On Time	
Fail Reset Time	

Failure Override (5-4)	
Detectors 1-8	.....
Detectors 9-16	.....
Detectors17-24	.....
Detectors 25-32	.....
Detectors 33-40	.....
Detectors 41-44	.....

System Detector Assignment (5-5)

Sys Det	1	2	3	4	5	6	7	8
Det Nu	3	4	23	24				
Sys Det	9	10	11	12	13	14	15	16
Det Nu								

CIC Operation (5-6-1)	
Enable in Plans	.....

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.00	

Detector-to-Phase Assignment (5-6-3)

Sys Det	1	2	3	4	5	6	7	8
Phase								
Sys Det	9	10	11	12	13	14	15	16
Phase								

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1)		
Time	Plan	OS
0001	255	A
0600	2	A
0700	3	A
1500	4	A
1900	~~2~~ 255	A
~~2100~~	~~255~~	A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 2 (8-2-2)		
Time	Plan	OS
0001	255	A
0600	2	A
2100	255	A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 3 (8-2-3)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 4 (8-2-4)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 5 (8-2-5)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 6 (8-2-6)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

PHASE TIMING

LOCATION: Latrobe Rd @ Town Center Dr

PROGRAM: C8 - V3 DATE: 5/15/2004

F PAGE

		PHASE									PRE-EMPTION		F								
	INTERVAL	1	2	3	4	5	6	7	8	9		E	FLAGS	1	2	3	4	5	6	7	8	
0	WALK		7		10		7			CLK RST	EV SELECT		PERMIT	X	X	X	X	X	X			0
1	DON'T WALK		15		20		15			CHK SUM	RR1 CLEAR		RED LOCK									1
2	MIN GREEN	4	5	6	6	4	5				EVA DELAY	0	YEL LOCK									2
3	TYPE 3 DET										EVA CLEAR	5	V RECALL		X				X			3
4	ADD/VEH		1.2				1.2				EVB DELAY	0	P RECALL									4
5	PASSAGE	2.0	2.0	2.5	2.5	2.0	2.0				EVB CLEAR	5	PED PHASES		X		X		X			5
6	MAX GAP										EVC DELAY	0	ARROW A									6
7	MIN GAP										EVC CLEAR	5	ARROW B									7
8	MAX EXT	20	50	15	20	15	50				EVD DELAY	0	DBL ENTRY									8
9	MAX 2	20	40	15	20	12	60			YEAR	EVD CLEAR	5	MAX 2 PH	X	X	X	X	X	X			9
A	MAX 3	20	65	15	20	12	40			MONTH	MAX EV	30	LAG PHASES	FOR OBSERVATION ONLY								A
B										DAY	RR2 CLEAR		RED REST									B
C	REDUCE BY									DAY OF WEEK			REST IN WALK									C
D	REDUCE EVERY									HOUR			MAX 3 PH	X	X	X	X	X	X			D
E	YELLOW	3.0	4.5	3.0	3.0	3.0	4.5			MINUTE			YEL STARTUP				X					E
F	RED	0.5	1.0	0.5	0.5	0.5	1.0			SECOND			FIRST PHASE		X				X			F

F0E	MAX VAR INITIAL	
FC0	GAP SET	
FC1	MAX SET	
FC2		
FCA	OLA-GREEN	
FCB	OLB-GREEN	
FCC	OLC-GREEN	
FCD	OLD-GREEN	

F0F	RED REVERT	
FD0	TIME BASE SELECT	
FD3	PED SELECT	
FD4	7 - WIRE SELECT	
FD8	OFFSET SEEKING	
C05	FLASH TYPE	
F0C	LONG FAIL	
F0D	SHORT FAIL	

PHASE TIMING

LOCATION: Latrobe Rd @ Town Center Dr

PROGRAM: C7 DATE: 9/17/2001

F PAGE

		PHASE									PRE-EMPTION		F								
	INTERVAL	1	2	3	4	5	6	7	8	9		E	FLAGS	1	2	3	4	5	6	7	8	
0	WALK		7		10		7			CLK RST	EV SELECT		PERMIT	X	X	X	X	X	X			0
1	DON'T WALK		12		20		12			CHK SUM	RR1 CLEAR		RED LOCK									1
2	MIN GREEN	4	5	6	6	4	5				EVA DELAY	0	YEL LOCK									2
3	TYPE 3 DET										EVA CLEAR	5	V RECALL		X				X			3
4	ADD/VEH		1.2				1.2				EVB DELAY	0	P RECALL									4
5	PASSAGE	2.0	2.0	2.5	2.5	2.0	2.0				EVB CLEAR	5	PED PHASES		X		X		X			5
6	MAX GAP										EVC DELAY	0	ARROW A									6
7	MIN GAP										EVC CLEAR	5	ARROW B									7
8	MAX EXT	15	50	20/15	20	15	50				EVD DELAY	0	DBL ENTRY									8
9	MAX 2	12	40	20/15	15	12	60			YEAR	EVD CLEAR	5	MAX 2 PH	X	X	X	X	X	X			9
A	MAX 3	12	65	20/15	12	12	40			MONTH	MAX EV	30	LAG PHASES	FOR OBSERVATION ONLY								A
B										DAY	RR2 CLEAR		RED REST									B
C	REDUCE BY									DAY OF WEEK			REST IN WALK									C
D	REDUCE EVERY									HOUR			MAX 3 PH	X	X	X	X	X	X			D
E	YELLOW	3.0	4.5	3.0	3.0	3.0	4.5			MINUTE			YEL STARTUP				X					E
F	RED	0.5	1.0	0.5	0.5	0.5	1.0			SECOND			FIRST PHASE		X				X			F

F0E	MAX VAR INITIAL	
FC0	GAP SET	
FC1	MAX SET	
FC2		
FCA	OLA-GREEN	
FCB	OLB-GREEN	
FCC	OLC-GREEN	
FCD	OLD-GREEN	

F0F	RED REVERT	
FD0	TIME BASE SELECT	
FD3	PED SELECT	
FD4	7 - WIRE SELECT	
FD8	OFFSET SEEKING	
C05	FLASH TYPE	
F0C	LONG FAIL	
F0D	SHORT FAIL	

LOCATION: Latrobe Rd @ Town Center Dr

PROGRAM: C7 DATE: 9/17/2001

7-KEY

TIME OF DAY ACTIVITY TABLE

7 + EVENT + HR + MIN + ACT + "E" + on/off + DOW LTS

	HR	MIN	ACT	on/off 0		M 1	T 2	W 3	T 4	F 5	S 6	S 7
0	07	30	2	on		X	X	X	X	X		
1	09	00	2		off	X	X	X	X	X		
2	16	30	3	on		X	X	X	X	X		
3	18	00	3		off	X	X	X	X	X		
4												
5												
6												
7												
8												
9												
A												
B												
C												
D												
E												
F												

ACTIVITY CODES

1	TYPE OF SIMULTANEOUS PHASE TERMINATION
2	MAX 2
3	MAX 3
4	CONDITIONAL SERVICE (1st SELECT)
5	CONDITIONAL SERVICE (2nd SELECT)
6	ENERGIZE AUXILLARY OUTPUT - RED
7	ENERGIZE AUXILLARY OUTPUT - GREEN
8	ENERGIZE AUXILLARY OUTPUT - YELLOW
9	
A	TRAFFIC ACTUATED MAX 2 OPERATION
B	
C	YELLOW YIELD COORDINATION "C"
D	YELLOW YIELD COORDINATION "D"
E	
F	FLASHING OPERATION

LOCATION: Latrobe Rd @ Town Center Dr

PROGRAM: C7

DATE: 9/17/2001

C PAGE

(DOF = 123)

(DOF = 000 = Default Condition)

	D	FLAGS								E	FLAGS								F	FLAGS							
	RST	1	2	3	4	5	6	7	8	MIN	1	2	3	4	5	6	7	8	MAX	1	2	3	4	5	6	7	8
0	WLK									RCL									RCL								
1	CP 1									CP 1									CP 1								
2	CP 2									CP 2									CP 2								
3	CP 3									CP 3									CP 3								
4	CP 4									CP 4									CP 4								
5	CP 5									CP 5									CP 5								
6	CP 6									CP 6									CP 6								
7	CP 7									CP 7									CP 7								
8	CP 8									CP 8									CP 8								
9	CP 9									CP 9									CP 9								
A																											
B																											
C																											
D																											
E										VER.																	
F										BAT.																	

E PAGE

	E	FLAGS								F	FLAGS								
	FUNCTION	1	2	3	4	5	6	7	8	FUNCTION	1	2	3	4	5	6	7	8	
0										CODE 4									0
1										CODE 5									1
2										"Y" RCL C									2
3										"Y" RCL D									3
4	Bike - A									Bike - B									4
5	OLA OUT									2 PED		X							5
6	OLB OUT									6 PED						X			6
7	OLC OUT									4 PED				X					7
8	OLD OUT									8 PED									8
9																			9
A	OLA NOT									OLA ON									A
B	OLB NOT									OLB ON									B
C	OLC NOT									OLC ON									C
D	OLD NOT									OLD ON									D
E																			E
F																			F

LOCATION: Latrobe Rd @ Town Center Dr

PROGRAM: C7 DATE: 9/17/2001

D PAGE

INPUT	ADDRESS	DELAY	OBSV DELAY	ADDRESS	CARRY	OBSV CARRY		INPUT	ADDRESS	DELAY	OBSV DELAY	ADDRESS	CARRY	OBSV CARRY
1I1	D-1-0		D-7-0	D-3-0		D-9-0	0	5J1	D-2-0		D-8-0	D-4-0		D-A-0
2I2U	D-1-1		D-7-1	D-3-1		D-9-1	1	6J2U	D-2-1		D-8-1	D-4-1		D-A-1
2I2L	D-1-2		D-7-2	D-3-2		D-9-2	2	6J2L	D-2-2		D-8-2	D-4-2		D-A-2
2I3U	D-1-3		D-7-3	D-3-3		D-9-3	3	6J3U	D-2-3		D-8-3	D-4-3		D-A-3
2I3L	D-1-4		D-7-4	D-3-4		D-9-4	4	6J3L	D-2-4	8.0	D-8-4	D-4-4		D-A-4
2I4	D-1-5		D-7-5	D-3-5		D-9-5	5	6J4	D-2-5		D-8-5	D-4-5		D-A-5
3I5	D-1-6		D-7-6	D-3-6		D-9-6	6	7J5	D-2-6		D-8-6	D-4-6		D-A-6
4I6U	D-1-7		D-7-7	D-3-7		D-9-7	7	8J6U	D-2-7		D-8-7	D-4-7		D-A-7
4I6L	D-1-8		D-7-8	D-3-8		D-9-8	8	8J6L	D-2-8		D-8-8	D-4-8		D-A-8
4I7U	D-1-9		D-7-9	D-3-9		D-9-9	9	8J7U	D-2-9		D-8-9	D-4-9		D-A-9
4I7L	D-1-A		D-7-A	D-3-A		D-9-A	A	8J7L	D-2-A		D-8-A	D-4-A		D-A-A
4I8	D-1-B		D-7-B	D-3-B		D-9-B	B	8J8	D-2-B		D-8-B	D-4-B		D-A-B
1I9U	D-1-C		D-7-C	D-3-C		D-9-C	C	5J9U	D-2-C		D-8-C	D-4-C		D-A-C
3I9L	D-1-D	10.0	D-7-D	D-3-D		D-9-D	D	7J9L	D-2-D		D-8-D	D-4-D		D-A-D

Assignable Detectors - (FCF)=123
Key Action = "E" + X Coord. + Y Coord. (See Shaded Areas)
Select Phase/Function Using Call Lights
EX. E-C-0 = 1 (FZ 1) E-D-0 =5,6 (Ext./Cnt. i.e. TYPE)
*5 = Ext..
6 = Cnt.
7 = Call
8 = Type 3

NOTE: Reset location F-C-F to zero after viewing or assigning detectors.

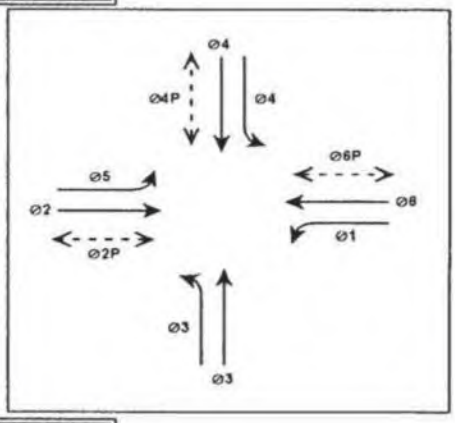
LOCATION: Latrobe Rd @ Town Center Dr BY: S.L. Koch

DATE: 9/17/2001

TYPE 170 CONTROLLER MODEL 210
CONFLICT MONITOR PROGRAMMING INSTRUCTIONS

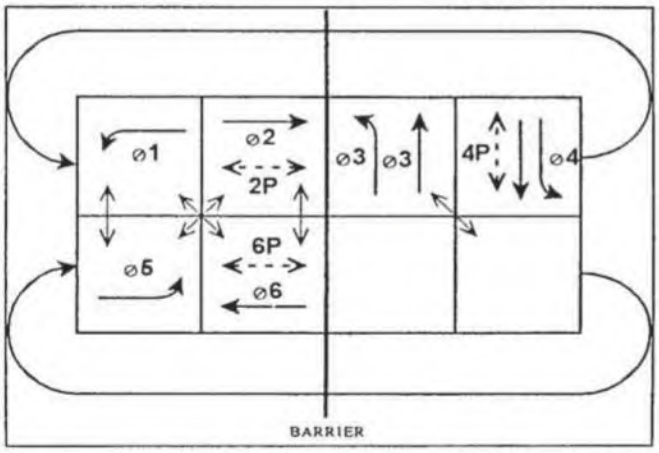
CHANNELS AND PHASES

CHANNEL 16 = Ø8 PED	CHANNEL 15 = Ø6 PED	CHANNEL 14 = Ø4 PED	CHANNEL 13 = Ø2 PED	CHANNEL 12 = SPECIAL	CHANNEL 11 = SPECIAL	CHANNEL 10 = OVERLAP "B"	CHANNEL 9 = OVERLAP "A"
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	
10	10	10	10	10	10		
11	11	11	11	11			
12	12	12	12				
13	13	13					
14	14						
15							



CHANNELS AND PHASES

CHANNEL 8 = Ø8	CHANNEL 7 = Ø7	CHANNEL 6 = Ø6	CHANNEL 5 = Ø5	CHANNEL 4 = Ø4	CH. 3 = Ø3	CH2= Ø2
1	1	1	1	1	1	1
2	2	2	2	2	2	
3	3	3	3	3		
4	4	4	4			
5	5	5				
6	6					
7						



The conflict monitor program card is supplied with all 120 diodes installed. Diodes for phases **NOT** in conflict must be removed.

1. Mark channels (phases) that are not conflicting.
2. Remove corresponding diodes from diode board.
3. Mark diode board with name of intersection.

Movement	SBLT	NB	WBLT	EB	NBLT	SB	EBLT	WB
Times [1.1.1]	1	2	3	4	5	6	7	8
Min Green	30	30	30	10	30	30	30	30
Gap, Ext	1.5	3	1.5	2	1.5	3	1.5	2
Max 1	25	45	20	25	15	45	30	35
Max 2	35	50	15	15	25	50	25	25
Yel Clearance	4	4.7	4.5	4.7	4	4.7	4.5	4.7
Red Clearance	1	1	1.5	1	1	1	1.5	1
Walk		7		7		7		7
Ped Clearance		39		48		37		50
Red Revert	2	2	2	2	2	2	2	2
Add Initial		1		1		1		1
Max Initial		12		12		12		12
Time B4 Reduct		6		6		6		6
Cars B4 Reduct								
Time To Reduce		10		10		10		10
Reduce By								
Min Gap	2	2	2	2	2	2	2	2
DyMaxLim								
Max Step								
Options [1.1.2]	1	2	3	4	5	6	7	8
Enable	X	X	X	X	X	X	X	X
Min Recall	-	-	-	-	-	-	-	-
Max Recall	-	-	-	-	-	-	-	-
Ped Recall	-	-	-	-	-	-	-	-
Soft Recall	-	-	-	-	-	X	-	-
Lock Calls	X	-	X	-	X	-	X	-
Auto Flash Entry	-	-	-	-	-	-	-	-
Auto Flash Exit	-	-	-	-	-	-	-	-
Dual Entry	-	X	-	-	-	X	-	-
Enable Simul Gap	-	-	-	-	-	-	-	-
Gaurantee Passage	-	-	-	-	-	-	-	-
Rest In Walk	-	-	-	-	-	-	-	-
Conditon Service	-	-	-	-	-	-	-	-
Non-Actuated 1	-	-	-	-	-	-	-	-
Non-Actuated 2	-	-	-	-	-	-	-	-
Add Init Calc								

Pattern Tables [2.4]

Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq
1	0	0	1	1	13					25					37				
2	0	0	2	1	14					26					38				
3	0	0	0	1	15					27					39				
4	0	0	0	1	16					28					40				
5	0	0	0	1	17					29					41				
6	0	0	0	1	18					30					42				
7					19					31					43				
8					20					32					44				
9					21					33					45				
10					22					34					46				
11					23					35					47				
12					24					36					48				

Split	[2.7]	1	2	3	4	5	6	7	8	Split	[2.7]	1	2	3	4	5	6	7	8
1	Coord	0	0	0	0	0	0	0	0	13	Coord								
2	Coord	0	0	0	0	0	0	0	0	14	Coord								
3	Coord	0	0	0	0	0	0	0	0	15	Coord								
4	Coord	0	0	0	0	0	0	0	0	16	Coord								
5	Coord	0	0	0	0	0	0	0	0	17	Coord								
6	Coord									18	Coord								
7	Coord									19	Coord								
8	Coord									20	Coord								
9	Coord									21	Coord								
10	Coord									22	Coord								
11	Coord									23	Coord								
12	Coord									24	Coord								

STD8

Ring/Startup [1.1.4]			[1.1.2]
Phs	Ring	Start	Enable
1	1	RED	X
2	1	RED	X
3	1	RED	X
4	1	RED	X
5	2	RED	X
6	2	RED	X
7	2	RED	X
8	2	YELLOW	X

Coord Modes [2.1]	
Test OpMode	0
Correction	SHRT/LNG
Maximum	MAX INH
Force-Off	FIXED
Closed Loop	OFF
Stop-in-Walk	OFF
Auto Reset	OFF
Expand Splt	OFF
Ped Recycle	NO_RECYCLE
Before	TIMED
After	TIMED
Auto Flash [1.4.1]	
Auto Flash	CHANNEL
Flash Yel	3.5
Flash Red	1.5
Unit Params [1.2.1]	
Phase Mode	STD8
IO Mode	AUTO
Loc Flsh Start	OFF
Start Flash(s)	0
Start AllRed(s)	0
Yellow < 3"	OFF
Display Time	10
Red Revert	2
MCE Timeout	
Feature Profile	0
Free Ring Seq	1
SDLC Retry	0
TS2 Det Faults	ON
Auto Ped Clear	OFF
Date Printed:	10/20/08

Latrobe @ White Rock (ID 7014) (Standard File)

IP Address:

Mask:

Gateway:

Port:

Date Installed:

Date Superceded:

Phase Options+ [1.1.3]

Options+ [1.1.3]	1	2	3	4	5	6	7	8
Reservice	-	-	-	-	-	-	-	-
PedClr Thru Yel	-	-	-	-	-	-	-	-
SkipRed-NoCall	-	-	-	-	-	-	-	-
Red Rest	-	-	-	-	-	-	-	-
Max II	-	-	-	-	-	-	-	-
Ped Delay	-	-	-	-	-	-	-	-
Grn/Ped Delay								
Conflicting Phase								
Omit Yel, Yel P								
Ped Out/Olp Ped								
StartYel, Next P				2				6

Phase Concurrency [1.1.4]

Phase	Ring	StartUp	Concurrent Phases				
1	1	RED	5	6	0	0	0
2	1	RED	5	6	0	0	0
3	1	RED	7	8	0	0	0
4	1	RED	7	8	0	0	0
5	2	RED	1	2	0	0	0
6	2	RED	1	2	0	0	0
7	2	RED	3	4	0	0	0
8	2	YELLOW	3	4	0	0	0
9	0	RED	0	0	0	0	0
10	0	RED	0	0	0	0	0
11	0	RED	0	0	0	0	0
12	0	RED	0	0	0	0	0

User Defined Sequences (MM>1>2>4)

Sequence No.	Ring	Phase						
1	1	1	2	3	4	0	0	0
	2	5	6	7	8	0	0	0
	3	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0
2	1	1	2	3	4	0	0	0
	2	6	5	7	8	0	0	0
	3	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0
3	1	2	1	3	4	0	0	0
	2	5	6	7	8	0	0	0
	3	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0

Overlap 1-8 Program Parms & Parm+ [1.5.2.1] [1.5.2.2]

1	Included Ø									NORMAL	
	Modifier Ø									Grn	
	Conflict Ø									Yel	3.5
A	Conflict Olap									Red	1.5
	Conflict Ped									LG	
2	Included Ø									NORMAL	
	Modifier Ø									Grn	
	Conflict Ø									Yel	3.5
B	Conflict Olap									Red	1.5
	Conflict Ped									LG	
3	Included Ø									NORMAL	
	Modifier Ø									Grn	
	Conflict Ø									Yel	3.5
C	Conflict Olap									Red	1.5
	Conflict Ped									LG	
4	Included Ø									NORMAL	
	Modifier Ø									Grn	
	Conflict Ø									Yel	3.5
D	Conflict Olap									Red	1.5
	Conflict Ped									LG	
5	Included Ø									NORMAL	
	Modifier Ø									Grn	
	Conflict Ø									Yel	3.5
E	Conflict Olap									Red	1.5
	Conflict Ped									LG	
6	Included Ø									NORMAL	
	Modifier Ø									Grn	
	Conflict Ø									Yel	3.5
F	Conflict Olap									Red	1.5
	Conflict Ped									LG	
7	Included Ø									NORMAL	
	Modifier Ø									Grn	
	Conflict Ø									Yel	3.5
G	Conflict Olap									Red	1.5
	Conflict Ped									LG	
8	Included Ø									NORMAL	
	Modifier Ø									Grn	
	Conflict Ø									Yel	3.5
H	Conflict Olap									Red	1.5
	Conflict Ped									LG	

Coord Transition, CoorPhs - [2.5]

Pat#	Short	Long	Dwell	No Shortway Ø				E-Yld	Offset	Min Perms Veh	Min Perms Ped
1	10	17							BegGRN		
2	10	17						10	BegGRN		
3		17							BegGRN		
4		17							BegGRN		
5		17							BegGRN		
6		17							BegGRN		
7		17							BegGRN		
8		17							BegGRN		
9		17							BegGRN		
10		17							BegGRN		
11		17							BegGRN		
12		17							BegGRN		
13		17							BegGRN		
14		17							BegGRN		

Default Phase Sequence Chart [1.2.4]

Seq #	Ring	Phases				
1	1	1	2	3	4	
	2	5	6	7	8	
2	1	1	2	3	4	
	2	6	5	7	8	
3	1	2	1	3	4	
	2	5	6	7	8	
4	1	2	1	3	4	
	2	6	5	7	8	
5	1	1	2	3	4	
	2	5	6	8	7	
6	1	1	2	3	4	
	2	6	5	8	7	
7	1	2	1	3	4	
	2	5	6	8	7	
8	1	2	1	3	4	
	2	6	5	8	7	
9	1	1	2	4	3	
	2	5	6	7	8	
10	1	1	2	4	3	
	2	6	5	7	8	
11	1	2	1	4	3	
	2	5	6	7	8	
12	1	2	1	4	3	
	2	6	5	7	6	
13	1	1	2	4	3	
	2	5	6	8	7	
14	1	1	2	4	3	
	2	6	5	8	7	
15	1	2	1	4	3	
	2	5	6	8	7	
16	1	2	1	4	3	
	2	6	5	8	7	

Coord Trans [2.5] cont.

Patt #	Ret Hold	Flt	Max2
1	-		X
2	-		-
3	-		-
4	-		-
5	-		-
6	-		-
7	-		-
8	-		-
9	-		-
10	-		-
11	-		-
12	-		-
13	-		-
14	-		-

PHASE TIMING

LOCATION: Latrobe Road at Golden Foothill Pw (N) BY: _____

PROGRAM: C8 DATE: 5/24/2005

F PAGE

	INTERVAL	PHASE 1	2	3	4	5	6	7	8	9
0	WALK			4	4		4			CLK RST
1	DON'T WALK			20	12		20			CHK SUM
2	MIN GREEN	3	5	5	5	5	5			
3	TYPE 3 DET									
4	ADD/VEH									
5	PASSAGE	2.0	4.0	2.0	3.0	2.0	4.0			
6	MAX GAP									
7	MIN GAP									
8	MAX EXT	15	40	20	20	12	40			
9	MAX 2									YEAR
A	MAX 3									MONTH
B										DAY
C	REDUCE BY									DAY OF WK
D	REDUCE EVERY									HOUR
E	YELLOW	3.0	5.0	3.0	3.0	3.0	5.0			MINUTE
F	RED	1.0	1.0	1.0	1.0	1.0	1.0			SECOND
	PED XING - FT									

PRE-EMPTION		
		E
EV SELECT		
RR1 CLR		
EVA DLY		
EVA CLR		
EVB DLY		
EVB CLR		
EVC DLY		
EVC CLR		
EVD DLY		
EVD CLR		
MAX EV		
RR2 CLR		

F	FLAGS	1	2	3	4	5	6	7	8	
	PERMIT	X	X	X	X	X	X			0
	RED LOCK				X					1
	YEL LOCK									2
	V RECALL		X				X			3
	P RECALL									4
	PED PHASES		X	X			X			5
	ARROW A									6
	ARROW B									7
	DBL ENTRY									8
	MAX 2 PH									9
	LAG PHASES	FOR OBSERVATION ONLY								A
	RED REST									B
	REST IN WALK									C
	MAX 3 PH									D
	YEL STARTUP				X					E
	FIRST PHASE		X				X			F

F0E	MAX VAR INITIAL	
FC0	GAP SET	
FC1	MAX SET	
FC2		
FCA	OLA-GREEN	
FCB	OLB-GREEN	
FCC	OLC-GREEN	
FCD	OLD-GREEN	

F0F	RED REVERT	
FD0	TIME BASE SELECT	
FD3	PED SELECT	
FD4	7 - WIRE SELECT	
FD8	OFFSET SEEKING	
C05	FLASH TYPE	
F0C	LONG FAIL	
F0D	SHORT FAIL	

LOCATION: Latrobe Road at Golden Foothill (N)

PROGRAM: C7

D PAGE

INPUT	ADDRESS	DELAY	OBSV DELAY	ADDRESS	CARRY	OBSV CARRY		INPUT	ADDRESS	DELAY	OBSV DELAY	ADDRESS	CARRY	OBSV CARRY
1I1	D-1-0		D-7-0	D-3-0		D-9-0	0	5J1	D-2-0		D-8-0	D-4-0		D-A-0
2I2U	D-1-1		D-7-1	D-3-1	1.5	D-9-1	1	6J2U	D-2-1		D-8-1	D-4-1	1.5	D-A-1
2I2L	D-1-2		D-7-2	D-3-2	1.0	D-9-2	2	6J2L	D-2-2		D-8-2	D-4-2	1.0	D-A-2
2I3U	D-1-3		D-7-3	D-3-3		D-9-3	3	6J3U	D-2-3	8.0	D-8-3	D-4-3		D-A-3
2I3L	D-1-4		D-7-4	D-3-4		D-9-4	4	6J3L	D-2-4		D-8-4	D-4-4		D-A-4
2I4	D-1-5		D-7-5	D-3-5		D-9-5	5	6J4	D-2-5		D-8-5	D-4-5		D-A-5
3I5	D-1-6		D-7-6	D-3-6		D-9-6	6	7J5	D-2-6		D-8-6	D-4-6		D-A-6
4I6U	D-1-7		D-7-7	D-3-7		D-9-7	7	8J6U	D-2-7		D-8-7	D-4-7		D-A-7
4I6L	D-1-8		D-7-8	D-3-8		D-9-8	8	8J6L	D-2-8		D-8-8	D-4-8		D-A-8
4I7U	D-1-9	8.0	D-7-9	D-3-9		D-9-9	9	8J7U	D-2-9		D-8-9	D-4-9		D-A-9
4I7L	D-1-A		D-7-A	D-3-A		D-9-A	A	8J7L	D-2-A		D-8-A	D-4-A		D-A-A
4I8	D-1-B		D-7-B	D-3-B		D-9-B	B	8J8	D-2-B		D-8-B	D-4-B		D-A-B
1I9U	D-1-C		D-7-C	D-3-C		D-9-C	C	5J9U	D-2-C		D-8-C	D-4-C		D-A-C
3I9L	D-1-D		D-7-D	D-3-D		D-9-D	D	7J9L	D-2-D		D-8-D	D-4-D		D-A-D

Assignable Detectors - (FCF)=123
Key Action = "E" + X Coord. + Y Coord. (See Shaded Areas)
Select Phase/Function Using Call Lights
EX. E-C-0 = 1 (FZ 1) E-D-0 =5,6 (Ext../Cnt. i.e. TYPE)
*5 = Ext..
6 = Cnt.
7 = Call
8 = Type 3

NOTE: Reset location F-C-F to zero after viewing or assigning detectors.

LOCATION: Latrobe Road at Golden Foothill (N)

PROGRAM: C7 DATE: 4/26/2000

7-KEY

	TIME OF DAY ACTIVITY TABLE										
	7 + EVENT + HR + MIN + ACT + "E" + on/off + DOW LTS										
				on/off		M	T	W	T	F	S	S
	HR	MIN	ACT	0		1	2	3	4	5	6	7
0	16	30	2	on		X	X	X	X	X		
1	18	00	2		off	X	X	X	X	X		
2												
3												
4												
5												
6												
7												
8												
9												
A												
B												
C												
D												
E												
F												

ACTIVITY CODES

1	TYPE OF SIMULTANEOUS PHASE TERMINATION
2	MAX 2
3	MAX 3
4	CONDITIONAL SERVICE (1st SELECT)
5	CONDITIONAL SERVICE (2nd SELECT)
6	ENERGIZE AUXILLARY OUTPUT - RED
7	ENERGIZE AUXILLARY OUTPUT - GREEN
8	ENERGIZE AUXILLARY OUTPUT - YELLOW
9	
A	TRAFFIC ACTUATED MAX 2 OPERATION
B	
C	YELLOW YIELD COORDINATION "C"
D	YELLOW YIELD COORDINATION "D"
E	
F	FLASHING OPERATION

LOCATION: **Latrobe Road @ Golden Foothill Pkwy (N)**

PROGRAM: **C7**

DATE: **4/19/1999**

D PAGE

	D	FLAGS								E	FLAGS								F	FLAGS							
	MAX	1	2	3	4	5	6	7	8	MIN	1	2	3	4	5	6	7	8	PED	1	2	3	4	5	6	7	8
0	RCL									RCL									RCL								
1	CP 1									CP 1									CP 1								
2	CP 2									CP 2									CP 2								
3	CP 3									CP 3									CP 3								
4	CP 4									CP 4									CP 4								
5	CP 5									CP 5									CP 5								
6	CP 6									CP 6									CP 6								
7	CP 7									CP 7									CP 7								
8	CP 8									CP 8									CP 8								
9	CP 9									CP 9									CP 9								
A																											
B																											
C																											
D																											
E										VER.																	
F										BAT.																	

E PAGE

	E	FLAGS								F	FLAGS								
	FUNCTIO	1	2	3	4	5	6	7	8	UNCTIO	1	2	3	4	5	6	7	8	
0										CODE 4									0
1										CODE 5									1
2										"Y" RCL C									2
3										"Y" RCL D									3
4																			4
5										2 PED									5
6										6 PED						X			6
7										4 PED				X					7
8										8 PED			X						8
9																			9
A	OLA NOT									OLA ON									A
B	OLB NOT									OLB ON									B
C	OLC NOT									OLC ON									C
D	OLD NOT									OLD ON									D
E																			E
F																			F

PHASE TIMING

LOCATION: Latrobe Road at Suncast Lane

PROGRAM: C8 ver 4 DATE: 6/18/2004

F PAGE

	INTERVAL	PHASE 1	2	3	4	5	6	7	8	9
0	WALK			4			4			CLK RST
1	DON'T WALK			12			20			CHK SUM
2	MIN GREEN		5	5		5	5			
3	TYPE 3 DET		10	10		10	10			
4	ADD/VEH		1.0	1.0		1.0	1.0			
5	PASSAGE		4.0	3.0		2.0	4.0			
6	MAX GAP		5.0	5.0		5.0	5.0			
7	MIN GAP		5.0	5.0		5.0	5.0			
8	MAX EXT		40	20		12	40			
9	MAX 2		50	50		50	50			YEAR
A	MAX 3		50	50		50	50			MONTH
B										DAY
C	REDUCE BY									DAY OF WEEK
D	REDUCE EVERY		1.0	1.0		1.0	1.0			HOUR
E	YELLOW		5.0	3.0		3.0	5.0			MINUTE
F	RED		1.0	1.0		1.0	1.0			SECOND

	PRE-EMPTION	E
	EV SELECT	
	RR1 CLEAR	10
	EVA DELAY	0
	EVA CLEAR	5
	EVB DELAY	0
	EVB CLEAR	5
	EVC DELAY	0
	EVC CLEAR	5
	EVD DELAY	
	EVD CLEAR	
	MAX EV	30
	RR2 CLEAR	10

	FLAGS	F 1	2	3	4	5	6	7	8	
	PERMIT		X	X		X	X			0
	RED LOCK			X						1
	YEL LOCK									2
	V RECALL		X				X			3
	P RECALL									4
	PED PHASES			X			X			5
	ARROW A									6
	ARROW B									7
	DBL ENTRY									8
	MAX 2 PH									9
	LAG PHASES	FOR OBSERVATION ONLY								A
	RED REST									B
	REST IN WALK									C
	MAX 3 PH									D
	YEL STARTUP			X						E
	FIRST PHASE		X				X			F

F0E	MAX VAR INITIAL	
FC0	GAP SET	
FC1	MAX SET	
FC2		
FCA	OLA-GREEN	
FCB	OLB-GREEN	
FCC	OLC-GREEN	
FCD	OLD-GREEN	

F0F	RED REVERT	2.0
FD0	TIME BASE SELECT	
FD3	PED SELECT	
FD4	7 - WIRE SELECT	
FD8	OFFSET SEEKING	
C05	FLASH TYPE	
F0C	LONG FAIL	
F0D	SHORT FAIL	

LOCATION: **Latrobe Road @ Suncast Lane**

PROGRAM: **C8 ver 4** DATE: **6/18/2004**

D PAGE

	D	FLAGS								E	FLAGS								F	FLAGS							
	MAX	1	2	3	4	5	6	7	8	MIN	1	2	3	4	5	6	7	8	PED	1	2	3	4	5	6	7	8
0	RCL									RCL									RCL								
1	CP 1									CP 1									CP 1								
2	CP 2									CP 2									CP 2								
3	CP 3									CP 3									CP 3								
4	CP 4									CP 4									CP 4								
5	CP 5									CP 5									CP 5								
6	CP 6									CP 6									CP 6								
7	CP 7									CP 7									CP 7								
8	CP 8									CP 8									CP 8								
9	CP 9									CP 9									CP 9								
A																											
B																											
C																											
D																											
E										VER																	
F										BAT																	

E PAGE

	E	FLAGS								F	FLAGS								
	FUNCTIO	1	2	3	4	5	6	7	8	UNCTIO	1	2	3	4	5	6	7	8	
0										CODE 4									0
1										CODE 5									1
2										"Y" RCL C									2
3										"Y" RCL D									3
4																			4
5										2 PED									5
6										6 PED						X			6
7										4 PED									7
8										8 PED			X						8
9																			9
A	OLA NOT									OLA ON									A
B	OLB NOT									OLB ON									B
C	OLC NOT									OLC ON									C
D	OLD NOT									OLD ON									D
E																			E
F																			F

Movement	SBLT	NB		WB	NBLT	SB		EB
Times [1.1.1]	1	2	3	4	5	6	7	8
Min Green	5	5		5	5	5		5
Gap, Ext	1	1	1	1	1	1	1	1
Max 1	12	25		15	12	25		15
Max 2								
Yel Clearance	3	4.3	3.5	3.5	3	4.3	3.5	3
Red Clearance	1	1	1.5	1.5	1	1	1.5	1.5
Walk		7				7		7
Ped Clearance								
Red Revert	2	2		2	2	2		2
Add Initial								
Max Initial								
Time B4 Reduct								
Cars B4 Reduct								
Time To Reduce								
Reduce By								
Min Gap								
DyMaxLim								
Max Step								
Options [1.1.2]	1	2	3	4	5	6	7	8
Enable	X	X	-	X	X	X	-	X
Min Recall	-	-	-	-	-	-	-	-
Max Recall	-	-	-	-	-	-	-	-
Ped Recall	-	-	-	-	-	-	-	-
Soft Recall	-	X	-	-	-	X	-	-
Lock Calls	X	-	-	-	X	-	-	-
Auto Flash Entry	-	-	-	-	-	-	-	-
Auto Flash Exit	-	-	-	-	-	-	-	-
Dual Entry	-	-	-	-	-	-	-	-
Enable Simul Gap	-	X	-	-	-	X	-	-
Gaurantee Passage	-	-	-	-	-	-	-	-
Rest In Walk	-	-	-	-	-	-	-	-
Conditon Service	-	-	-	-	-	-	-	-
Non-Actuated 1	-	-	-	-	-	-	-	-
Non-Actuated 2	-	-	-	-	-	-	-	-
Add Init Calc								

Pattern Tables [2.4]

Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq
1	0	0	0	1	13					25					37				
2	0	0	0	1	14					26					38				
3	0	0	0	1	15					27					39				
4	0	0	0	1	16					28					40				
5	0	0	0	1	17					29					41				
6	0	0	0	1	18					30					42				
7					19					31					43				
8					20					32					44				
9					21					33					45				
10					22					34					46				
11					23					35					47				
12					24					36					48				

Split	[2.7]	1	2	3	4	5	6	7	8	Split	[2.7]	1	2	3	4	5	6	7	8
1	Coord	0	0	0	0	0	0	0	0	13	Coord								
2	Coord	0	0	0	0	0	0	0	0	14	Coord								
3	Coord	0	0	0	0	0	0	0	0	15	Coord								
4	Coord	0	0	0	0	0	0	0	0	16	Coord								
5	Coord	0	0	0	0	0	0	0	0	17	Coord								
6	Coord									18	Coord								
7	Coord									19	Coord								
8	Coord									20	Coord								
9	Coord									21	Coord								
10	Coord									22	Coord								
11	Coord									23	Coord								
12	Coord									24	Coord								

QSeq

Ring/Startup [1.1.4]			[1.1.2]
Phs	Ring	Start	Enable
1	1	RED	X
2	1	RED	X
3	1	RED	-
4	1	RED	X
5	2	RED	X
6	2	RED	X
7	1	RED	-
8	1	RED	X

Coord Modes [2.1]	
Test OpMode	0
Correction	LONG
Maximum	MAX 1
Force-Off	FIXED
Closed Loop	OFF
Stop-in-Walk	OFF
Auto Reset	OFF
Expand Splt	OFF
Ped Recycle	NO_RECYCLE
Before	TIMED
After	TIMED
Auto Flash [1.4.1]	
Auto Flash	CHANNEL
Flash Yel	3.5
Flash Red	1.5
Unit Params [1.2.1]	
Phase Mode	QSeq
IO Mode	AUTO
Loc Flsh Start	OFF
Start Flash(s)	0
Start AllRed(s)	0
Yellow < 3"	OFF
Display Time	10
Red Revert	2
MCE Timeout	
Feature Profile	0
Free Ring Seq	1
SDLC Retry	0
TS2 Det Faults	ON
Auto Ped Clear	OFF
Date Printed:	01/12/09
	Page 1

Latrobe Rd @ GFH Pw (S) (ID 7047) (Standard File)

IP Address:		Date Installed:	
Mask:		Date Superceded:	
Gateway:			
Port:			

Phase Options+ [1.1.3]

Options+ [1.1.3]	1	2	3	4	5	6	7	8
Reservice	-	-	-	-	-	-	-	-
PedClr Thru Yel	-	-	-	-	-	-	-	-
SkipRed-NoCall	-	-	-	-	-	-	-	-
Red Rest	-	-	-	-	-	-	-	-
Max II	-	-	-	-	-	-	-	-
Ped Delay	-	-	-	-	-	-	-	-
Grn/Ped Delay								
Conflicting Phase								
Omit Yel, Yel P								
Ped Out/Olp Ped								
StartYel, Next P								

Phase Concurrency [1.1.4]

Phase	Ring	StartUp	Concurrent Phases				
1	1	RED	5	6	0	0	0
2	1	RED	5	6	0	0	0
3	1	RED	0	0	0	0	0
4	1	RED	0	0	0	0	0
5	2	RED	1	2	0	0	0
6	2	RED	1	2	0	0	0
7	1	RED	0	0	0	0	0
8	1	RED	0	0	0	0	0
9	0	RED	0	0	0	0	0
10	0	RED	0	0	0	0	0
11	0	RED	0	0	0	0	0
12	0	RED	0	0	0	0	0

User Defined Sequences (MM>1>2>4)

Sequence No.	Ring	Phase						
1	1	1	2	0	3	4	7	8
	2	5	6	0	0	0	0	0
	3	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0
2	1	1	2	3	4	0	0	0
	2	6	5	7	8	0	0	0
	3	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0
3	1	2	1	3	4	0	0	0
	2	5	6	7	8	0	0	0
	3	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0

Overlap 1-8 Program Parms & Parm+ [1.5.2.1] [1.5.2.2]

1	Included Ø	NORMAL	
	Modifier Ø	Grn	
	Conflict Ø	Yel	3.5
A	Conflict Olap	Red	1.5
	Conflict Ped	LG	
2	Included Ø	NORMAL	
	Modifier Ø	Grn	
	Conflict Ø	Yel	3.5
B	Conflict Olap	Red	1.5
	Conflict Ped	LG	
3	Included Ø	NORMAL	
	Modifier Ø	Grn	
	Conflict Ø	Yel	3.5
C	Conflict Olap	Red	1.5
	Conflict Ped	LG	
4	Included Ø	NORMAL	
	Modifier Ø	Grn	
	Conflict Ø	Yel	3.5
D	Conflict Olap	Red	1.5
	Conflict Ped	LG	
5	Included Ø	NORMAL	
	Modifier Ø	Grn	
	Conflict Ø	Yel	3.5
E	Conflict Olap	Red	1.5
	Conflict Ped	LG	
6	Included Ø	NORMAL	
	Modifier Ø	Grn	
	Conflict Ø	Yel	3.5
F	Conflict Olap	Red	1.5
	Conflict Ped	LG	
7	Included Ø	NORMAL	
	Modifier Ø	Grn	
	Conflict Ø	Yel	3.5
G	Conflict Olap	Red	1.5
	Conflict Ped	LG	
8	Included Ø	NORMAL	
	Modifier Ø	Grn	
	Conflict Ø	Yel	3.5
H	Conflict Olap	Red	1.5
	Conflict Ped	LG	

Coord Transition, CoorPhs - [2.5]

Pat#	Short	Long	Dwell	No Shortway Ø				E-Yld	Offset	Min Perms Veh	Min Perms Ped
1		17							BegGRN		
2		17							BegGRN		
3		17							BegGRN		
4		17							BegGRN		
5		17							BegGRN		
6		17							BegGRN		
7		17							BegGRN		
8		17							BegGRN		
9		17							BegGRN		
10		17							BegGRN		
11		17							BegGRN		
12		17							BegGRN		
13		17							BegGRN		
14		17							BegGRN		

Default Phase Sequence Chart [1.2.4]

Seq #	Ring	Phases				
1	1	1	2	3	4	
	2	5	6	7	8	
2	1	1	2	3	4	
	2	6	5	7	8	
3	1	2	1	3	4	
	2	5	6	7	8	
4	1	2	1	3	4	
	2	6	5	7	8	
5	1	1	2	3	4	
	2	5	6	8	7	
6	1	1	2	3	4	
	2	6	5	8	7	
7	1	2	1	3	4	
	2	5	6	8	7	
8	1	2	1	3	4	
	2	6	5	8	7	
9	1	1	2	4	3	
	2	5	6	7	8	
10	1	1	2	4	3	
	2	6	5	7	8	
11	1	2	1	4	3	
	2	5	6	7	8	
12	1	2	1	4	3	
	2	6	5	7	6	
13	1	1	2	4	3	
	2	5	6	8	7	
14	1	1	2	4	3	
	2	6	5	8	7	
15	1	2	1	4	3	
	2	5	6	8	7	
16	1	2	1	4	3	
	2	6	5	8	7	

Coord Trans [2.5] cont.

Patt #	Ret Hold	Flt	Max2
1	-		-
2	-		-
3	-		-
4	-		-
5	-		-
6	-		-
7	-		-
8	-		-
9	-		-
10	-		-
11	-		-
12	-		-
13	-		-
14	-		-

Latrobe Rd @ GFH Pw (S) (ID 7047) (Standard File)

01/12/09

PHASE TIMING

LOCATION: Latrobe Road at Investment Boulevard

PROGRAM: ~~CB~~ CB DATE: 4/19/99

F PAGE

	INTERVAL	PHASE 1	2	3	4	5	6	7	8	9
0	WALK				4		4			CLK RST
1	DON'T WALK				12		20			CHK SUM
2	MIN GREEN		5		5	5	5			
3	TYPE 3 DET		10		16	10	10			
4	ADD/VEH		1.0		1.0	1.0	1.0			
5	PASSAGE		4.0		3.0	2.0	4.0			
6	MAX GAP		5.0		5.0	5.0	5.0			
7	MIN GAP		5.0		5.0	5.0	5.0			
8	MAX EXT		40		20	12	40			
9	MAX 2		50		50	50	50			YEAR
A	MAX 3		50		50	50	50			MONTH
B										DAY
C	REDUCE BY									DAY OF WEEK
D	REDUCE EVERY		1.0		1.0	1.0	1.0			HOUR
E	YELLOW		5.0		3.0	3.0	5.0			MINUTE
F	RED		1.0		1.0	1.0	1.0			SECOND

	PRE-EMPTION	E
	EV SELECT	
	RR1 CLEAR	10
	EVA DELAY	0
	EVA CLEAR	5
	EVB DELAY	0
	EVB CLEAR	5
	EVC DELAY	0
	EVC CLEAR	5
	EVD DELAY	
	EVD CLEAR	
	MAX EV	30
	RR2 CLEAR	10

	F FLAGS	1	2	3	4	5	6	7	8	
0	PERMIT		X		X	X	X			0
1	RED LOCK				X					1
2	YEL LOCK									2
3	V RECALL		X				X			3
4	P RECALL									4
5	PED PHASES				X		X			5
6	ARROW A									6
7	ARROW B									7
8	DBL ENTRY									8
9	MAX 2 PH									9
A	LAG PHASES	FOR OBSERVATION ONLY								A
B	RED REST									B
C	REST IN WALK									C
D	MAX 3 PH									D
E	YEL STARTUP				X					E
F	FIRST PHASE		X				X			F

F0E	MAX VAR INITIAL	
FC0	GAP SET	
FC1	MAX SET	
FC2		
FCA	OLA-GREEN	
FCB	OLB-GREEN	
FCC	OLC-GREEN	
FCD	OLD-GREEN	

F0F	RED REVERT	
FD0	TIME BASE SELECT	
FD3	PED SELECT	
FD4	7 - WIRE SELECT	
FD8	OFFSET SEEKING	
C05	FLASH TYPE	
F0C	LONG FAIL	
F0D	SHORT FAIL	

LOCATION: Latrobe Road at Investment Boulevard

PROGRAM: C7

D PAGE

INPUT	ADDRESS	DELAY	OBSV DELAY	ADDRESS	CARRY	OBSV CARRY		INPUT	ADDRESS	DELAY	OBSV DELAY	ADDRESS	CARRY	OBSV CARRY
1I1	D-1-0		D-7-0	D-3-0		D-9-0	0	5J1	D-2-0		D-8-0	D-4-0		D-A-0
2I2U	D-1-1		D-7-1	D-3-1	1.5	D-9-1	1	6J2U	D-2-1		D-8-1	D-4-1	1.5	D-A-1
2I2L	D-1-2		D-7-2	D-3-2	1.0	D-9-2	2	6J2L	D-2-2		D-8-2	D-4-2	1.0	D-A-2
2I3U	D-1-3		D-7-3	D-3-3		D-9-3	3	6J3U	D-2-3	8.0	D-8-3	D-4-3		D-A-3
2I3L	D-1-4		D-7-4	D-3-4		D-9-4	4	6J3L	D-2-4		D-8-4	D-4-4		D-A-4
2I4	D-1-5		D-7-5	D-3-5		D-9-5	5	6J4	D-2-5		D-8-5	D-4-5		D-A-5
3I5	D-1-6		D-7-6	D-3-6		D-9-6	6	7J5	D-2-6		D-8-6	D-4-6		D-A-6
4I6U	D-1-7		D-7-7	D-3-7		D-9-7	7	8J6U	D-2-7		D-8-7	D-4-7		D-A-7
4I6L	D-1-8		D-7-8	D-3-8		D-9-8	8	8J6L	D-2-8		D-8-8	D-4-8		D-A-8
4I7U	D-1-9	8.0	D-7-9	D-3-9		D-9-9	9	8J7U	D-2-9		D-8-9	D-4-9		D-A-9
4I7L	D-1-A	5.0	D-7-A	D-3-A		D-9-A	A	8J7L	D-2-A		D-8-A	D-4-A		D-A-A
4I8	D-1-B		D-7-B	D-3-B		D-9-B	B	8J8	D-2-B		D-8-B	D-4-B		D-A-B
1I9U	D-1-C		D-7-C	D-3-C		D-9-C	C	5J9U	D-2-C		D-8-C	D-4-C		D-A-C
3I9L	D-1-D		D-7-D	D-3-D		D-9-D	D	7J9L	D-2-D		D-8-D	D-4-D		D-A-D

Assignable Detectors - (FCF)=123
Key Action = "E" + X Coord. + Y Coord. (See Shaded Areas)
Select Phase/Function Using Call Lights
EX. E-C-0 = 1 (FZ 1) E-D-0 =5,6 (Ext../Cnt. i.e. TYPE)
*5 = Ext..
6 = Cnt.
7 = Call
8 = Type 3

NOTE: Reset location F-C-F to zero after viewing or assigning detectors.

Movement	SBLT	NB	WBLT	EB		SB	EBLT	WB
Times [1.1.1]	1	2	3	4	5	6	7	8
Min Green	3	7	3	3		7	3	3
Gap, Ext	1	3.6	1	1		3.6	1	1
Max 1	45	41	17	34		92	17	36
Max 2	45	41	17	34		92	17	36
Yel Clearance	3.6	5	3.6	3.6		5	3.6	3.6
Red Clearance	2	1	1	1		1	1	1
Walk		7				7		7
Ped Clearance		13				20		26
Red Revert	2	2	2	2		2	2	2
Add Initial								
Max Initial								
Time B4 Reduct								
Cars B4 Reduct								
Time To Reduce								
Reduce By								
Min Gap								
DyMaxLim								
Max Step								
Options [1.1.2]	1	2	3	4	5	6	7	8
Enable	X	X	X	X	-	X	X	X
Min Recall	-	X	-	-	-	X	-	-
Max Recall	-	X	-	-	-	X	-	-
Ped Recall	-	-	-	-	-	-	-	-
Soft Recall	-	-	-	-	-	-	-	-
Lock Calls	-	X	-	-	-	X	-	-
Auto Flash Entry	-	-	-	-	-	-	-	-
Auto Flash Exit	-	-	-	-	-	-	-	-
Dual Entry	-	-	-	-	-	-	-	-
Enable Simul Gap	-	-	-	-	-	-	-	-
Gaurantee Passage	-	-	-	-	-	-	-	-
Rest In Walk	-	-	-	-	-	-	-	-
Conditon Service	-	-	-	-	-	-	-	-
Non-Actuated 1	-	-	-	-	-	-	-	-
Non-Actuated 2	-	-	-	-	-	-	-	-
Add Init Calc								

Pattern Tables [2.4]

Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq
1	135	31	1	14	13					25					37				
2	135	73	2	14	14					26					38				
3					15					27					39				
4					16					28					40				
5					17					29					41				
6					18					30					42				
7					19					31					43				
8					20					32					44				
9					21					33					45				
10					22					34					46				
11					23					35					47				
12					24					36					48				

Split	[2.7]	1	2	3	4	5	6	7	8	Split	[2.7]	1	2	3	4	5	6	7	8
1	Coord	51	46	0	38	0	97	0	38	13	Coord								
	2		MAX				MAX												
2	Coord	26	49	0	60	0	75	0	60	14	Coord								
	2		MIN				MIN												
3	Coord									15	Coord								
	2																		
4	Coord									16	Coord								
5	Coord									17	Coord								
6	Coord									18	Coord								
7	Coord									19	Coord								
8	Coord									20	Coord								
9	Coord									21	Coord								
10	Coord									22	Coord								
11	Coord									23	Coord								
12	Coord									24	Coord								

STD8

Ring/Startup [1.1.4]			[1.1.2]
Phs	Ring	Start	Enable
1	1	RED	X
2	1	GREEN	X
3	1	RED	X
4	1	RED	X
5	2	RED	-
6	2	GREEN	X
7	2	RED	X
8	2	RED	X

Coord Modes [2.1]	
Test OpMode	0
Correction	SHRT/LNG
Maximum	MAX 1
Force-Off	FLOAT
Closed Loop	OFF
Stop-in-Walk	ON
Auto Reset	ON
Expand Splt	OFF
Ped Recycle	P3478_INH
Before	TIMED
After	TIMED
Auto Flash [1.4.1]	
Auto Flash	CHANNEL
Flash Yel	0
Flash Red	0
Unit Params [1.2.1]	
Phase Mode	STD8
IO Mode	AUTO
Loc Flsh Start	OFF
Start Flash(s)	8
Start AllRed(s)	2
Yellow < 3"	OFF
Display Time	30
Red Revert	2
MCE Timeout	
Feature Profile	1
Free Ring Seq	14
SDLC Retry	0
TS2 Det Faults	OFF
Auto Ped Clear	OFF
Date Printed:	02/23/12

White Rock & Windfield (ID 95) (Standard File)

IP Address:

Mask:

Gateway:

Port:

Date Installed:

Date Superceded:

Veh Par 1-32 [5.1]										Vehicle Options 1-32 [5.2]									Parameters+ 1-32 [5.3]								Info Only			
Det #	Call Ø	Swi Ø	Dlay	Ext	Que	No Act	Max Pres	Err Cnt	Fail Time	Det #	Call	Ext	Que	Add Init	Red Lock	Yell Lock	occ	vol	Det #	Occupancy G	Occupancy Y	Occupancy R	Delay 1	Delay 2	Type	Src	Type of Detection Prnc	Type of Detection Near	Type of Detection Adv	Det #
1	1					0	0	0	0	1	X	X	-	-	-	-	X	X	1	X	X				NORM					1
2						0	0	0	0	2			-	-	-	-	X	X	2	X	X				NORM					2
3	2					0	0	0	0	3	X	X	-	-	-	-	X	X	3	X	X				NORM					3
4	2					0	0	0	0	4	X	X	-	-	-	-	X	X	4	X	X				NORM					4
5	2					0	0	0	0	5	X	X	-	-	-	-	X	X	5	X	X				NORM					5
6	2					0	0	0	0	6	X	X	-	-	-	-	X	X	6	X	X				NORM					6
7	2					0	0	0	0	7	X	X	-	-	-	-	X	X	7	X	X				NORM					7
8	2					0	0	0	0	8	X	X	-	-	-	-	X	X	8	X	X				NORM					8
9	3					0	0	0	0	9	X	X	-	-	-	-	-	-	9	-	-				NORM					9
10						0	0	0	0	10	-	-	-	-	-	-	-	-	10	-	-				NORM					10
11						0	0	0	0	11	-	-	-	-	-	-	-	-	11	-	-				NORM					11
12						0	0	0	0	12	-	-	-	-	-	-	-	-	12	-	-				NORM					12
13	4					0	0	0	0	13	X	X	-	-	-	-	-	-	13	-	-				NORM					13
14						0	0	0	0	14	-	-	-	-	-	-	-	-	14	-	-				NORM					14
15	4					0	0	0	0	15	X	X	-	-	-	-	-	-	15	-	-				NORM					15
16						0	0	0	0	16	-	-	-	-	-	-	-	-	16	-	-				NORM					16
17	5					0	0	0	0	17	X	X	-	-	-	-	-	-	17	-	-				NORM					17
18						0	0	0	0	18	-	-	-	-	-	-	-	-	18	-	-				NORM					18
19	6					0	0	0	0	19	X	X	-	-	-	-	-	-	19	-	-				NORM					19
20	6					0	0	0	0	20	X	X	-	-	-	-	-	-	20	-	-				NORM					20
21	6					0	0	0	0	21	X	X	-	-	-	-	-	-	21	-	-				NORM					21
22						0	0	0	0	22	-	-	-	-	-	-	-	-	22	-	-				NORM					22
23	6					0	0	0	0	23	X	X	-	-	-	-	-	-	23	-	-				NORM					23
24	7					0	0	0	0	24	X	X	-	-	-	-	-	-	24	-	-				NORM					24
25						0	0	0	0	25	-	-	-	-	-	-	-	-	25	-	-				NORM					25
26						0	0	0	0	26	-	-	-	-	-	-	-	-	26	-	-				NORM					26
27						0	0	0	0	27	-	-	-	-	-	-	-	-	27	-	-				NORM					27
28						0	0	0	0	28	-	-	-	-	-	-	-	-	28	-	-				NORM					28
29	8					0	0	0	0	29	X	X	-	-	-	-	-	-	29	-	-				NORM					29
30						0	0	0	0	30	-	-	-	-	-	-	-	-	30	-	-				NORM					30
31	8					0	0	0	0	31	X	X	-	-	-	-	-	-	31	-	-				NORM					31
32						0	0	0	0	32	-	-	-	-	-	-	-	-	32	-	-				NORM					32
33						0	0	0	0	33	-	-	-	-	-	-	-	-	33	-	-				NORM					33
34						0	0	0	0	34	-	-	-	-	-	-	-	-	34	-	-				NORM					34
35						0	0	0	0	35	-	-	-	-	-	-	-	-	35	-	-				NORM					35
36						0	0	0	0	36	-	-	-	-	-	-	-	-	36	-	-				NORM					36
37						0	0	0	0	37	-	-	-	-	-	-	-	-	37	-	-				NORM					37
38						0	0	0	0	38	-	-	-	-	-	-	-	-	38	-	-				NORM					38
39						0	0	0	0	39	-	-	-	-	-	-	-	-	39	-	-				NORM					39
40						0	0	0	0	40	-	-	-	-	-	-	-	-	40	-	-				NORM					40
41						0	0	0	0	41	-	-	-	-	-	-	-	-	41	-	-				NORM					41
42						0	0	0	0	42	-	-	-	-	-	-	-	-	42	-	-				NORM					42
43						0	0	0	0	43	-	-	-	-	-	-	-	-	43	-	-				NORM					43
44						0	0	0	0	44	-	-	-	-	-	-	-	-	44	-	-				NORM					44

Annual Schedule [4.3] — White Rock & Windfield (ID 95) (Standard File)

Month of Year: J F M A M J J A S O N D
Day of Week: S M T W T F S
Date: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

	Month of Year	Day of Week	Date	Day Plan	Link To
1	X X X X X X X X X X X X	X X X X X X X	X X X X X X X X X X X X X X X X X X X X X X X X X X X	1	
2	- - - - - - - - - - - -	- - - - - - -	- -	1	
3	- - - - - - - - - - - -	- - - - - - -	- -	1	
4	- - - - - - - - - - - -	- - - - - - -	- -	1	
5	- - - - - - - - - - - -	- - - - - - -	- -	1	
6	- - - - - - - - - - - -	- - - - - - -	- -	1	
7	- - - - - - - - - - - -	- - - - - - -	- -	1	
8	- - - - - - - - - - - -	- - - - - - -	- -	1	
9	- - - - - - - - - - - -	- - - - - - -	- -	1	
10	- - - - - - - - - - - -	- - - - - - -	- -	1	
11	- - - - - - - - - - - -	- - - - - - -	- -	1	
12	- - - - - - - - - - - -	- - - - - - -	- -	1	

DAY PLANS [4.4]

Day Plan 1

Evt	Hour	Min	Act	Evt	Hour	Min	Act
1		1	54	9			
2	7		1	10			
3	9		54	11			
4	16		2	12			
5	18		54	13			
6				14			
7				15			
8				16			

Day Plan 3

Evt	Hour	Min	Act	Evt	Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 2

Evt	Hour	Min	Act	Evt	Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 4

Evt	Hour	Min	Act	Evt	Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

ACTION TABLE

Action Table [4.5]

Act#	Pat#	A1	A2	A3	S1	S2	S3	S4	S5	S6	S7	S8
1	1											
2	2											
3	0											
4	0											
5	0											
6	0											
7	0											
8	0											
9	0											
10	0											
11	0											
12	0											
13	0											
14	0											
15	0											
16	0											
54	254											
55	255											

ALTERNATE PROGRAMS

Alt Progs+ [2.6]

Pat#	ØOpt	ØTime	DetG	CIR	CIC	Max2
1						-
2						-
3						-
4						-
5						-
6						-
7						-
8						-
9						-
10						-
11						-
12						-
13						-
14						-
15						-
16						-
17						-
18						-

Movement	SBLT	NB	WBLT	EB	NBLT	SB	EBLT	WB
Times [1.1.1]	1	2	3	4	5	6	7	8
Min Green	3	7	3	3	3	7	3	3
Gap, Ext	1	3.6	1	1	1	3.6	1	1
Max 1	8	62	16	31	21	48	14	34
Max 2	8	62	16	31	21	48	14	34
Yel Clearance	3.5	5	3.5	3.5	3.5	5	3.5	3.5
Red Clearance	1	1	1.5	1	1.7	1	2	1
Walk		7				7		7
Ped Clearance		9				11		22
Red Revert	2	2	2	2	2	2	2	2
Add Initial								
Max Initial								
Time B4 Reduct								
Cars B4 Reduct								
Time To Reduce								
Reduce By								
Min Gap								
DyMaxLim								
Max Step								
Options [1.1.2]	1	2	3	4	5	6	7	8
Enable	X	X	X	X	X	X	X	X
Min Recall	-	X	-	-	-	X	-	-
Max Recall	-	-	-	-	-	-	-	-
Ped Recall	-	-	-	-	-	-	-	-
Soft Recall	-	-	-	-	-	-	-	-
Lock Calls	-	X	-	-	-	X	-	-
Auto Flash Entry	-	-	-	-	-	-	-	-
Auto Flash Exit	-	-	-	-	-	-	-	-
Dual Entry	-	-	-	-	-	-	-	-
Enable Simul Gap	-	-	-	-	-	-	-	-
Gaurantee Passage	-	-	-	-	-	-	-	-
Rest In Walk	-	-	-	-	-	-	-	-
Conditon Service	-	-	-	-	-	-	-	-
Non-Actuated 1	-	-	-	-	-	-	-	-
Non-Actuated 2	-	-	-	-	-	-	-	-
Add Init Calc								

Pattern Tables [2.4]

Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq
1	135	71	1	14	13					25					37				
2	135	55	2	14	14					26					38				
3					15					27					39				
4					16					28					40				
5					17					29					41				
6					18					30					42				
7					19					31					43				
8					20					32					44				
9					21					33					45				
10					22					34					46				
11					23					35					47				
12					24					36					48				

Split	[2.7]	1	2	3	4	5	6	7	8
1	Coord	12	67	21	35	26	53	19	37
	2		MIN				MIN		
2	Coord	10	71	27	27	40	41	19	35
	2		MIN				MIN		
3	Coord								
4	Coord								
5	Coord								
6	Coord								
7	Coord								
8	Coord								
9	Coord								
10	Coord								
11	Coord								
12	Coord								

Split	[2.7]	1	2	3	4	5	6	7	8
13	Coord								
14	Coord								
15	Coord								
16	Coord								
17	Coord								
18	Coord								
19	Coord								
20	Coord								
21	Coord								
22	Coord								
23	Coord								
24	Coord								

STD8

Ring/Startup [1.1.4]			[1.1.2]
Phs	Ring	Start	Enable
1	1	RED	X
2	1	GREEN	X
3	1	RED	X
4	1	RED	X
5	2	RED	X
6	2	GREEN	X
7	2	RED	X
8	2	RED	X

Coord Modes [2.1]	
Test OpMode	0
Correction	SHRT/LNG
Maximum	MAX 1
Force-Off	FLOAT
Closed Loop	OFF
Stop-in-Walk	ON
Auto Reset	ON
Expand Split	OFF
Ped Recycle	P3478_INH
Before	TIMED
After	TIMED
Auto Flash [1.4.1]	
Auto Flash	CHANNEL
Flash Yel	0
Flash Red	0
Unit Params [1.2.1]	
Phase Mode	STD8
IO Mode	AUTO
Loc Flsh Start	OFF
Start Flash(s)	8
Start AllRed(s)	2
Yellow < 3"	OFF
Display Time	30
Red Revert	2
MCE Timeout	
Feature Profile	1
Free Ring Seq	14
SDLC Retry	0
TS2 Det Faults	OFF
Auto Ped Clear	OFF
Date Printed:	02/23/12
	Page 1

White Rock & Post (ID 99) (Standard File)

IP Address:

Mask:

Gateway:

Port:

Date Installed:

Date Superceded:

Phase Options+ [1.1.3]

Options+ [1.1.3]	1	2	3	4	5	6	7	8
Reservice	-	-	-	-	-	-	-	-
PedClr Thru Yel	-	-	-	-	-	-	-	-
SkipRed-NoCall	-	-	-	-	-	-	-	-
Red Rest	-	-	-	-	-	-	-	-
Max II	-	-	-	-	-	-	-	-
Ped Delay	-	-	-	-	-	-	-	-
Grn/Ped Delay								
Conflicting Phase								
Omit Yel, Yel P								
Ped Out/Olp Ped								
StartYel, Next P								

Phase Concurrency [1.1.4]

Phase	Ring	StartUp	Concurrent Phases				
1	1	RED	5	6	0	0	0
2	1	GREEN	5	6	0	0	0
3	1	RED	7	8	0	0	0
4	1	RED	7	8	0	0	0
5	2	RED	1	2	0	0	0
6	2	GREEN	1	2	0	0	0
7	2	RED	3	4	0	0	0
8	2	RED	3	4	0	0	0
9	0	NONE	0	0	0	0	0
10	0	NONE	0	0	0	0	0
11	0	NONE	0	0	0	0	0
12	0	NONE	0	0	0	0	0

User Defined Sequences (MM>1>2>4)

Sequence No.	Ring	Phase							
1	1	1	2	3	4	0	0	0	0
	2	5	6	7	8	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
2	1	1	2	3	4	0	0	0	0
	2	6	5	7	8	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
3	1	2	1	3	4	0	0	0	0
	2	5	6	7	8	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0

Overlap 1-8 Program Parms & Parm+ [1.5.2.1] [1.5.2.2]

1	Included Ø		NOTVAL
	Modifier Ø		Grn
	Conflict Ø		Yel
A	Conflict Olap		Red
	Conflict Ped		LG
2	Included Ø		NOTVAL
	Modifier Ø		Grn
	Conflict Ø		Yel
B	Conflict Olap		Red
	Conflict Ped		LG
3	Included Ø		NOTVAL
	Modifier Ø		Grn
	Conflict Ø		Yel
C	Conflict Olap		Red
	Conflict Ped		LG
4	Included Ø		NOTVAL
	Modifier Ø		Grn
	Conflict Ø		Yel
D	Conflict Olap		Red
	Conflict Ped		LG
5	Included Ø		NOTVAL
	Modifier Ø		Grn
	Conflict Ø		Yel
E	Conflict Olap		Red
	Conflict Ped		LG
6	Included Ø		NOTVAL
	Modifier Ø		Grn
	Conflict Ø		Yel
F	Conflict Olap		Red
	Conflict Ped		LG
7	Included Ø		NOTVAL
	Modifier Ø		Grn
	Conflict Ø		Yel
G	Conflict Olap		Red
	Conflict Ped		LG
8	Included Ø		NOTVAL
	Modifier Ø		Grn
	Conflict Ø		Yel
H	Conflict Olap		Red
	Conflict Ped		LG

Coord Transition, CoorPhs - [2.5]

Pat#	Short	Long	Dwell	No Shortway Ø	E-Yld	Offset
1	10	17				BegGRN
2	10	17				BegGRN
3	10	17				BegGRN
4	10	17				BegGRN
5	10	17				BegGRN
6	10	17				BegGRN
7						BegGRN
8						BegGRN
9						BegGRN
10						BegGRN
11						BegGRN
12						BegGRN
13						BegGRN
14						BegGRN

Min Perms

Veh	Ped

Default Phase Sequence Chart [1.2.4]

Seq #	Ring	Phases			
1	1	1	2	3	4
	2	5	6	7	8
2	1	1	2	3	4
	2	6	5	7	8
3	1	2	1	3	4
	2	5	6	7	8
4	1	2	1	3	4
	2	6	5	7	8
5	1	1	2	3	4
	2	5	6	8	7
6	1	1	2	3	4
	2	6	5	8	7
7	1	2	1	3	4
	2	5	6	8	7
8	1	2	1	3	4
	2	6	5	8	7
9	1	1	2	4	3
	2	5	6	7	8
10	1	1	2	4	3
	2	6	5	7	8
11	1	2	1	4	3
	2	5	6	7	8
12	1	2	1	4	3
	2	6	5	7	6
13	1	1	2	4	3
	2	5	6	8	7
14	1	1	2	4	3
	2	6	5	8	7
15	1	2	1	4	3
	2	5	6	8	7
16	1	2	1	4	3
	2	6	5	8	7

Coord Trans [2.5] cont.

Patt #	Ret Hold	Flt	Max2
1	-		-
2	-		-
3	-		-
4	-		-
5	-		-
6	-		-
7	-		-
8	-		-
9	-		-
10	-		-
11	-		-
12	-		-
13	-		-
14	-		-

White Rock & Post (ID 99) (Standard File)

02/23/12

Intersection No. 038 Date: 6-2-07

Phase Times [1.1.1]

	1	2	3	4	5	6	7	8
Min Green	5	5		5	5	5		5
Gap, Ext	2	3		3.6	2	3.7		3.6
Max 1	25	45		35	25	45		40
Max 2	25	45		35	25	45		40
Yel Clearance	3	4.3		3.2	3	5		3.2
Red Clearance	0.5	1		1	0.5	1		1
Walk		7		7		7		
Ped Clearance		17		18		18		
Red Revert								
Add Initial								
Max Initial								
Time B4 Reduct								
Cars B4 Reduct								
Time To Reduce								
Reduce By								
Min Gap								
DyMaxLim								
Max Step								

Phase Options [1.1.2]

	1	2	3	4	5	6	7	8
Enable	X	X		X	X	X		X
Min Recall								
Max Recall								
Ped Recall								
Soft Recall								
Lock Calls								
Auto Flash Entry								
Auto Flash Exit								
Dual Entry								
Enable Simul Gap		X				X		
Gaurant Passage	X			X	X			X
Rest In Walk								
Conditon Service								
Non-Actuated 1								
Non-Actuated 2								
Add Init Calc								

Phase Options+ [1.1.3]

Reservice								
Walk Thru Yel								
Skip Red No Call								
Red Rest								
Max II								
Conflicting Phase								
Conflicting Phase	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Omit Yellow								
Ped Out/Olap								
Start Yel, Next Ph								

Auto Flash Parms [1.4.1]

Flash Parameter		Clearance Time	
Mode	CHANNEL	Yellow	3.5
		Red	1.5

Auto Flash, Phases/Overlaps [1.4.2]

Yel (phases)								
Yel (overlaps)								

White Rock Rd at Valley View Pw
06/02/07

Inhibit Phases [1.1.5]

Phase	Inhibit Phases							
	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								

Call Phases, Call Redirection [1.1.5]

Phase	Call Phases				Redirection			
					From	To	From	To
1								
2								
3								
4								
5								
6								
7								
8								

White Rock Rd at Valley View Pw

Intersection No. 038 Date: 6-2-07

Detector, Vehicle Parameters 1-16 [5.1]

Det#	Call Φ	Switch Φ	Delay	Extend	Queue	NoAct	Ma	ErrCnt	FailTime
1	1		1.5						15
2	2								35
3	2								35
4	2								35
5	2								35
6	2				10				35
7	3								
8	4								25
9	4								25
10	4								25
11	4								25
12	4		1.5		10				25
13	1								15
14	3								
15	5		1.5						15
16	6								35

Detector, Vehicle Parameters 17-32 [5.1]

Det#	Call Φ	Switch Φ	Delay	Extend	Queue	NoAct	Ma	ErrCnt	
17	6								35
18	6								35
19	6								35
20	6				10				35
21	7								
22	8								25
23	8								25
24	8								25
25	8								25
26	8		1.5		10				25
27	5								
28	7								
29									
30									
31									
32									

Location: ED 50 @ Silva Valley Old White Rock (Cat3)
Designed By: 0300000258
System:
District:
Installed By:
Master At: EB Ramp
I/C:
Service Info:

Timing Change:	Date Start:	Date End:	Designed:	Installed:
				5/31/2016

Intersection Layout

		FLASH
PHASE	1) SB LT to Clarsville	[ ]
	2) NB White Rock	[ ]
	3) WB Clarksville	[ ]
	4) EB Clarksville	[ ]
	5) NB LT to Clarksville	[ ]
	6) SB White Rock	[ ]
	7)	[ ]
	8)	[ ]
OVERLAP	A)	[ ]
	B)	[ ]
	C)	[ ]
	D)	[ ]
	E)	[ ]
	F)	[ ]

Comments and Notes:
2016-05-31 OTO 0400 TSCP 2.20 B125 DH, Hassane Haffouda, Shane Cohen EDC

RAM Checksum

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CONFIGURATION PHASE FLAGS

Phases (2-1-1-1)	
Permitted	1 2 3 4 5 6 . .
Restricted	. . . . .

Phase Recalls (2-1-1-2)	
Vehicle Min	. 2 . . . 6 . .
Vehicle Max	. . . . .
Pedestrian	. . . . .
Bicycle	. . . . .

Phase Locks (2-1-1-3)	
Red	. . . . .
Yellow	. . . . .
Force/Max	. . . . .

Phase Features (2-1-1-4)	
Double Entry	. . . . .
Rest In Walk	. . . . .
Rest In Red	. . . . .
Walk 2	. . . . .
Max Green 2	. . . . .
Max Green 3	. . . . .

Startup (2-1-1-5)	
First Green Phases	. 2 . . . 6 . .
Yellow Start Phases	. . . . .
Vehicle Calls	1 2 3 4 5 6 . .
Pedestrian Calls	. . . . .
Yellow Start Overlaps	. . . . .
Startup All-Red	5.0

Call To Phase (2-1-2-1)		Omit On Green	
1	. . . . .	1	. . . . .
2	. . . . .	2	. . . . .
3	. . . . .	3	. . . . .
4	. . . . .	4	. . . . .
5	. . . . .	5	. . . . .
6	. . . . .	6	. . . . .
7	. . . . .	7	. . . . .
8	. . . . .	8	. . . . .

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	. . . . .
Yellow Flash Overlap	. . . . .
Flash In Red Phases	. . . . .
Flash In Red Overlap	. . . . .

Special Operation (2-1-2-3)	
Single Exit Phase	. . . . .
Driveway Signal Phases	. . . . .
Driveway Signal Overlaps	. . . . .
Leading Ped Phases	. . . . .

Protected Permissive (2-1-2-4)	
Protected Permissive	. . . . .

Pedestrian (2-1-3)	
P1	. . . . .
P2	. . . . .
P3	. . . . .
P4	. . . . .
P5	. . . . .
P6	. . . . .
P7	. . . . .
P8	. . . . .

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
A	. . . . .	. . . . .	. . . . .	. . . . .
B	. . . . .	. . . . .	. . . . .	. . . . .
C	. . . . .	. . . . .	. . . . .	. . . . .
D	. . . . .	. . . . .	. . . . .	. . . . .
E	. . . . .	. . . . .	. . . . .	. . . . .
F	. . . . .	. . . . .	. . . . .	. . . . .

PHASE TIMING

Phase (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	0	0	0	0	0	0	0
Flash Don't Walk	0	0	0	0	0	0	0	0
Minimum Green	8	9	8	9	8	9	0	0
Det Limit	10	10	10	10	10	10	0	0
Max Initial	0	0	0	0	0	0	0	0
Max Green 1	20	50	20	20	20	50	0	0
Max Green 2	50	50	50	50	50	50	0	0
Max Green 3	50	50	50	50	50	50	0	0
Extension	2.0	1.0	2.0	2.0	2.0	1.0	0.0	0.0
Maximum Gap	2.0	3.0	2.0	2.0	2.0	3.0	0.0	0.0
Minimum Gap	2.0	1.5	2.0	2.0	2.0	1.5	0.0	0.0
Add Per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Gap By	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
Reduce Every	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0
Yellow	3.7	4.8	3.7	3.7	3.7	4.8	3.0	3.0
All-Red	0.5	2.0	1.0	1.0	0.5	2.0	0.0	0.0
Ped/Bike (2-3)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	9	0	9	0	9	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A	B	C	D	E	F
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert

Red Revert (2-5)	
Time	5.0
All-Red Sec/Min (2-6)	
All-Red Sec/Min:	SEC

Max 2 Extension

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor	90						16	21	16	16	16	21		
Plan 2	Green Factor	100						16	31	16	16	16	31		
Plan 3	Green Factor	90						16	21	16	16	16	21		
Plan 4	Green Factor	100						16	31	16	16	16	31		
Plan 5	Green Factor	110						16	41	16	16	16	41		
Plan 6	Green Factor														
Plan 7	Green Factor														
Plan 8	Green Factor														
Plan 9	Green Factor														

Master Timer Sync (7-A)

Enable in Plans	
1-9	1 2 3 4 5 . . . .
11-19	. . . . .
21-29	. . . . .

Master Sub Master

Input	
Output	

FREE PLAN PHASE FLAGS

(7-E) Free

Lag	Omit
. 2 . 4 . 6 . 8	. . . . .
Veh Min	**Veh Max**
. . . . .	. . . . .
Ped	**Bike**
. . . . .	. . . . .
Cond	**Cond Grn**
. . . . .	10

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	. 2 . 4 . 6 . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 2	. 2 . 4 . 6 . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 3	. 2 . 4 . 6 . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 4	. 2 . 4 . 6 . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 5	. 2 . 4 . 6 . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 6	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 7	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 8	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 9	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .

MANUAL COMMANDS

Manual Plan (4-1)

Plan	OffSet
	A

Plan: 1-9
15 or 254 = Flash
14 or 255 = Free
Offset A, B, or C

Special Function Override (4-2)

#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

Local Plan 11...19 (7-2) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 11	Green Factor														
Plan 12	Green Factor														
Plan 13	Green Factor														
Plan 14	Green Factor														
Plan 15	Green Factor														
Plan 16	Green Factor														
Plan 17	Green Factor														
Plan 18	Green Factor														
Plan 19	Green Factor														

Local Plan 11...19 (7-2) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 11	.....	.....	.....	.....	.....	.....	.....	.....
Plan 12	.....	.....	.....	.....	.....	.....	.....	.....
Plan 13	.....	.....	.....	.....	.....	.....	.....	.....
Plan 14	.....	.....	.....	.....	.....	.....	.....	.....
Plan 15	.....	.....	.....	.....	.....	.....	.....	.....
Plan 16	.....	.....	.....	.....	.....	.....	.....	.....
Plan 17	.....	.....	.....	.....	.....	.....	.....	.....
Plan 18	.....	.....	.....	.....	.....	.....	.....	.....
Plan 19	.....	.....	.....	.....	.....	.....	.....	.....

Local Plan 21...29 (7-3) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 21	Green Factor														
Plan 22	Green Factor														
Plan 23	Green Factor														
Plan 24	Green Factor														
Plan 25	Green Factor														
Plan 26	Green Factor														
Plan 27	Green Factor														
Plan 28	Green Factor														
Plan 29	Green Factor														

Local Plan 21...29 (7-3) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 21	.....	.....	.....	.....	.....	.....	.....	.....
Plan 22	.....	.....	.....	.....	.....	.....	.....	.....
Plan 23	.....	.....	.....	.....	.....	.....	.....	.....
Plan 24	.....	.....	.....	.....	.....	.....	.....	.....
Plan 25	.....	.....	.....	.....	.....	.....	.....	.....
Plan 26	.....	.....	.....	.....	.....	.....	.....	.....
Plan 27	.....	.....	.....	.....	.....	.....	.....	.....
Plan 28	.....	.....	.....	.....	.....	.....	.....	.....
Plan 29	.....	.....	.....	.....	.....	.....	.....	.....

DETECTORS

Detector Attributes (5-1) / Detector Configuration (5-2)

Det	Type	Phases	Lock	Slot	Det	Delay	Extend	Recall	Port
1	COUNT+CALL+EXTEND	1.....	NO	I1U	1			10	3.2
2	COUNT+CALL+EXTEND	1.....	NO	I1L	2			10	7.2
3	COUNT+CALL+EXTEND	.2.....	NO	I2U	3			10	1.1
4	COUNT+CALL+EXTEND	.2.....	NO	I2L	4			10	1.5
5	COUNT+CALL+EXTEND	.2.....	NO	I3U	5			10	4.5
6	BICYCLE	.2.....	NO	I3L	6			10	6.2
7	LIMITED	.2.....	NO	I4U	7			10	2.1
8	COUNT+CALL+EXTEND	.2.....	NO	I4L	8			10	7.4
9	COUNT+CALL+EXTEND	..3....	NO	I5U	9			10	3.4
10	COUNT+CALL+EXTEND	..3....	NO	I5L	10			10	7.6
11	COUNT+CALL+EXTEND	...4...	NO	I6U	11			10	1.3
12	COUNT+CALL+EXTEND	...4...	NO	I6L	12			10	1.7
13	COUNT+CALL+EXTEND	...4...	NO	I7U	13			10	4.7
14	CALL+EXTEND	...4...	NO	I7L	14	10		10	6.4
15	LIMITED	...4...	NO	I8U	15			10	2.3
16	BICYCLE	...4...	NO	I8L	16			10	7.8
17	COUNT+CALL+EXTEND	..3....	NO	I9U	17			10	3.6
18	COUNT+CALL+EXTEND	..3....	NO	I9L	18	10		10	3.8
19	COUNT+CALL+EXTEND	.2.....	NO	I10U	19			10	4.1
20	COUNT+CALL+EXTEND	...4...	NO	I10L	20			10	4.2
21	COUNT+CALL+EXTEND	....5...	NO	J1U	21			10	3.1
22	COUNT+CALL+EXTEND	....5...	NO	J1L	22			10	7.1
23	COUNT+CALL+EXTEND	.....6..	NO	J2U	23			10	1.2
24	COUNT+CALL+EXTEND	.....6..	NO	J2L	24			10	1.6
25	COUNT+CALL+EXTEND	.....6..	NO	J3U	25			10	4.6
26	CALL+EXTEND	.....6..	NO	J3L	26			10	6.3
27	LIMITED	.....6..	NO	J4U	27			10	2.2
28	COUNT+CALL+EXTEND	.....6..	NO	J4L	28			10	7.3
29	COUNT+CALL+EXTEND	......7.	NO	J5U	29			10	3.3
30	COUNT+CALL+EXTEND	......7.	NO	J5L	30			10	7.5
31	BICYCLE	.....6..	NO	J6U	31			10	1.4
32	COUNT+CALL+EXTEND	8	NO	J6L	32			10	1.8
33	COUNT+CALL+EXTEND	8	NO	J7U	33			10	4.8
34	CALL+EXTEND	8	NO	J7L	34			10	6.5
35	LIMITED	8	NO	J8U	35			10	2.4
36	COUNT+CALL+EXTEND	8	NO	J8L	36			10	7.7
37	COUNT+CALL+EXTEND	....5...	NO	J9U	37			10	3.5
38	COUNT+CALL+EXTEND	......7.	NO	J9L	38			10	3.7
39	COUNT+CALL+EXTEND	.....6..	NO	J10U	39			10	4.3
40	COUNT+CALL+EXTEND	8	NO	J10L	40			10	4.4
41	PEDESTRIAN	.2.....	NO	I12U	41			10	5.1
42	PEDESTRIAN	...4...	NO	I12L	42			10	5.3
43	PEDESTRIAN	.....6..	NO	I13U	43			10	5.2
44	PEDESTRIAN	8	NO	I13L	44			10	5.4

Failure Times(5-3)	Minutes
Maximum On Time	
Fail Reset Time	

Failure Override (5-4)	
Detectors 1-8	.....
Detectors 9-16	.....
Detectors17-24	.....
Detectors 25-32	.....
Detectors 33-40	.....
Detectors 41-44	.....

System Detector Assignment (5-5)

Sys Det	1	2	3	4	5	6	7	8
Det Nu								
Sys Det	9	10	11	12	13	14	15	16
Det Nu								

CIC Operation (5-6-1)	
Enable in Plans	.....

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.00	

Detector-to-Phase Assignment (5-6-3)

Sys Det	1	2	3	4	5	6	7	8
Phase								
Sys Det	9	10	11	12	13	14	15	16
Phase								

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 2 (8-2-2)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 3 (8-2-3)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 4 (8-2-4)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 5 (8-2-5)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 6 (8-2-6)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

HOLIDAY TABLES

Floating Holiday Table (8-2-8)

#	Mnth	Week	DOW	Table
1			.....	
2			.....	
3			.....	
4			.....	
5			.....	
6			.....	
7			.....	
8			.....	
9			.....	
10			.....	
11			.....	
12			.....	
13			.....	
14			.....	
15			.....	
16			.....	

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1			.....	
2			.....	
3			.....	
4			.....	
5			.....	
6			.....	
7			.....	
8			.....	
9			.....	
10			.....	
11			.....	
12			.....	
13			.....	
14			.....	
15			.....	
16			.....	

Solar Clock Data (8-4)

North Latitude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)

Hebrew	Ped Recall
Sabbath	.....
Holiday	.....

Daylight Saving (8-6)

Enabled	YES

TOD FUNCTIONS

TOD Functions (8-3)

#	Start	End	DOW	Action	Phases
1			.....		.....
2			.....		.....
3			.....		.....
4			.....		.....
5			.....		.....
6			.....		.....
7			.....		.....
8			.....		.....
9			.....		.....
10			.....		.....
11			.....		.....
12			.....		.....
13			.....		.....
14			.....		.....
15			.....		.....
16			.....		.....

Action Codes:

0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11. Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped
27. Traffic Actuated Max 2
41. Protected Permissive
42. Protected Permissive

Action Code = Phases added to normal setting

100+Action Code = Phases removed

200+Action Code = Phases replaced

COMMUNICATIONS

C2 (6-1-1)	
Address	3
Protocol	AB3418
Limit Access	0
Baud	9600
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C20 (6-1-2)	
Address	
Protocol	AB3418
Limit Access	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C21 (6-1-3)	
Address	
Protocol	AB3418
Limit Access	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

Limit Access:
0-None
1-Status Only
2-Status, Set Pattern, Time
3-Status, Set Pattern, Time, Manual Plan

SOFT LOGIC

Soft Logic (6-2)

#	Data	OP	Data	OP	Data	OP	Data
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

*Refer to User's Manual for Data and OP Codes

CALLBACK NUMBERS

Callback Numbers (6-3...3)	
Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

NETWORK

Network (6-4)	
Address	
Protocol	AB3418
Port	27000
IP Mode	STATIC

IP Address	0	.	0	.	0	.	0
Netmask	255	.	255	.	255	.	0
Broadcast	0	.	0	.	0	.	254
Gateway	0	.	0	.	0	.	1

RAILROAD PREEMPTION

RR 1

(3-1-1)	Timing	Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Clear 1	10	. 2 . . 5 . . .	. . . . .	. . . . .	. . . . .	. . . . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .	. . . . .
Clear 2		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Clear 3		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Hold		. . . . .	. . . . .	1 2 3 4 5 6 7 8	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	A B C D E F
Exit										
Min Grn										
Ped Clr										

Exit Parameters (3-1-5)

Phase Green	Overlap Green	Vehicle Call	Ped Call
. . . . .	. . . . .	1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8

Configuration (3-1-6)

Port	Gate Port	Latching	Power-Up
2.5	0.0	YES	FLASHING

RR 2

(3-2-1)	Timing	Phase Flags (3-2-2)			Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Clear 1	10	. . . 4 . . 7 .	. . . . .	. . . . .	. . . . .	. . . . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .	. . . . .
Clear 2		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Clear 3		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Hold		1 2 3 . . 6 . .	. . . . .	. . . . .	. 2 . . . 6 . .	. . . . .	. . . 4 . . . 8	. . . . .	. . . . .	. . . . .
Exit										
Min Grn										
Ped Clr										

Exit Parameters (3-2-5)

Phase Green	Overlap Green	Vehicle Call	Ped Call
. . . . .	. . . . .	. . . 4 . . 7 .	. . . . .

Configuration (3-2-6)

Port	Gate Port	Latching	Power-up
2.6	0.0	YES	DARK

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	. 2 . . 5 . . .	. . . . .

Port	Latching	Phase Termination
5.5	NO	ADVANCE

EVB (3-B)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	. . . 4	. . . . .

Port	Latching	Phase Termination
5.6	NO	ADVANCE

EVC (3-C)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	1 . . . . 6 . .	. . . . .

Port	Latching	Phase Termination
5.7	NO	ADVANCE

EVD (3-D)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	. . 3	. . . . .

Port	Latching	Phase Termination
5.8	NO	ADVANCE

INPUTS

		7 Wire I/C (2-1-5-1)			
		Input	Port	Input	Port
Enable	NO	R1	3.8	Free	3.6
Max ON		R2	3.5	D2	2.8
Max OFF		R3	3.7	D3	6.1

Manual Control (2-1-5-2)	
Input	Port
Manual Advance	
Advance Enable	

Cabinet Status (2-1-5-3)	
Input	Port
Flash Bus	
Door Ajar	
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	
2	
3	
4	

Battery Backup (2-1-5-5)	
Port	Operation
2.7	FLASHING

Y-Coordination (2-1-5-6)	
Port C	Port D
0.0	0.0

OUTPUTS

Loadswitch Assignments (2-1-6)							+
A	1	2	22	3	4	24	9
B	5	6	26	7	8	28	10
X	13	14	0	11	12	0	0

Loadswitch Codes:

0 Unused (no output)
1-8 Vehicle 1-8
9-14 Overlap A-F
21-28 Ped 1-8
41-47 Special Functions
41 Protected Permissive Flashing Phase 1
43 Protected Permissive Flashing Phase 3
45 Protected Permissive Flashing Phase 5
47 Protected Permissive Flashing Phase 7
51-57 Special Functions
71-72 Seven Wire I/C

+ middle output of loadswitches 3 and 6 Channel 9 and 10

TRANSIT PRIORITY

Local Plans (3-E) 1...9 11...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor											
Plan 2	Green Factor											
Plan 3	Green Factor											
Plan 4	Green Factor											
Plan 5	Green Factor											
Plan 6	Green Factor											
Plan 7	Green Factor											
Plan 8	Green Factor											
Plan 9	Green Factor											
Plan 11	Green Factor											
Plan 12	Green Factor											
Plan 13	Green Factor											
Plan 14	Green Factor											
Plan 15	Green Factor											
Plan 16	Green Factor											
Plan 17	Green Factor											
Plan 18	Green Factor											
Plan 19	Green Factor											

Transit Priority Configuration (3-E-A)				Indicator Output	
Enable in Plans		Input	Type	Stop	Go
Plan 1-9	.....	0.0	OPT	0	0
Plan 11-19	.....	0.0	OPT	0	0

Queue Jump (3-E-B)	
Grn Hold	Hold Phase
	.....
	.....

Free Plans (3-E-E)	
Max Grn Hold	Hold Phase
	.....

Access Utilities (9-5)	
Password	***
Timeout	30

YELLOW YIELD COORDINATION

					Force-Offs											
Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	Coord	Lag	Min Recall	Restricted
Plan C													.2...6..	.2.4.6.8	.....	.....
Plan D													.2...6..	.2.4.6.8	.....	.....

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
					.....	0.0	0.0	0.0	0	0.0	0

Location: ED 50 @ Silva Valley #2 EB
Designed By: 0300000258
System: **District:** **Installed By:**
Master At: **I/C:** **Service Info:** 0325050R001827A

Timing Change:	Date Start:	Date End:	Designed:	Installed: 5/31/2016

		FLASH
PHASE	1)	[ ]
	2) NB Silva Valley	[ ]
	3)	[ ]
	4) EB Off rramp	[ ]
	5) NB LT to EB On ramp	[ ]
	6) SB Silva Valley	[ ]
	7)	[ ]
	8)	[ ]
OVERLAP	A)	[ ]
	B)	[ ]
	C)	[ ]
	D)	[ ]
	E)	[ ]
	F)	[ ]

Intersection Layout

Comments and Notes:
2016-05-31 OTO 0400 TSCP 2.20 B125 DH, Hassane Haffouda, Shane Cohen EDC

RAM Checksum

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Post Mile: ED 50 @ (Silva Valley #2) EB

Printed: 1/11/2017

CONFIGURATION PHASE FLAGS

Phases (2-1-1-1)	
Permitted	. 2 . 4 5 6 . .
Restricted	. . . . .

Phase Recalls (2-1-1-2)	
Vehicle Min	. 2 . . . 6 . .
Vehicle Max	. . . . .
Pedestrian	. . . . .
Bicycle	. . . . .

Phase Locks (2-1-1-3)	
Red	. . . . .
Yellow	. . . . .
Force/Max	. . . . .

Phase Features (2-1-1-4)	
Double Entry	. . . . .
Rest In Walk	. . . . .
Rest In Red	. . . . .
Walk 2	. . . . .
Max Green 2	. . . . .
Max Green 3	. . . . .

Startup (2-1-1-5)	
First Green Phases	. 2 . . . 6 . .
Yellow Start Phases	. . . . .
Vehicle Calls	. 2 . 4 5 6 . .
Pedestrian Calls	. . . . .
Yellow Start Overlaps	. . . . .
Startup All-Red	6.0

Call To Phase (2-1-2-1)		Omit On Green	
1	. . . . .	1	. . . . .
2	. . . . .	2	. . . . .
3	. . . . .	3	. . . . .
4	. . . . .	4	. . . . .
5	. . . . .	5	. . . . .
6	. . . . .	6	. . . . .
7	. . . . .	7	. . . . .
8	. . . . .	8	. . . . .

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	. . . . .
Yellow Flash Overlap	. . . . .
Flash In Red Phases	. . . . .
Flash In Red Overlap	. . . . .

Special Operation (2-1-2-3)	
Single Exit Phase	. . . . .
Driveway Signal Phases	. . . . .
Driveway Signal Overlaps	. . . . .
Leading Ped Phases	. . . . .

Protected Permissive (2-1-2-4)	
Protected Permissive	. . . . .

Pedestrian (2-1-3)	
P1	. . . . .
P2	. . . . .
P3	. . . . .
P4	. . . . .
P5	. . . . .
P6	. . . . .
P7	. . . . .
P8	. . . . .

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
A	. . . . .	. . . . .	. . . . .	. . . . .
B	. . . . .	. . . . .	. . . . .	. . . . .
C	. . . . .	. . . . .	. . . . .	. . . . .
D	. . . . .	. . . . .	. . . . .	. . . . .
E	. . . . .	. . . . .	. . . . .	. . . . .
F	. . . . .	. . . . .	. . . . .	. . . . .

PHASE TIMING

Phase (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	0	0	0	0	0	0	0
Flash Don't Walk	0	0	0	0	0	0	0	0
Minimum Green	0	9	0	8	8	9	0	0
Det Limit	0	10	0	10	10	10	0	0
Max Initial	0	0	0	0	0	0	0	0
Max Green 1	0	50	0	25	30	50	0	0
Max Green 2	0	50	0	50	50	50	0	0
Max Green 3	0	50	0	50	50	50	0	0
Extension	0.0	1.0	0.0	2.0	2.0	1.0	0.0	0.0
Maximum Gap	0.0	3.0	0.0	2.0	2.0	3.0	0.0	0.0
Minimum Gap	0.0	1.5	0.0	2.0	2.0	1.5	0.0	0.0
Add Per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Gap By	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
Reduce Every	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0
Yellow	3.0	4.8	3.0	4.8	3.7	4.8	3.0	3.0
All-Red	0.0	2.0	0.0	1.0	0.5	2.0	0.0	0.0
Ped/Bike (2-3)	**-1-**	**-2-**	**-3-**	**-4-**	**-5-**	**-6-**	**-7-**	**-8-**
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	9	0	0	0	9	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A	B	C	D	E	F
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert

Red Revert (2-5)	
Time	5.0
All-Red Sec/Min (2-6)	
All-Red Sec/Min:	SEC

Max 2 Extension

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor	90			16				61		16	21	32		
Plan 2	Green Factor	100			16				70		17	25	37		
Plan 3	Green Factor	90			18				61		16	22	31		
Plan 4	Green Factor	100			16				70		17	25	37		
Plan 5	Green Factor	110			79				79		18	27	47		
Plan 6	Green Factor														
Plan 7	Green Factor														
Plan 8	Green Factor														
Plan 9	Green Factor														

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	.2.45..8	.2...6..	.....	.....	.....	.....	.....	.....
Plan 2	.2.45..8	.2...6..	.....	.....	.....	.....	.....	.....
Plan 3	.2.45..8	.2...6..	.....	.....	.....	.....	.....	.....
Plan 4	.2.45..8	.2...6..	.....	.....	.....	.....	.....	.....
Plan 5	.2.4.6.8	.2...6..	.....	.....	.....	.....	.....	.....
Plan 6	.....	.....	.....	.....	.....	.....	.....	.....
Plan 7	.....	.....	.....	.....	.....	.....	.....	.....
Plan 8	.....	.....	.....	.....	.....	.....	.....	.....
Plan 9	.....	.....	.....	.....	.....	.....	.....	.....

Master Timer Sync (7-A)

Enable in Plans	
1-9	1 2 3 4 5 . . . .
11-19	. . . . .
21-29	. . . . .

Master Sub Master

Input	
Output	

FREE PLAN PHASE FLAGS

(7-E) Free

Lag	Omit
.2.4.6.8	.....
Veh Min	**Veh Max**
.....	.....
Ped	**Bike**
.....	.....
Cond	**Cond Grn**
.....	10

MANUAL COMMANDS

Manual Plan (4-1)

Plan	OffSet
	A

Plan: 1-9
15 or 254 = Flash
14 or 255 = Free
Offset A, B, or C

Special Function Override (4-2)

#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

Local Plan 11...19 (7-2) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 11	Green Factor														
Plan 12	Green Factor														
Plan 13	Green Factor														
Plan 14	Green Factor														
Plan 15	Green Factor														
Plan 16	Green Factor														
Plan 17	Green Factor														
Plan 18	Green Factor														
Plan 19	Green Factor														

Local Plan 11...19 (7-2) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 11	.....	.....	.....	.....	.....	.....	.....	.....
Plan 12	.....	.....	.....	.....	.....	.....	.....	.....
Plan 13	.....	.....	.....	.....	.....	.....	.....	.....
Plan 14	.....	.....	.....	.....	.....	.....	.....	.....
Plan 15	.....	.....	.....	.....	.....	.....	.....	.....
Plan 16	.....	.....	.....	.....	.....	.....	.....	.....
Plan 17	.....	.....	.....	.....	.....	.....	.....	.....
Plan 18	.....	.....	.....	.....	.....	.....	.....	.....
Plan 19	.....	.....	.....	.....	.....	.....	.....	.....

Local Plan 21...29 (7-3) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 21	Green Factor														
Plan 22	Green Factor														
Plan 23	Green Factor														
Plan 24	Green Factor														
Plan 25	Green Factor														
Plan 26	Green Factor														
Plan 27	Green Factor														
Plan 28	Green Factor														
Plan 29	Green Factor														

Local Plan 21...29 (7-3) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 21	.....	.....	.....	.....	.....	.....	.....	.....
Plan 22	.....	.....	.....	.....	.....	.....	.....	.....
Plan 23	.....	.....	.....	.....	.....	.....	.....	.....
Plan 24	.....	.....	.....	.....	.....	.....	.....	.....
Plan 25	.....	.....	.....	.....	.....	.....	.....	.....
Plan 26	.....	.....	.....	.....	.....	.....	.....	.....
Plan 27	.....	.....	.....	.....	.....	.....	.....	.....
Plan 28	.....	.....	.....	.....	.....	.....	.....	.....
Plan 29	.....	.....	.....	.....	.....	.....	.....	.....

DETECTORS

Detector Attributes (5-1)

Det	Type	Phases	Lock	Slot
1	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	I1U
2	COUNT+CALL+EXTEND	1	NO	I1L
3	COUNT+CALL+EXTEND	. 2	NO	I2U
4	COUNT+CALL+EXTEND	. 2	NO	I2L
5	COUNT+CALL+EXTEND	. 2	NO	I3U
6	BICYCLE	. 2	NO	I3L
7	LIMITED	. 2	NO	I4U
8	COUNT+CALL+EXTEND	. 2	NO	I4L
9	COUNT+CALL+EXTEND	. . 3	NO	I5U
10	COUNT+CALL+EXTEND	. . 3	NO	I5L
11	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I6U
12	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I6L
13	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I7U
14	CALL+EXTEND	. . . 4 . . .	NO	I7L
15	LIMITED	. . . 4 . . .	NO	I8U
16	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I8L
17	COUNT+CALL+EXTEND	1	NO	I9U
18	COUNT+CALL+EXTEND	. . 3	NO	I9L
19	COUNT+CALL+EXTEND	. 2	NO	I10U
20	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I10L
21	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J1U
22	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J1L
23	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J2U
24	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J2L
25	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J3U
26	LIMITED	. . . . . 6 . .	NO	J3L
27	LIMITED	. . . . . 6 . .	NO	J4U
28	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J4L
29	COUNT+CALL+EXTEND	. . . . . 7 .	NO	J5U
30	COUNT+CALL+EXTEND	. . . . . 7 .	NO	J5L
31	COUNT+CALL+EXTEND	 8	NO	J6U
32	COUNT+CALL+EXTEND	 8	NO	J6L
33	LIMITED	. . . . . 6 . .	NO	J7U
34	CALL+EXTEND	 8	NO	J7L
35	LIMITED	 8	NO	J8U
36	COUNT+CALL+EXTEND	 8	NO	J8L
37	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J9U
38	COUNT+CALL+EXTEND	. . . . . 7 .	NO	J9L
39	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J10U
40	COUNT+CALL+EXTEND	 8	NO	J10L
41	PEDESTRIAN	. 2	NO	I12U
42	PEDESTRIAN	. . . 4 . . .	NO	I12L
43	PEDESTRIAN	. . . . . 6 . .	NO	I13U
44	PEDESTRIAN	 8	NO	I13L

Detector Configuration (5-2)

Det	Delay	Extend	Recall	Port
1			10	3.2
2			10	7.2
3			10	1.1
4			10	1.5
5			10	4.5
6			10	6.2
7			10	2.1
8			10	7.4
9			10	3.4
10			10	7.6
11			10	1.3
12			10	1.7
13			10	4.7
14	10		10	6.4
15			10	2.3
16			10	7.8
17			10	3.6
18			10	3.8
19			10	4.1
20			10	4.2
21			10	3.1
22			10	7.1
23			10	1.2
24			10	1.6
25			10	4.6
26			10	6.3
27			10	2.2
28			10	7.3
29			10	3.3
30			10	7.5
31			10	1.4
32			10	1.8
33			10	4.8
34			10	6.5
35			10	2.4
36			10	7.7
37			10	3.5
38			10	3.7
39			10	4.3
40			10	4.4
41			10	5.1
42			10	5.3
43			10	5.2
44			10	5.4

Failure Times(5-3)	Minutes
Maximum On Time	
Fail Reset Time	

Failure Override (5-4)	
Detectors 1-8	. . . . .
Detectors 9-16	. . . . .
Detectors17-24	. . . . .
Detectors 25-32	. . . . .
Detectors 33-40	. . . . .
Detectors 41-44	. . . . .

System Detector Assignment (5-5)

Sys Det	1	2	3	4	5	6	7	8
Det Nu								
Sys Det	9	10	11	12	13	14	15	16
Det Nu								

CIC Operation (5-6-1)

Enable in Plans	. . . . .

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.00	

Detector-to-Phase Assignment (5-6-3)

Sys Det	1	2	3	4	5	6	7	8
Phase								
Sys Det	9	10	11	12	13	14	15	16
Phase								

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 2 (8-2-2)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 3 (8-2-3)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 4 (8-2-4)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 5 (8-2-5)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 6 (8-2-6)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

HOLIDAY TABLES

Floating Holiday Table (8-2-8)

#	Mnth	Week	DOW	Table
1			.....	
2			.....	
3			.....	
4			.....	
5			.....	
6			.....	
7			.....	
8			.....	
9			.....	
10			.....	
11			.....	
12			.....	
13			.....	
14			.....	
15			.....	
16			.....	

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1			.....	
2			.....	
3			.....	
4			.....	
5			.....	
6			.....	
7			.....	
8			.....	
9			.....	
10			.....	
11			.....	
12			.....	
13			.....	
14			.....	
15			.....	
16			.....	

Solar Clock Data (8-4)

North Latitude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)

Hebrew	Ped Recall
Sabbath	.....
Holiday	.....

Daylight Saving (8-6)

Enabled	YES

TOD FUNCTIONS

TOD Functions (8-3)

#	Start	End	DOW	Action	Phases
1			.....		.....
2			.....		.....
3			.....		.....
4			.....		.....
5			.....		.....
6			.....		.....
7			.....		.....
8			.....		.....
9			.....		.....
10			.....		.....
11			.....		.....
12			.....		.....
13			.....		.....
14			.....		.....
15			.....		.....
16			.....		.....

Action Codes:

0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11. Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped
27. Traffic Actuated Max 2
41. Protected Permissive
42. Protected Permissive

Action Code = Phases added to normal setting

100+Action Code = Phases removed

200+Action Code = Phases replaced

COMMUNICATIONS

C2 (6-1-1)	
Address	2
Protocol	AB3418
Limit Access	0
Baud	9600
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C20 (6-1-2)	
Address	
Protocol	AB3418
Limit Access	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C21 (6-1-3)	
Address	
Protocol	AB3418
Limit Access	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

Limit Access:
0-None
1-Status Only
2-Status, Set Pattern, Time
3-Status, Set Pattern, Time, Manual Plan

SOFT LOGIC

Soft Logic (6-2)

#	Data	OP	Data	OP	Data	OP	Data
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

*Refer to User's Manual for Data and OP Codes

CALLBACK NUMBERS

Callback Numbers (6-3...3)	
Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

NETWORK

Network (6-4)	
Address	
Protocol	AB3418
Port	27000
IP Mode	STATIC

IP Address	0	.	0	.	0	.	0
Netmask	255	.	255	.	255	.	0
Broadcast	0	.	0	.	0	.	254
Gateway	0	.	0	.	0	.	1

RAILROAD PREEMPTION

RR 1

(3-1-1)	Timing	Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Clear 1	10	. 2 . . 5 . . .	. . . .	. . . .	. . . .	. . . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .	. . . . .
Clear 2		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . .	. . . . .	. . . . .
Clear 3		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . .	. . . . .	. . . . .
Hold		. . . .	. . . .	1 2 3 4 5 6 7 8	. . . .	. . . .	. . . .	. . . . .	. . . . .	A B C D E F
Exit										
Min Grn										
Ped Clr										

Exit Parameters (3-1-5)			
Phase Green	Overlap Green	Vehicle Call	Ped Call
. . . .	. . . . .	1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8

Configuration (3-1-6)			
Port	Gate Port	Latching	Power-Up
2.5	0.0	YES	FLASHING

RR 2

(3-2-1)	Timing	Phase Flags (3-2-2)			Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Clear 1	10	. . . 4 . . 7 .	. . . .	. . . .	. . . .	. . . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .	. . . . .
Clear 2		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . .	. . . . .	. . . . .
Clear 3		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . .	. . . . .	. . . . .
Hold		1 2 3 . . 6 . .	. . . .	. . . .	. 2 . . . 6 . .	. . . .	. . . 4 . . . 8	. . . . .	. . . . .	. . . . .
Exit										
Min Grn										
Ped Clr										

Exit Parameters (3-2-5)			
Phase Green	Overlap Green	Vehicle Call	Ped Call
. . . .	. . . . .	. . . 4 . . 7 .	. . . .

Configuration (3-2-6)			
Port	Gate Port	Latching	Power-up
2.6	0.0	YES	DARK

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	5	30	. 2 . . 5 . . .	. . . . .

Port	Latching	Phase Termination
5.5	NO	ADVANCE

EVB (3-B)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	5	30	. . . 4	. . . . .

Port	Latching	Phase Termination
5.6	NO	ADVANCE

EVC (3-C)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	5	30	. . . . . 6 . .	. . . . .

Port	Latching	Phase Termination
5.7	NO	ADVANCE

EVD (3-D)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	. . 3 8	. . . . .

Port	Latching	Phase Termination
5.8	NO	ADVANCE

INPUTS

		7 Wire I/C (2-1-5-1)			
		Input	Port	Input	Port
Enable	NO	R1	3.8	Free	3.6
Max ON		R2	3.5	D2	2.8
Max OFF		R3	3.7	D3	6.1

Manual Control (2-1-5-2)	
Input	Port
Manual Advance	
Advance Enable	

Cabinet Status (2-1-5-3)	
Input	Port
Flash Bus	
Door Ajar	
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	
2	
3	
4	

Battery Backup (2-1-5-5)	
Port	Operation
2.7	FLASHING

Y-Coordination (2-1-5-6)	
Port C	Port D
0.0	0.0

OUTPUTS

Loadswitch Assignments (2-1-6)							+
A	1	2	22	3	4	24	9
B	5	6	26	7	8	28	10
X	13	14	0	11	12	0	0

Loadswitch Codes:

0 Unused (no output)
1-8 Vehicle 1-8
9-14 Overlap A-F
21-28 Ped 1-8
41-47 Special Functions
41 Protected Permissive Flashing Phase 1
43 Protected Permissive Flashing Phase 3
45 Protected Permissive Flashing Phase 5
47 Protected Permissive Flashing Phase 7
51-57 Special Functions
71-72 Seven Wire I/C

+ middle output of loadswitches 3 and 6 Channel 9 and 10

TRANSIT PRIORITY

Local Plans (3-E) 1...9 11...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor											
Plan 2	Green Factor											
Plan 3	Green Factor											
Plan 4	Green Factor											
Plan 5	Green Factor											
Plan 6	Green Factor											
Plan 7	Green Factor											
Plan 8	Green Factor											
Plan 9	Green Factor											
Plan 11	Green Factor											
Plan 12	Green Factor											
Plan 13	Green Factor											
Plan 14	Green Factor											
Plan 15	Green Factor											
Plan 16	Green Factor											
Plan 17	Green Factor											
Plan 18	Green Factor											
Plan 19	Green Factor											

Transit Priority Configuration (3-E-A)				Indicator Output	
Enable in Plans		Input	Type	Stop	Go
Plan 1-9	.....	0.0	OPT	0	0
Plan 11-19	.....	0.0	OPT	0	0

Queue Jump (3-E-B)	
Grn Hold	Hold Phase
	.....
	.....

Free Plans (3-E-E)	
Max Grn Hold	Hold Phase
	.....

Access Utilities (9-5)	
Password	***
Timeout	30

YELLOW YIELD COORDINATION

					Force-Offs											
Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	Coord	Lag	Min Recall	Restricted
Plan C													.2...6..	.2.4.6.8	.....	.....
Plan D													.2...6..	.2.4.6.8	.....	.....

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
					.....	0.0	0.0	0.0	0	0.0	0

Location: ED 50 @ Silva Valley #1 WB
System: 2070
Master At:
District:
I/C:
Designed By: 0300000258
Installed By:
Service Info: 0325050R001826B

Timing Change:	Date Start:	Date End:	Designed:	Installed:
				5/31/2016

Intersection Layout

		FLASH
PHASE	1)	[ ]
	2) NB Silva Valley Pkwy	[ ]
	3)	[ ]
	4)	[ ]
	5) NBLT to WB On	[ ]
	6) SB Silva Valley Pkwy	[ ]
	7)	[ ]
	8) WB ff ramp	[ ]
OVERLAP	A)	[ ]
	B)	[ ]
	C)	[ ]
	D)	[ ]
	E)	[ ]
	F)	[ ]

Comments and Notes:
2016-05-31 OTO 0400 TSCP 2.20 B125 DH, Hassane Haffouda, Shane Cohen EDC

RAM Checksum

Page 2: F85C	Page 8: 85AF
Page 3: 754D	Page 9: D2FD
Page 4: FAF5	Page 10: 6C71
Page 5: 191A	Page 11: 886B
Page 6: 191A	Page 12: 78E4
Page 7: 0C2F	Page 13: 86F7

CONFIGURATION PHASE FLAGS

Phases (2-1-1-1)	
Permitted	. 2 . . 5 6 . 8
Restricted	. . . . .

Phase Recalls (2-1-1-2)	
Vehicle Min	. 2 . . . 6 . .
Vehicle Max	. . . . .
Pedestrian	. . . . .
Bicycle	. . . . .

Phase Locks (2-1-1-3)	
Red	. . . . .
Yellow	. . . . .
Force/Max	. . . . .

Phase Features (2-1-1-4)	
Double Entry	. . . . .
Rest In Walk	. . . . .
Rest In Red	. . . . .
Walk 2	. . . . .
Max Green 2	. . . . .
Max Green 3	. . . . .

Startup (2-1-1-5)	
First Green Phases	. 2 . . . 6 . .
Yellow Start Phases	. . . . .
Vehicle Calls	. 2 . . 5 6 . 8
Pedestrian Calls	. . . . .
Yellow Start Overlaps	. . . . .
Startup All-Red	6.0

Call To Phase (2-1-2-1)		Omit On Green	
1	. . . . .	1	. . . . .
2	. . . . .	2	. . . . .
3	. . . . .	3	. . . . .
4	. . . . .	4	. . . . .
5	. . . . .	5	. . . . .
6	. . . . .	6	. . . . .
7	. . . . .	7	. . . . .
8	. . . . .	8	. . . . .

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	. . . . .
Yellow Flash Overlap	. . . . .
Flash In Red Phases	. . . . .
Flash In Red Overlap	. . . . .

Special Operation (2-1-2-3)	
Single Exit Phase	. . . . .
Driveway Signal Phases	. . . . .
Driveway Signal Overlaps	. . . . .
Leading Ped Phases	. . . . .

Protected Permissive (2-1-2-4)	
Protected Permissive	. . . . .

Pedestrian (2-1-3)	
P1	. . . . .
P2	. . . . .
P3	. . . . .
P4	. . . . .
P5	. . . . .
P6	. . . . .
P7	. . . . .
P8	. . . . .

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
A	. . . . .	. . . . .	. . . . .	. . . . .
B	. . . . .	. . . . .	. . . . .	. . . . .
C	. . . . .	. . . . .	. . . . .	. . . . .
D	. . . . .	. . . . .	. . . . .	. . . . .
E	. . . . .	. . . . .	. . . . .	. . . . .
F	. . . . .	. . . . .	. . . . .	. . . . .

PHASE TIMING

Phase (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	0	0	0	0	0	0	0
Flash Don't Walk	0	0	0	0	0	0	0	0
Minimum Green	0	8	0	0	8	8	0	8
Det Limit	0	10	0	0	10	10	0	10
Max Initial	0	0	0	0	0	0	0	0
Max Green 1	0	50	0	0	25	50	0	30
Max Green 2	0	50	0	0	50	50	0	50
Max Green 3	0	50	0	0	50	50	0	50
Extension	0.0	1.0	0.0	0.0	2.0	1.0	0.0	1.0
Maximum Gap	0.0	3.0	0.0	0.0	2.0	3.0	0.0	2.0
Minimum Gap	0.0	1.5	0.0	0.0	2.0	1.5	0.0	2.0
Add Per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Gap By	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
Reduce Every	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0
Yellow	3.0	4.8	3.0	3.0	3.7	4.8	3.0	4.8
All-Red	0.0	2.0	0.0	0.0	0.5	2.0	0.0	1.0

Ped/Bike (2-3)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	8	0	0	0	8	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A	B	C	D	E	F
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert

Red Revert (2-5)	
Time	5.0
All-Red Sec/Min (2-6)	
All-Red Sec/Min:	SEC

Max 2 Extension

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor	90							54			20	26		23
Plan 2	Green Factor	100							62			23	31		25
Plan 3	Green Factor	90							49			18	23		28
Plan 4	Green Factor	100							54			20	26		33
Plan 5	Green Factor	110							60			23	29		37
Plan 6	Green Factor														
Plan 7	Green Factor														
Plan 8	Green Factor														
Plan 9	Green Factor														

Master Timer Sync (7-A)	
Enable in Plans	
1-9	1 2 3 4 5 . . . .
11-19	. . . . .
21-29	. . . . .

Master Sub Master	
Input	
Output	

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	. 2 . 4 5 . . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 2	. 2 . 4 5 . . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 3	. 2 . 4 5 . . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 4	. 2 . 4 5 . . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 5	. 2 . 4 5 . . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 6	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 7	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 8	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 9	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .

FREE PLAN PHASE FLAGS

(7-E) Free	
Lag	Omit
. 2 . 4 . 6 . 8	. . . . .
Veh Min	Veh Max
. . . . .	. . . . .
Ped	Bike
. . . . .	. . . . .
Cond	Cond Grn
. . . . .	10

MANUAL COMMANDS

Manual Plan (4-1)	
Plan	OffSet
	A

Plan: 1-9
15 or 254 = Flash
14 or 255 = Free
Offset A, B, or C

Special Function Override (4-2)			
#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

Local Plan 11...19 (7-2) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 11	Green Factor														
Plan 12	Green Factor														
Plan 13	Green Factor														
Plan 14	Green Factor														
Plan 15	Green Factor														
Plan 16	Green Factor														
Plan 17	Green Factor														
Plan 18	Green Factor														
Plan 19	Green Factor														

Local Plan 11...19 (7-2) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 11	.....	.....	.....	.....	.....	.....	.....	.....
Plan 12	.....	.....	.....	.....	.....	.....	.....	.....
Plan 13	.....	.....	.....	.....	.....	.....	.....	.....
Plan 14	.....	.....	.....	.....	.....	.....	.....	.....
Plan 15	.....	.....	.....	.....	.....	.....	.....	.....
Plan 16	.....	.....	.....	.....	.....	.....	.....	.....
Plan 17	.....	.....	.....	.....	.....	.....	.....	.....
Plan 18	.....	.....	.....	.....	.....	.....	.....	.....
Plan 19	.....	.....	.....	.....	.....	.....	.....	.....

Local Plan 21...29 (7-3) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 21	Green Factor														
Plan 22	Green Factor														
Plan 23	Green Factor														
Plan 24	Green Factor														
Plan 25	Green Factor														
Plan 26	Green Factor														
Plan 27	Green Factor														
Plan 28	Green Factor														
Plan 29	Green Factor														

Local Plan 21...29 (7-3) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 21	.....	.....	.....	.....	.....	.....	.....	.....
Plan 22	.....	.....	.....	.....	.....	.....	.....	.....
Plan 23	.....	.....	.....	.....	.....	.....	.....	.....
Plan 24	.....	.....	.....	.....	.....	.....	.....	.....
Plan 25	.....	.....	.....	.....	.....	.....	.....	.....
Plan 26	.....	.....	.....	.....	.....	.....	.....	.....
Plan 27	.....	.....	.....	.....	.....	.....	.....	.....
Plan 28	.....	.....	.....	.....	.....	.....	.....	.....
Plan 29	.....	.....	.....	.....	.....	.....	.....	.....

DETECTORS

Detector Attributes (5-1)				Slot	Detector Configuration (5-2)				
Det	Type	Phases	Lock		Det	Delay	Extend	Recall	Port
1	BICYCLE	. . . . . 6 . .	YEL	I1U	1			10	3.2
2	COUNT+CALL+EXTEND	1	NO	I1L	2			10	7.2
3	COUNT+CALL+EXTEND	. 2	NO	I2U	3		1.0	10	1.1
4	COUNT+CALL+EXTEND	. 2	NO	I2L	4		1.0	10	1.5
5	COUNT+CALL+EXTEND	. 2	NO	I3U	5		1.5	10	4.5
6	BICYCLE	. 2	YEL	I3L	6			10	6.2
7	LIMITED	. 2	NO	I4U	7			10	2.1
8	COUNT+CALL+EXTEND	. 2	NO	I4L	8			10	7.4
9	COUNT+CALL+EXTEND	. . 3	NO	I5U	9			10	3.4
10	COUNT+CALL+EXTEND	. . 3	NO	I5L	10			10	7.6
11	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I6U	11			10	1.3
12	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I6L	12			10	1.7
13	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I7U	13			10	4.7
14	CALL+EXTEND	. . . 4 . . .	NO	I7L	14			10	6.4
15	LIMITED	. . . 4 . . .	NO	I8U	15			10	2.3
16	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I8L	16			10	7.8
17	COUNT+CALL+EXTEND	1	NO	I9U	17			10	3.6
18	COUNT+CALL+EXTEND	. . 3	NO	I9L	18			10	3.8
19	COUNT+CALL+EXTEND	. 2	NO	I10U	19			10	4.1
20	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I10L	20			10	4.2
21	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J1U	21			10	3.1
22	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J1L	22			10	7.1
23	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J2U	23		1.0	10	1.2
24	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J2L	24		1.0	10	1.6
25	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J3U	25		1.5	10	4.6
26	LIMITED	. . . . . 6 . .	NO	J3L	26			10	6.3
27	LIMITED	. . . . . 6 . .	NO	J4U	27			10	2.2
28	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J4L	28			10	7.3
29	COUNT+CALL+EXTEND	. . . . . 7 .	NO	J5U	29			10	3.3
30	COUNT+CALL+EXTEND	. . . . . 7 .	NO	J5L	30			10	7.5
31	COUNT+CALL+EXTEND	 8	YEL	J6U	31		2.0	10	1.4
32	COUNT+CALL+EXTEND	 8	YEL	J6L	32		2.0	10	1.8
33	COUNT+CALL+EXTEND	 8	YEL	J7U	33	2	2.0	10	4.8
34	LIMITED	 8	NO	J7L	34	10		10	6.5
35	COUNT+CALL+EXTEND	 8	NO	J8U	35			10	2.4
36	COUNT+CALL+EXTEND	 8	NO	J8L	36			10	7.7
37	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J9U	37			10	3.5
38	LIMITED	 8	NO	J9L	38			10	3.7
39	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J10U	39			10	4.3
40	COUNT+CALL+EXTEND	 8	NO	J10L	40			10	4.4
41	PEDESTRIAN	. 2	NO	I12U	41			10	5.1
42	PEDESTRIAN	. . . 4 . . .	NO	I12L	42			10	5.3
43	PEDESTRIAN	. . . . . 6 . .	NO	I13U	43			10	5.2
44	PEDESTRIAN	 8	NO	I13L	44			10	5.4

Failure Times(5-3)	Minutes
Maximum On Time	
Fail Reset Time	

Failure Override (5-4)	
Detectors 1-8	. . . . .
Detectors 9-16	. . . . .
Detectors17-24	. . . . .
Detectors 25-32	. . . . .
Detectors 33-40	. . . . .
Detectors 41-44	. . . . .

System Detector Assignment (5-5)

Sys Det	1	2	3	4	5	6	7	8
Det Nu								
Sys Det	9	10	11	12	13	14	15	16
Det Nu								

CIC Operation (5-6-1)	
Enable in Plans	. . . . .

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.00	

Detector-to-Phase Assignment (5-6-3)

Sys Det	1	2	3	4	5	6	7	8
Phase								
Sys Det	9	10	11	12	13	14	15	16
Phase								

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 2 (8-2-2)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 3 (8-2-3)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 4 (8-2-4)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 5 (8-2-5)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 6 (8-2-6)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

HOLIDAY TABLES

Floating Holiday Table (8-2-8)

#	Mnth	Week	DOW	Table
1			.....	
2			.....	
3			.....	
4			.....	
5			.....	
6			.....	
7			.....	
8			.....	
9			.....	
10			.....	
11			.....	
12			.....	
13			.....	
14			.....	
15			.....	
16			.....	

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1			.....	
2			.....	
3			.....	
4			.....	
5			.....	
6			.....	
7			.....	
8			.....	
9			.....	
10			.....	
11			.....	
12			.....	
13			.....	
14			.....	
15			.....	
16			.....	

Solar Clock Data (8-4)

North Latitude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)

Hebrew	Ped Recall
Sabbath	.....
Holiday	.....

Daylight Saving (8-6)

Enabled	YES

TOD FUNCTIONS

TOD Functions (8-3)

#	Start	End	DOW	Action	Phases
1			.....		.....
2			.....		.....
3			.....		.....
4			.....		.....
5			.....		.....
6			.....		.....
7			.....		.....
8			.....		.....
9			.....		.....
10			.....		.....
11			.....		.....
12			.....		.....
13			.....		.....
14			.....		.....
15			.....		.....
16			.....		.....

Action Codes:

0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11. Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped
27. Traffic Actuated Max 2
41. Protected Permissive
42. Protected Permissive

Action Code = Phases added to normal setting

100+Action Code = Phases removed

200+Action Code = Phases replaced

COMMUNICATIONS

C2 (6-1-1)	
Address	1
Protocol	AB3418
Limit Access	0
Baud	9600
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C20 (6-1-2)	
Address	
Protocol	AB3418
Limit Access	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C21 (6-1-3)	
Address	
Protocol	AB3418
Limit Access	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

Limit Access:
0-None
1-Status Only
2-Status, Set Pattern, Time
3-Status, Set Pattern, Time, Manual Plan

SOFT LOGIC

Soft Logic (6-2)

#	Data	OP	Data	OP	Data	OP	Data
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

*Refer to User's Manual for Data and OP Codes

CALLBACK NUMBERS

Callback Numbers (6-3...3)	
Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

NETWORK

Network (6-4)	
Address	
Protocol	AB3418
Port	27000
IP Mode	STATIC

IP Address	0	.	0	.	0	.	0
Netmask	255	.	255	.	255	.	0
Broadcast	0	.	0	.	0	.	254
Gateway	0	.	0	.	0	.	1

RAILROAD PREEMPTION

RR 1

(3-1-1)	Timing	Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Clear 1	10	. 2 . . 5 . . .	. . . . .	. . . . .	. . . . .	. . . . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .	. . . . .
Clear 2		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Clear 3		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Hold		. . . . .	. . . . .	1 2 3 4 5 6 7 8	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	A B C D E F
Exit										
Min Grn										
Ped Clr										

Exit Parameters (3-1-5)			
Phase Green	Overlap Green	Vehicle Call	Ped Call
. . . . .	. . . . .	1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8

Configuration (3-1-6)			
Port	Gate Port	Latching	Power-Up
2.5	0.0	YES	FLASHING

RR 2

(3-2-1)	Timing	Phase Flags (3-2-2)			Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Clear 1	10	. . . 4 . . 7 .	. . . . .	. . . . .	. . . . .	. . . . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .	. . . . .
Clear 2		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Clear 3		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Hold		1 2 3 . . 6 . .	. . . . .	. . . . .	. 2 . . . 6 . .	. . . . .	. . . 4 . . . 8	. . . . .	. . . . .	. . . . .
Exit										
Min Grn										
Ped Clr										

Exit Parameters (3-2-5)			
Phase Green	Overlap Green	Vehicle Call	Ped Call
. . . . .	. . . . .	. . . 4 . . 7 .	. . . . .

Configuration (3-2-6)			
Port	Gate Port	Latching	Power-up
2.6	0.0	YES	DARK

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	5	30	. 2 . . 5 . . .	. . . . .

Port	Latching	Phase Termination
5.5	NO	ADVANCE

EVB (3-B)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	. . . 4 . . 7 .	. . . . .

Port	Latching	Phase Termination
5.6	NO	ADVANCE

EVC (3-C)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	5	30	. . . . . 6 . .	. . . . .

Port	Latching	Phase Termination
5.7	NO	ADVANCE

EVD (3-D)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	5	30	 8	. . . . .

Port	Latching	Phase Termination
5.8	NO	ADVANCE

INPUTS

		7 Wire I/C (2-1-5-1)			
		Input	Port	Input	Port
Enable	NO	R1	3.8	Free	3.6
Max ON		R2	3.5	D2	2.8
Max OFF		R3	3.7	D3	6.1

Manual Control (2-1-5-2)	
Input	Port
Manual Advance	
Advance Enable	

Cabinet Status (2-1-5-3)	
Input	Port
Flash Bus	
Door Ajar	
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	
2	
3	
4	

Battery Backup (2-1-5-5)	
Port	Operation
2.7	FLASHING

Y-Coordination (2-1-5-6)	
Port C	Port D
0.0	0.0

OUTPUTS

Loadswitch Assignments (2-1-6)							+
A	1	2	22	3	4	24	9
B	5	6	26	7	8	28	10
X	13	14	0	11	12	0	0

Loadswitch Codes:

0 Unused (no output)
1-8 Vehicle 1-8
9-14 Overlap A-F
21-28 Ped 1-8
41-47 Special Functions
41 Protected Permissive Flashing Phase 1
43 Protected Permissive Flashing Phase 3
45 Protected Permissive Flashing Phase 5
47 Protected Permissive Flashing Phase 7
51-57 Special Functions
71-72 Seven Wire I/C

+ middle output of loadswitches 3 and 6 Channel 9 and 10

TRANSIT PRIORITY

Local Plans (3-E) 1...9 11...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor											
Plan 2	Green Factor											
Plan 3	Green Factor											
Plan 4	Green Factor											
Plan 5	Green Factor											
Plan 6	Green Factor											
Plan 7	Green Factor											
Plan 8	Green Factor											
Plan 9	Green Factor											
Plan 11	Green Factor											
Plan 12	Green Factor											
Plan 13	Green Factor											
Plan 14	Green Factor											
Plan 15	Green Factor											
Plan 16	Green Factor											
Plan 17	Green Factor											
Plan 18	Green Factor											
Plan 19	Green Factor											

Transit Priority Configuration (3-E-A)				Indicator Output	
Enable in Plans		Input	Type	Stop	Go
Plan 1-9	.....	0.0	OPT	0	0
Plan 11-19	.....	0.0	OPT	0	0

Queue Jump (3-E-B)	
Grn Hold	Hold Phase
	.....
	.....

Free Plans (3-E-E)	
Max Grn Hold	Hold Phase
	.....

Access Utilities (9-5)	
Password	***
Timeout	30

YELLOW YIELD COORDINATION

					Force-Offs											
Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	Coord	Lag	Min Recall	Restricted
Plan C													.2...6..	.2.4.6.8	.....	.....
Plan D													.2...6..	.2.4.6.8	.....	.....

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
					.....	0.0	0.0	0.0	0	0.0	0

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Appendix B: Level-of-Service and Signal Warrant Calculations

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Existing AM no Project

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Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	El Dorado Hills Blvd/Serrano Pkwy	Signalized	HCM 7th Edition	SB Right	1.047	112.9	F
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	EB Right	1.337	147.8	F
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	NB Left	1.153	94.1	F
4	Latrobe Rd/US 50 EB	Signalized	HCM 7th Edition	NB Thru	1.055	23.0	C
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	WB Right	0.804	21.1	C
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	NB Left	0.629	33.0	C
7	Latrobe Rd/Golden Foothill Pkwy N	Signalized	HCM 7th Edition	SB Left	0.849	20.9	C
8	Latrobe Rd/Suncast Ln	Signalized	HCM 7th Edition	EB Left	0.732	9.3	A
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	SB Left	0.785	26.0	C
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	NB Left	0.615	10.8	B
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	WB Right	0.077	12.7	B
12	Latrobe Rd/Royal Oaks Dr	Two-way stop	HCM 7th Edition	WB Left	0.037	20.1	C
13	Golden Foothill/Robert J Mathews	Two-way stop	HCM 7th Edition	NB Left	0.212	66.2	F
14	Investment Blvd/Robert J Mathews Pkwy	All-way stop	HCM 7th Edition	SB Thru	0.869	25.0	C
15	Golden Foothill Pkwy/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.048	10.5	B
16	Carson Crossing Rd/Calypso Cir.	Two-way stop	HCM 7th Edition	NB Left	0.073	11.0	B
17	Carson Crossing Rd/Four Seasons Dr	All-way stop	HCM 7th Edition	WB Left	0.081	7.9	A
	White Rock Rd/Carson		HCM 7th				

18	White Rock Rd/Carson Crossing Rd	Two-way stop	HCM 7th Edition	SB Left	0.243	22.1	C
19	White Rock Rd/Windfield Way	Signalized	HCM 7th Edition	EB Left	0.398	25.8	C
20	White Rock Rd/Post St	Signalized	HCM 7th Edition	SB Left	0.453	39.2	D
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 7th Edition	WB Thru	0.983	75.0	E
22	White Rock Rd/Clarksville Crossing	Signalized	HCM 7th Edition	NB Right	0.733	23.4	C
23	White Rock Rd/US 50 EB	Signalized	HCM 7th Edition	EB Left	0.452	16.9	B
24	Silva Valley Pkwy/US 50 WB	Signalized	HCM 7th Edition	WB Left	0.847	34.2	C
25	New Intersection	Two-way stop	HCM 6th Edition	NB Thru	0.005	0.0	A
26	Latrobe/Wetsl-Oviatt	Two-way stop	HCM 7th Edition	EB Left	0.009	13.5	B
27	Latrobe/S. Shingle	Two-way stop	HCM 7th Edition	EB Left	0.131	19.6	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

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Intersection Level Of Service Report
Intersection 1: El Dorado Hills Blvd/Serrano Pkwy

Control Type:	Signalized	Delay (sec / veh):	112.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.047

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	260.0	100.0	100.0	100.0	110.00	100.00	100.00	100.00	100.00	100.00	430.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No			No		
Crosswalk	No				Yes			Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Base Volume Input [veh/h]	5	194	705	301	68	1419	40	18	11	260	467	57	108
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	12	0	0	78	0	0	32
Total Hourly Volume [veh/h]	5	194	705	301	68	1419	28	18	11	182	467	57	76
Peak Hour Factor	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	56	203	86	20	408	8	5	3	52	134	16	22
Total Analysis Volume [veh/h]	5	223	810	346	78	1631	32	21	13	209	537	66	87
Presence of On-Street Parking	No			No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	1	6	0	7	7	0	0	8	0
Auxiliary Signal Groups													
Maximum Green [s]	0	25	40	0	25	40	0	35	35	0	0	35	0
Amber [s]	0.0	3.0	4.7	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	12	0	0	12	0	0	0	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	100.0	245.0	0.0	100.0	100.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	29	46	0	29	46	0	39	39	0	0	39	0
Lead / Lag	-	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	3	6	0	3	3	0	3	3	0	0	3	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	4.0	0.0
Minimum Recall		No	No		No	No			No			No	
Maximum Recall		No	No		No	No			No			No	
Pedestrian Recall		No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C
C, Cycle Length [s]	122	122	122	122	122	122	122	122	122	122
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	18	51	51	7	40	40	19	19	28	28
g / C, Green / Cycle	0.14	0.42	0.42	0.06	0.33	0.33	0.16	0.16	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.13	0.23	0.22	0.04	0.45	0.45	0.01	0.14	0.20	0.20
s, saturation flow rate [veh/h]	1781	3560	1589	1781	1870	1857	1781	1604	1781	1744
c, Capacity [veh/h]	257	1481	661	100	613	609	277	250	404	396
d1, Uniform Delay [s]	51.21	26.93	26.59	56.79	40.98	40.98	43.99	50.45	45.30	45.34
k, delay calibration	0.11	0.04	0.14	0.04	0.50	0.50	0.04	0.04	0.25	0.26
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.29	0.12	0.83	4.79	171.34	173.88	0.04	4.28	11.80	12.31
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.55	0.52	0.78	1.36	1.36	0.08	0.89	0.86	0.86
d, Delay for Lane Group [s/veh]	61.50	27.05	27.42	61.58	212.32	214.86	44.03	54.73	57.10	57.65
Lane Group LOS	E	C	C	E	F	F	D	D	E	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	7.37	8.51	7.31	2.45	46.67	46.78	0.55	6.91	11.39	11.25
50th-Percentile Queue Length [ft/ln]	184.31	212.64	182.67	61.18	1166.65	1169.53	13.73	172.86	284.81	281.33
95th-Percentile Queue Length [veh/ln]	11.83	13.29	11.74	4.40	69.02	69.30	0.99	11.23	16.93	16.75
95th-Percentile Queue Length [ft/ln]	295.64	332.21	293.50	110.12	1725.58	1732.54	24.71	280.67	423.20	418.86

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	61.50	61.50	27.05	27.42	61.58	213.56	214.86	44.03	54.73	54.73	57.29	57.65	57.65
Movement LOS	E	E	C	C	E	F	F	D	D	D	E	E	E
d_A, Approach Delay [s/veh]	32.82				206.78			53.81			57.37		
Approach LOS	C				F			D			E		
d_I, Intersection Delay [s/veh]	112.88												
Intersection LOS	F												
Intersection V/C	1.047												

Emissions

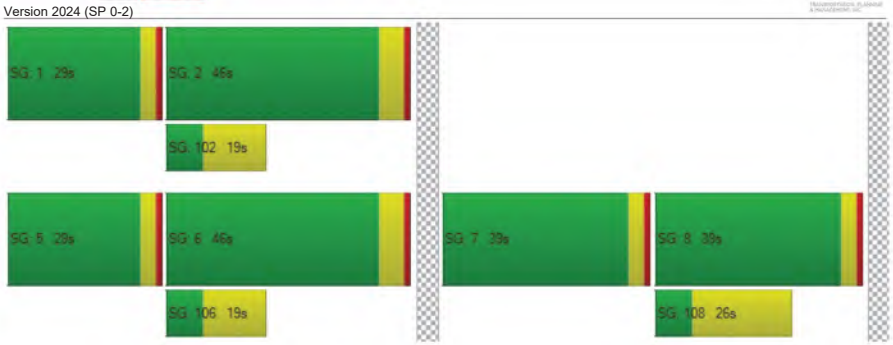
Vehicle Miles Traveled [mph]	54.45	193.45	82.64	11.47	122.41	122.09	0.90	9.48	18.21	17.89
Stops [stops/h]	217.96	502.91	216.02	72.34	1379.61	1383.01	16.23	204.42	336.80	332.68
Fuel consumption [US gal/h]	7.43	17.34	7.45	2.27	57.31	57.68	0.31	3.99	6.65	6.59
CO [g/h]	519.32	1212.25	520.70	158.67	4006.30	4032.11	22.00	279.04	465.12	460.34
NOx [g/h]	101.04	235.86	101.31	30.87	779.48	784.50	4.28	54.29	90.49	89.56
VOC [g/h]	120.36	280.95	120.68	36.77	928.50	934.48	5.10	64.67	107.80	106.69

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	50.38	50.38	50.38
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.122	2.278	2.377
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	662	662	575	575
d_b, Bicycle Delay [s]	27.25	27.25	30.92	30.92
l_b,int, Bicycle LOS Score for Intersection	2.697	3.006	2.089	2.751
Bicycle LOS	B	C	B	C

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	147.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.337

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	1	0	1	0	0	1
Entry Pocket Length [ft]	230.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	1	348	988	150	1	148	1611	391	132	61	682	11	13	84
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	45	0	0	0	117	0	0	205	0	0	25
Total Hourly Volume [veh/h]	1	348	988	105	1	148	1611	274	132	61	477	11	13	59
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	94	266	28	0	40	433	74	35	16	128	3	3	16
Total Analysis Volume [veh/h]	1	374	1062	113	1	159	1732	295	142	66	513	12	14	63
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	0	3	8	0
Auxiliary Signal Groups														
Maximum Green [s]	0	20	50	0	0	20	50	0	20	20	0	0	20	0
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	18	0	0	0	16	0	0	0	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	0	24	56	0	24	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	58	58	12	50	50	20	20	20	7	7
g / C, Green / Cycle	0.17	0.50	0.50	0.11	0.44	0.44	0.17	0.17	0.17	0.06	0.06
(v / s)_i Volume / Saturation Flow Rate	0.21	0.22	0.22	0.09	0.54	0.57	0.06	0.06	0.32	0.01	0.05
s, saturation flow rate [veh/h]	1781	3560	1779	1781	1870	1779	1781	1836	1589	1781	1634
c, Capacity [veh/h]	310	1792	896	190	815	775	310	320	277	110	101
d1, Uniform Delay [s]	47.39	18.15	18.15	50.33	32.39	32.39	41.53	41.51	47.39	50.87	53.03
k, delay calibration	0.50	0.13	0.13	0.04	0.50	0.50	0.04	0.04	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	120.05	0.20	0.41	3.87	120.16	147.87	0.23	0.22	397.12	0.16	4.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.21	0.44	0.44	0.84	1.24	1.31	0.33	0.33	1.85	0.11	0.76
d, Delay for Lane Group [s/veh]	167.43	18.36	18.56	54.19	152.54	180.25	41.76	41.73	444.51	51.03	57.49
Lane Group LOS	F	B	B	D	F	F	D	D	F	D	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	18.90	6.20	6.25	4.58	47.99	51.61	2.58	2.63	38.41	0.33	2.31
50th-Percentile Queue Length [ft/ln]	472.42	155.00	156.23	114.60	1199.84	1290.32	64.38	65.86	960.27	8.29	57.73
95th-Percentile Queue Length [veh/ln]	28.47	10.28	10.35	8.10	68.88	75.59	4.64	4.74	60.51	0.60	4.16
95th-Percentile Queue Length [ft/ln]	711.78	257.09	258.72	202.38	1721.98	1889.73	115.88	118.55	1512.63	14.92	103.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	167.4	167.4	18.41	18.56	54.19	54.19	164.0	180.2	41.76	41.73	444.51	51.03	57.49	57.49
Movement LOS	F	F	B	B	D	D	F	F	D	D	F	D	E	E
d_A, Approach Delay [s/veh]	54.48				158.19				328.31			56.62		
Approach LOS	D				F				F			E		
d_I, Intersection Delay [s/veh]	147.82													
Intersection LOS	F													
Intersection V/C	1.337													

Emissions

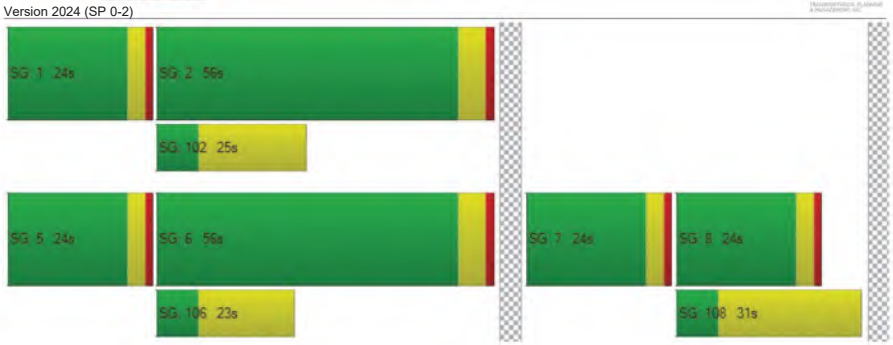
Vehicle Miles Traveled [mph]	70.57	147.43	73.70	38.21	242.06	242.06	6.41	6.56	31.99	0.59	3.75
Stops [stops/h]	592.99	389.11	196.10	143.84	1506.06	1619.63	80.81	82.67	1205.35	10.40	72.47
Fuel consumption [US gal/h]	22.57	12.82	6.44	4.86	58.48	65.60	1.58	1.62	54.37	0.21	1.46
CO [g/h]	1577.43	895.99	450.39	339.90	4087.67	4585.76	110.70	113.26	3800.47	14.41	101.75
NOx [g/h]	306.91	174.33	87.63	66.13	795.31	892.22	21.54	22.04	739.43	2.80	19.80
VOC [g/h]	365.58	207.66	104.38	78.78	947.36	1062.79	25.66	26.25	880.80	3.34	23.58

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	46.89	46.89	46.89
I_p,int, Pedestrian LOS Score for Intersectio	0.000	3.507	2.855	2.149
Crosswalk LOS	F	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	877	877	349	349
d_b, Bicycle Delay [s]	18.09	18.09	39.10	39.10
I_b,int, Bicycle LOS Score for Intersection	2.436	3.329	3.088	1.748
Bicycle LOS	B	C	C	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	94.1
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.153

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	500.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1181	1173	138	3	49	1285	968	256	92	816	146	92	55
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	41	0	0	0	290	0	0	245	0	0	17
Total Hourly Volume [veh/h]	1	1181	1173	97	3	49	1285	678	256	92	571	146	92	38
Peak Hour Factor	1.000	0.840	0.840	0.840	1.000	0.840	0.840	0.840	0.8400	0.8400	0.8400	0.8400	0.8400	0.8400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	351	349	29	1	15	382	202	76	27	170	43	27	11
Total Analysis Volume [veh/h]	1	1406	1396	115	3	58	1530	807	305	110	680	174	110	45
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	136
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	37	62	0	0	14	39	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	42	68	0	0	19	45	28	0	28	0	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	37	69	69	7	39	73	29	29	11	11	11
g / C, Green / Cycle	0.28	0.51	0.51	0.05	0.29	0.54	0.21	0.21	0.08	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.41	0.28	0.29	0.03	0.30	0.51	0.12	0.12	0.06	0.06	0.06
s, saturation flow rate [veh/h]	3459	3560	1800	1781	5094	1589	1781	1826	1781	1817	1742
c, Capacity [veh/h]	951	1819	920	95	1473	853	375	384	139	141	136
d1, Uniform Delay [s]	36.83	5.71	5.77	63.12	48.34	29.62	47.92	47.92	61.63	61.59	61.67
k, delay calibration	0.22	0.50	0.50	0.04	0.50	0.50	0.08	0.08	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	218.20	1.18	2.52	2.72	34.21	20.13	0.93	0.90	3.81	3.60	4.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.48	0.54	0.57	0.64	1.04	0.95	0.55	0.55	0.79	0.78	0.80
d, Delay for Lane Group [s/veh]	255.03	6.89	8.29	65.84	82.55	49.75	48.85	48.82	65.44	65.19	65.72
Lane Group LOS	F	A	A	E	F	D	D	D	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	42.57	2.87	3.35	2.11	20.76	27.60	6.33	6.49	3.88	3.92	3.84
50th-Percentile Queue Length [ft/ln]	1064.21	71.66	83.79	52.65	518.97	690.05	158.34	162.23	97.06	97.96	96.10
95th-Percentile Queue Length [veh/ln]	64.85	5.16	6.03	3.79	28.93	36.22	10.46	10.67	6.99	7.05	6.92
95th-Percentile Queue Length [ft/ln]	1621.26	128.99	150.82	94.76	723.19	905.45	261.52	266.67	174.71	176.32	172.97

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	255.0	255.0	7.30	8.29	65.84	65.84	82.55	49.75	48.84	48.82	0.00	65.34	65.50	65.72
Movement LOS	F	F	A	A	E	E	F	D	D	D		E	E	E
d_A, Approach Delay [s/veh]	126.79				71.09				20.55			65.45		
Approach LOS	F				E				C			E		
d_I, Intersection Delay [s/veh]	94.14													
Intersection LOS	F													
Intersection V/C	1.153													

Emissions

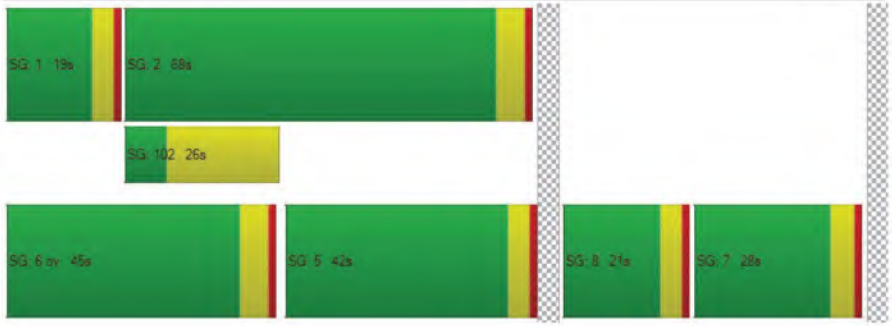
Vehicle Miles Traveled [mph]	240.80	169.55	89.05	11.48	287.94	151.87	9.48	9.72	3.49	3.53	3.44
Stops [stops/h]	2253.62	151.76	88.72	55.74	1648.48	730.64	167.65	171.77	102.77	103.72	101.75
Fuel consumption [US gal/h]	95.37	9.21	5.03	1.90	56.06	22.46	3.35	3.44	2.17	2.19	2.15
CO [g/h]	6666.28	643.57	351.84	133.08	3918.92	1569.91	234.41	240.16	151.82	153.10	150.46
NOx [g/h]	1297.02	125.22	68.46	25.89	762.48	305.45	45.61	46.73	29.54	29.79	29.27
VOC [g/h]	1544.98	149.15	81.54	30.84	908.25	363.84	54.33	55.66	35.19	35.48	34.87

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		57.44	
I_p,int, Pedestrian LOS Score for Intersectio	0.000		0.000		0.000		2.338	
Crosswalk LOS	F		F		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	915		576		337		241	
d_b, Bicycle Delay [s]	20.02		34.45		47.03		52.59	
I_b,int, Bicycle LOS Score for Intersection	3.187		3.006		2.244		1.845	
Bicycle LOS	C		C		B		A	

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 4: Latrobe Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	23.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.055

Intersection Setup

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	200.00	570.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No			No		
Crosswalk	No			No				No			Yes		

Volumes

Name	Latrobe Rd			El Dorado Hills Blvd			US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Base Volume Input [veh/h]	0	1965	463	0	520	1728	0	0	1058	0	0	528
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	139	0	0	0	0	0	0	317	0	0	158
Total Hourly Volume [veh/h]	0	1965	324	0	520	1728	0	0	0	741	0	0	370
Peak Hour Factor	1.0000	0.8400	0.8400	1.000	0.840	0.840	1.000	1.0000	1.0000	0.8400	1.0000	1.0000	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	585	96	0	155	514	0	0	0	221	0	0	110
Total Analysis Volume [veh/h]	0	2339	386	0	619	2057	0	0	0	882	0	0	440
Presence of On-Street Parking	No		No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	74.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	50	0	0	39	50	0	0	0	45	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No				No			
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
l2, Clearance Lost Time [s]	0.0	4.2	0.0	0.0	2.6	4.2	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	2.5	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Minimum Recall		No			No	No				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	R	
C, Cycle Length [s]	68	68	68	68	68	
L, Total Lost Time per Cycle [s]	6.20	6.20	4.60	6.20	4.60	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	4.20	4.20	2.60	4.20	2.60	
g_i, Effective Green Time [s]	32	32	25	35	22	
g / C, Green / Cycle	0.47	0.47	0.37	0.51	0.33	
(v / s)_i Volume / Saturation Flow Rate	0.46	0.24	0.35	0.30	0.31	
s, saturation flow rate [veh/h]	5094	1589	1781	6792	2813	
c, Capacity [veh/h]	2395	747	661	3476	927	
d1, Uniform Delay [s]	17.65	12.61	20.61	11.63	22.27	
k, delay calibration	0.50	0.50	0.14	0.50	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	13.69	2.54	8.51	0.75	2.72	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.98	0.52	0.94	0.59	0.95	
d, Delay for Lane Group [s/veh]	31.35	15.15	29.13	12.37	24.99	
Lane Group LOS	C	B	C	B	C	
Critical Lane Group	Yes	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	12.30	3.80	9.47	4.35	6.63	
50th-Percentile Queue Length [ft/ln]	307.47	95.09	236.75	108.84	165.86	
95th-Percentile Queue Length [veh/ln]	18.05	6.85	14.52	7.78	10.86	
95th-Percentile Queue Length [ft/ln]	451.26	171.17	362.92	194.39	271.47	

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	31.35	15.15	29.13	29.13	12.37	0.00	0.00	0.00	24.99	0.00	0.00	0.00
Movement LOS		C	B	C	C	B				C			
d_A, Approach Delay [s/veh]		29.05			16.25				24.99			0.00	
Approach LOS		C			B				C			A	
d_I, Intersection Delay [s/veh]	23.03												
Intersection LOS	C												
Intersection V/C	1.055												

Emissions

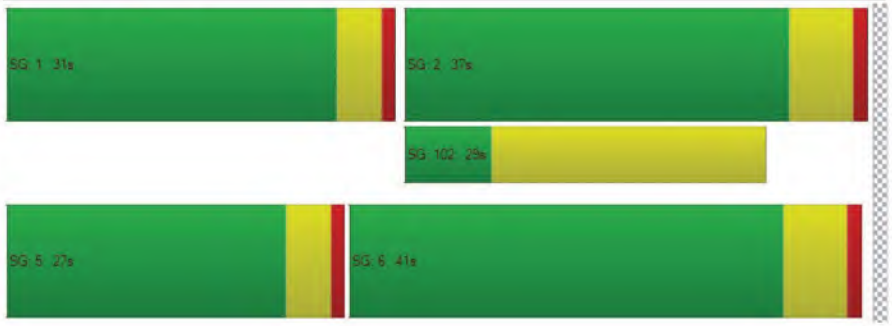
Vehicle Miles Traveled [mph]	338.73	55.90	105.94	352.05	62.99	
Stops [stops/h]	1953.36	201.37	501.35	921.93	702.47	
Fuel consumption [US gal/h]	50.82	5.61	13.53	28.71	10.96	
CO [g/h]	3552.31	392.17	946.02	2006.85	766.11	
NOx [g/h]	691.15	76.30	184.06	390.46	149.06	
VOC [g/h]	823.28	90.89	219.25	465.11	177.55	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0		0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00		0.00	0.00	23.89
I_p,int, Pedestrian LOS Score for Intersectio	0.000		0.000	0.000	2.257
Crosswalk LOS	F		F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000		2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	906		1024	659	0
d_b, Bicycle Delay [s]	10.18		8.10	15.29	34.00
I_b,int, Bicycle LOS Score for Intersection	3.135		2.408	1.560	1.560
Bicycle LOS	C		B	A	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	21.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.804

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	61	1808	235	4	440	1970	372	140	8	20	1	70	30	476
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	71	0	0	0	112	0	0	6	0	0	0	143
Total Hourly Volume [veh/h]	1	61	1808	164	4	440	1970	260	140	8	14	1	70	30	333
Peak Hour Factor	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.9800	0.9800	0.9800	0.980	0.980	0.980	0.980
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	16	461	42	1	112	503	66	36	2	4	0	18	8	85
Total Analysis Volume [veh/h]	1	62	1845	167	4	449	2010	265	143	8	14	1	71	31	340
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	123
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	5	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	50	0	15	15	50	0	15	20	0	0	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	3.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.5	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	1.5	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	245.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	19	19	56	0	19	24	0	0	19	19	0
Lead / Lag	-	Lead	-	-	Lead	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	4	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	No			No	No			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	83	83	83	83	83	83	83	83	83	83	83	83
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	3	37	37	13	47	47	6	6	6	12	12	12
g / C, Green / Cycle	0.04	0.44	0.44	0.15	0.56	0.56	0.07	0.07	0.07	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.02	0.36	0.11	0.13	0.39	0.17	0.04	0.00	0.01	0.04	0.12	0.12
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	1870	1589	1781	1630	1589
c, Capacity [veh/h]	128	2250	702	536	2851	890	243	132	112	252	230	225
d1, Uniform Delay [s]	39.44	20.40	14.54	34.30	13.36	9.71	37.64	36.24	36.40	32.08	34.79	34.79
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.08	0.08	0.08	0.08	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.10	0.29	0.06	1.44	0.12	0.07	1.68	0.14	0.37	0.46	9.30	9.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.82	0.24	0.85	0.70	0.30	0.59	0.06	0.13	0.29	0.82	0.82
d, Delay for Lane Group [s/veh]	40.54	20.69	14.60	35.74	13.48	9.78	39.31	36.38	36.77	32.54	44.09	44.31
Lane Group LOS	D	C	B	D	B	A	D	D	D	C	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.64	9.75	1.89	4.46	8.13	2.34	1.45	0.16	0.27	1.31	4.21	4.12
50th-Percentile Queue Length [ft/ln]	16.07	243.81	47.20	111.45	203.27	58.61	36.19	3.88	6.87	32.71	105.13	102.90
95th-Percentile Queue Length [veh/ln]	1.16	14.87	3.40	7.92	12.81	4.22	2.61	0.28	0.49	2.35	7.57	7.41
95th-Percentile Queue Length [ft/ln]	28.92	371.85	84.96	198.02	320.18	105.49	65.14	6.98	12.37	58.87	189.21	185.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.54	40.54	20.69	14.60	35.74	35.74	13.48	9.78	39.31	36.38	36.77	32.54	32.54	44.09	44.21
Movement LOS	D	D	C	B	D	D	B	A	D	D	D	C	C	D	D
d_A, Approach Delay [s/veh]	20.81				16.82				38.96			42.30			
Approach LOS	C				B				D			D			
d_I, Intersection Delay [s/veh]	21.11														
Intersection LOS	C														
Intersection V/C	0.804														

Emissions

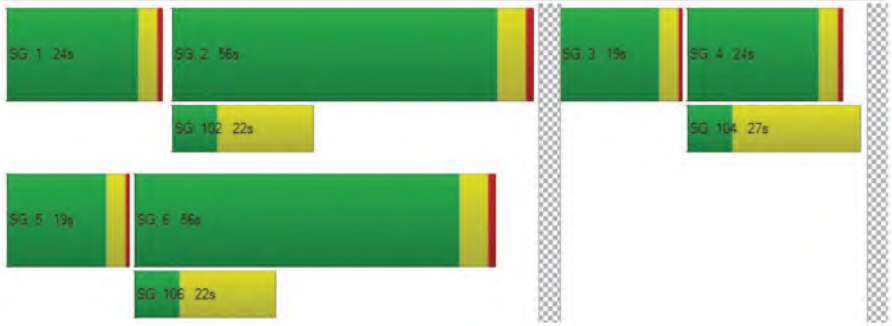
Vehicle Miles Traveled [mph]	14.06	411.76	37.27	65.60	291.09	38.38	18.24	1.02	1.79	25.27	65.92	64.29
Stops [stops/h]	55.49	1263.04	81.51	384.90	1053.01	101.20	124.98	6.69	11.87	56.48	181.54	177.68
Fuel consumption [US gal/h]	1.41	31.70	2.48	8.12	23.32	2.67	2.59	0.14	0.24	1.83	5.40	5.28
CO [g/h]	98.22	2215.78	173.42	567.74	1629.88	186.38	180.72	9.66	17.04	127.85	377.55	369.09
NOx [g/h]	19.11	431.11	33.74	110.46	317.11	36.26	35.16	1.88	3.32	24.87	73.46	71.81
VOC [g/h]	22.76	513.53	40.19	131.58	377.74	43.20	41.88	2.24	3.95	29.63	87.50	85.54

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.42	0.00	31.42	31.42
l_p,int, Pedestrian LOS Score for Intersectio	3.406	0.000	2.561	2.749
Crosswalk LOS	C	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1211	1211	492	372
d_b, Bicycle Delay [s]	6.49	6.49	23.72	27.64
l_b,int, Bicycle LOS Score for Intersection	2.739	2.875	1.701	2.409
Bicycle LOS	B	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	33.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.629

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	3	2	0	0	1	2	0	0	0	3	0	0
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	260.0	100.0	100.0	260.0	360.0	100.0	100.0	100.0	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	2	84	1607	388	1	92	1561	407	2	310	108	60	298	227	187
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	116	0	0	0	122	0	0	0	18	0	0	56
Total Hourly Volume [veh/h]	2	84	1607	272	1	92	1561	285	2	310	108	42	298	227	131
Peak Hour Factor	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	0.9400	0.9400	0.9400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	22	427	72	0	24	415	76	1	82	29	11	79	60	35
Total Analysis Volume [veh/h]	2	89	1710	289	1	98	1661	303	2	330	115	45	317	241	139
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	157
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups															
Maximum Green [s]	0	15	45	0	0	25	45	0	0	30	25	0	20	35	0
Amber [s]	0.0	4.0	4.7	0.0	0.0	4.0	4.7	0.0	0.0	4.5	4.7	0.0	4.5	4.7	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	39	0	0	0	37	0	0	0	48	0	0	50	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	3.0	3.7	0.0	0.0	3.0	3.7	0.0	0.0	4.0	3.7	0.0	4.0	3.7	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	19	51	0	0	29	51	0	0	36	31	0	26	41	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	7	0	0	10	7	0	0	10	10	0	10	10	0
Vehicle Extension [s]	0.0	1.5	3.0	0.0	0.0	1.5	3.0	0.0	0.0	1.5	2.0	0.0	1.5	2.0	0.0
Minimum Recall		No	Yes			No	Yes			No	No		No	No	
Maximum Recall		No	No			No	No			No	No		No	No	
Pedestrian Recall		No	No			No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	157	157	157	157	157	157	157	157	157	157	157	157
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	6.00	5.70	5.70	6.00	5.70	5.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	4.00	3.70	3.70	4.00	3.70	3.70
g_i, Effective Green Time [s]	10	91	91	10	91	91	17	17	17	16	16	16
g / C, Green / Cycle	0.06	0.58	0.58	0.06	0.58	0.58	0.11	0.11	0.11	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.05	0.25	0.18	0.03	0.33	0.19	0.10	0.04	0.05	0.09	0.07	0.09
s, saturation flow rate [veh/h]	1767	6737	1577	3431	5053	1577	3431	1855	1682	3431	3532	1577
c, Capacity [veh/h]	111	3915	916	217	2939	917	379	201	182	360	362	162
d1, Uniform Delay [s]	72.72	18.46	16.87	70.94	20.46	17.01	68.78	65.37	65.44	69.30	67.85	69.33
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.63	0.36	0.90	0.56	0.79	0.97	2.58	0.51	0.58	2.81	0.79	5.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.44	0.32	0.46	0.57	0.33	0.88	0.41	0.42	0.88	0.67	0.86
d, Delay for Lane Group [s/veh]	78.35	18.82	17.77	71.50	21.26	17.97	71.35	65.87	66.02	72.11	68.63	74.37
Lane Group LOS	E	B	B	E	C	B	E	E	E	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.82	8.90	5.67	1.92	12.31	5.75	6.74	3.16	2.94	6.45	4.73	5.75
50th-Percentile Queue Length [ft/ln]	95.46	222.54	141.70	47.95	307.86	143.69	168.40	78.95	73.40	161.36	118.21	143.84
95th-Percentile Queue Length [veh/ln]	6.87	13.79	9.57	3.45	18.07	9.68	10.99	5.68	5.28	10.62	8.29	9.69
95th-Percentile Queue Length [ft/ln]	171.83	344.86	239.31	86.30	451.73	241.99	274.81	142.10	132.11	265.52	207.37	242.19

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	78.35	78.35	18.82	17.77	71.50	71.50	21.26	17.97	71.35	71.35	65.91	66.02	72.11	68.63	74.37
Movement LOS	E	E	B	B	E	E	C	B	E	E	E	E	E	E	E
d_A, Approach Delay [s/veh]	21.26				23.19				69.59				71.36		
Approach LOS	C				C				E				E		
d_I, Intersection Delay [s/veh]	32.99														
Intersection LOS	C														
Intersection V/C	0.629														

Emissions

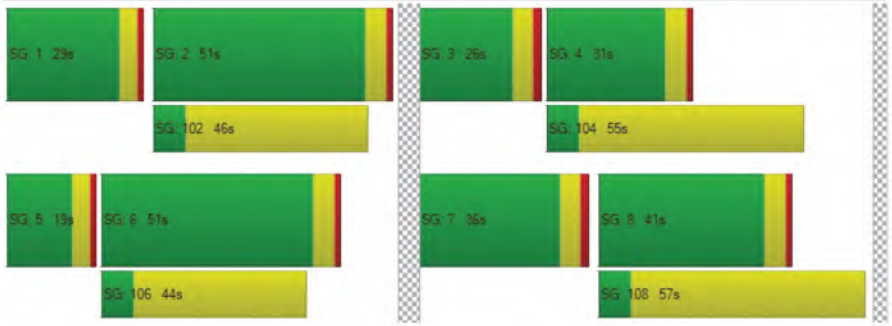
Vehicle Miles Traveled [mph]	36.23	680.80	115.06	22.09	370.70	67.62	82.74	20.68	19.19	33.36	25.36	14.63
Stops [stops/h]	87.56	816.45	129.97	87.95	847.10	131.80	308.91	72.41	67.32	295.99	216.85	131.93
Fuel consumption [US gal/h]	3.43	39.08	6.50	3.29	30.42	5.06	9.93	2.36	2.20	7.66	5.61	3.43
CO [g/h]	239.46	2732.01	454.32	230.05	2126.64	354.02	694.30	165.24	153.51	535.43	391.98	240.07
NOx [g/h]	46.59	531.55	88.39	44.76	413.77	68.88	135.09	32.15	29.87	104.17	76.26	46.71
VOC [g/h]	55.50	633.17	105.29	53.32	492.87	82.05	160.91	38.30	35.58	124.09	90.84	55.64

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	67.89	67.89	67.89	67.89
I_p,int, Pedestrian LOS Score for Intersectio	3.501	3.813	2.710	2.891
Crosswalk LOS	D	D	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	577	577	322	450
d_b, Bicycle Delay [s]	39.74	39.74	55.24	47.17
I_b,int, Bicycle LOS Score for Intersection	2.469	2.707	1.708	2.181
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	20.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.849

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	38	1287	2	2	8	1439	388	167	4	10	3	7	14
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	1	0	0	0	116	0	0	3	0	0	4
Total Hourly Volume [veh/h]	1	38	1287	1	2	8	1439	272	167	4	7	3	7	10
Peak Hour Factor	1.000	0.870	0.870	0.870	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	11	370	0	1	2	414	78	48	1	2	1	2	3
Total Analysis Volume [veh/h]	1	44	1479	1	2	9	1654	313	192	5	8	3	8	11
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	112
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	12	40	0	0	15	40	0	0	20	0	0	20	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	12	0	0	0	20	0	0	20	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	0	0	18	46	0	0	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	69	69	69	69	69	69	69	69	69
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	42	42	1	40	40	6	6	2
g / C, Green / Cycle	0.04	0.61	0.61	0.01	0.58	0.58	0.09	0.09	0.03
(v / s)_i Volume / Saturation Flow Rate	0.03	0.40	0.40	0.01	0.53	0.56	0.06	0.06	0.01
s, saturation flow rate [veh/h]	1781	1870	1870	1781	1870	1771	1781	1768	1708
c, Capacity [veh/h]	77	1145	1145	16	1082	1024	162	161	45
d1, Uniform Delay [s]	32.40	8.58	8.58	34.06	12.92	13.78	30.24	30.24	33.11
k, delay calibration	0.04	0.24	0.24	0.04	0.38	0.41	0.11	0.11	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.65	1.35	1.35	15.90	10.09	17.55	4.05	4.10	3.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.65	0.65	0.67	0.91	0.96	0.63	0.64	0.49
d, Delay for Lane Group [s/veh]	35.06	9.93	9.93	49.96	23.01	31.33	34.29	34.35	36.12
Lane Group LOS	D	A	A	D	C	C	C	C	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.77	5.94	5.94	0.24	11.35	13.87	1.76	1.76	0.39
50th-Percentile Queue Length [ft/ln]	19.19	148.60	148.59	5.95	283.86	346.68	44.05	43.90	9.70
95th-Percentile Queue Length [veh/ln]	1.38	9.94	9.94	0.43	16.88	19.97	3.17	3.16	0.70
95th-Percentile Queue Length [ft/ln]	34.54	248.56	248.54	10.70	422.01	499.36	79.30	79.02	17.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.06	35.06	9.93	9.93	49.96	49.96	26.38	31.33	34.32	34.35	34.35	36.12	36.12	36.12
Movement LOS	D	D	A	A	D	D	C	C	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	10.67				27.30				34.32			36.12		
Approach LOS	B				C				C			D		
d_I, Intersection Delay [s/veh]	20.94													
Intersection LOS	C													
Intersection V/C	0.849													

Emissions

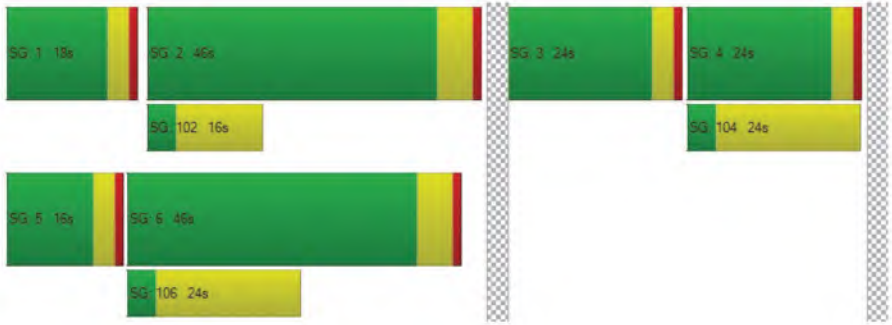
Vehicle Miles Traveled [mph]	15.92	261.88	261.84	4.38	391.56	391.56	24.74	24.63	0.42
Stops [stops/h]	40.18	311.22	311.20	12.45	594.50	726.07	92.27	91.94	20.32
Fuel consumption [US gal/h]	1.20	14.00	13.99	0.49	28.75	32.85	2.25	2.24	0.29
CO [g/h]	83.78	978.31	978.17	34.22	2009.41	2296.52	156.95	156.32	20.35
NOx [g/h]	16.30	190.34	190.32	6.66	390.96	446.82	30.54	30.42	3.96
VOC [g/h]	19.42	226.73	226.70	7.93	465.70	532.24	36.37	36.23	4.72

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.84	0.00	26.84	26.84
l_p,int, Pedestrian LOS Score for Intersectio	2.913	0.000	2.158	1.730
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1164	1164	582	582
d_b, Bicycle Delay [s]	6.01	6.01	17.29	17.29
l_b,int, Bicycle LOS Score for Intersection	2.818	3.280	1.903	1.603
Bicycle LOS	C	C	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 8: Latrobe Rd/Suncast Ln

Control Type:	Signalized	Delay (sec / veh):	9.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.732

Intersection Setup

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Approach	Northbound			Southbound		Eastbound	
Lane Configuration							
Turning Movement	U-turn	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			No		Yes	

Volumes

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Base Volume Input [veh/h]	1	60	1194	1152	301	134	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	90	0	2
Total Hourly Volume [veh/h]	1	60	1194	1152	211	134	3
Peak Hour Factor	1.0000	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	17	343	331	61	39	1
Total Analysis Volume [veh/h]	1	69	1372	1324	243	154	3
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permissive	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	5	2	6	0	3	0
Auxiliary Signal Groups							
Maximum Green [s]	0	12	40	40	0	20	0
Amber [s]	0.0	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No	No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	46	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-
Minimum Green [s]	0	5	5	5	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall		No	No	No		No	
Maximum Recall		No	No	No		No	
Pedestrian Recall		No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	L	R
C, Cycle Length [s]	53	53	53	53	53	53
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	3	37	30	30	6	6
g / C, Green / Cycle	0.06	0.70	0.56	0.56	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.04	0.39	0.42	0.44	0.09	0.00
s, saturation flow rate [veh/h]	1781	3560	1870	1773	1781	1589
c, Capacity [veh/h]	108	2483	1051	996	206	184
d1, Uniform Delay [s]	24.55	3.98	8.83	9.20	22.90	20.96
k, delay calibration	0.04	0.15	0.16	0.18	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.40	0.28	1.59	2.33	5.38	0.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.55	0.75	0.79	0.75	0.02
d, Delay for Lane Group [s/veh]	26.95	4.26	10.42	11.53	28.28	20.99
Lane Group LOS	C	A	B	B	C	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.88	1.88	5.34	5.72	2.03	0.03
50th-Percentile Queue Length [ft/ln]	21.92	47.06	133.41	142.98	50.82	0.81
95th-Percentile Queue Length [veh/ln]	1.58	3.39	9.13	9.64	3.66	0.06
95th-Percentile Queue Length [ft/ln]	39.45	84.70	228.13	241.03	91.47	1.46

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.95	26.95	4.26	10.87	11.53	28.28	20.99
Movement LOS	C	C	A	B	B	C	C
d_A, Approach Delay [s/veh]	5.36			10.98		28.14	
Approach LOS	A			B		C	
d_I, Intersection Delay [s/veh]	9.27						
Intersection LOS	A						
Intersection V/C	0.732						

Emissions

Vehicle Miles Traveled [mph]	48.84	957.26	277.25	277.25	51.96	1.01
Stops [stops/h]	59.13	253.91	359.93	385.74	137.10	2.20
Fuel consumption [US gal/h]	2.72	42.00	15.06	15.38	3.78	0.07
CO [g/h]	190.20	2935.65	1052.98	1075.30	264.41	4.66
NOx [g/h]	37.01	571.17	204.87	209.21	51.44	0.91
VOC [g/h]	44.08	680.37	244.04	249.21	61.28	1.08

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0		0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00	0.00
d_p, Pedestrian Delay [s]	19.29		0.00	19.29
l_p,int, Pedestrian LOS Score for Intersectio	2.816		0.000	2.101
Crosswalk LOS	C		F	B
s_b, Saturation Flow Rate of the bicycle lane	2000		2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1499		1499	749
d_b, Bicycle Delay [s]	1.68		1.68	10.43
l_b,int, Bicycle LOS Score for Intersection	2.748		2.927	1.560
Bicycle LOS	B		C	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	26.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.785

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	41	605	21	209	386	563	314	41	5	136	94	335
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	6	0	0	169	0	0	2	0	0	101
Total Hourly Volume [veh/h]	41	605	15	209	386	394	314	41	3	136	94	234
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	170	4	59	108	111	88	12	1	38	26	66
Total Analysis Volume [veh/h]	46	680	17	235	434	443	353	46	3	153	106	263
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Cycle Length [s]	63	63	63	63	63	63	63	63	63	63
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	3	14	14	10	21	21	9	9	12	12
g / C, Green / Cycle	0.04	0.22	0.22	0.16	0.33	0.33	0.14	0.14	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.03	0.19	0.19	0.13	0.23	0.28	0.11	0.11	0.15	0.15
s, saturation flow rate [veh/h]	1781	1870	1854	1781	1870	1589	1781	1797	1800	1589
c, Capacity [veh/h]	79	405	402	282	619	526	254	256	332	293
d1, Uniform Delay [s]	29.63	23.85	23.85	25.77	18.41	19.60	26.16	26.16	24.84	24.84
k, delay calibration	0.04	0.04	0.04	0.13	0.06	0.15	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.55	2.17	2.20	7.37	0.77	5.17	2.05	2.03	2.13	2.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.86	0.86	0.83	0.70	0.84	0.79	0.79	0.83	0.83
d, Delay for Lane Group [s/veh]	32.18	26.02	26.05	33.14	19.18	24.77	28.22	28.19	26.96	27.25
Lane Group LOS	C	C	C	C	B	C	C	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.71	4.91	4.87	3.48	4.48	5.48	2.88	2.90	3.93	3.49
50th-Percentile Queue Length [ft/ln]	17.74	122.67	121.76	86.96	112.04	137.07	71.97	72.57	98.21	87.37
95th-Percentile Queue Length [veh/ln]	1.28	8.54	8.49	6.26	7.95	9.32	5.18	5.22	7.07	6.29
95th-Percentile Queue Length [ft/ln]	31.93	213.50	212.24	156.53	198.84	233.07	129.54	130.62	176.77	157.27

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.18	26.03	26.05	33.14	19.18	24.77	28.21	28.19	28.19	26.96	26.96	27.24
Movement LOS	C	C	C	C	B	C	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	26.41			24.36			28.21			27.09		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	25.98											
Intersection LOS	C											
Intersection V/C	0.785											

Emissions

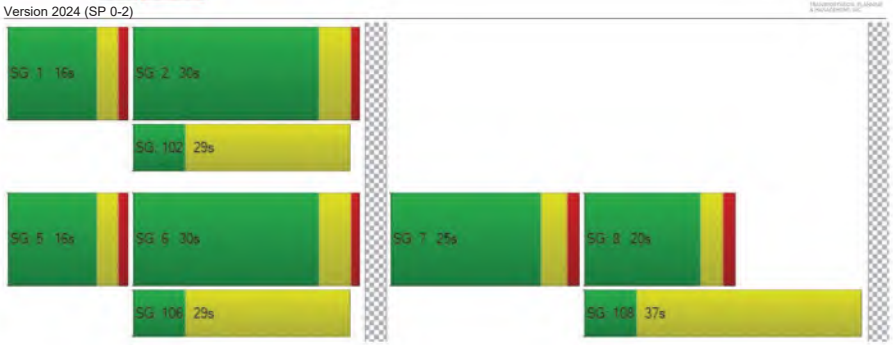
Vehicle Miles Traveled [mph]	26.57	202.08	200.45	163.96	302.81	309.09	15.05	15.19	30.65	27.09
Stops [stops/h]	40.54	280.31	278.23	198.71	256.02	313.20	164.45	165.82	224.40	199.65
Fuel consumption [US gal/h]	1.62	11.72	11.63	10.76	16.58	18.39	2.68	2.70	4.02	3.58
CO [g/h]	113.16	819.26	812.84	752.18	1158.84	1285.47	187.15	188.71	281.13	249.95
NOx [g/h]	22.02	159.40	158.15	146.35	225.47	250.11	36.41	36.72	54.70	48.63
VOC [g/h]	26.23	189.87	188.38	174.33	268.57	297.92	43.37	43.74	65.15	57.93

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.47	0.00	21.47	21.47
l_p,int, Pedestrian LOS Score for Intersectio	2.550	0.000	2.303	2.365
Crosswalk LOS	B	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	784	784	492	635
d_b, Bicycle Delay [s]	11.65	11.65	17.92	14.68
l_b,int, Bicycle LOS Score for Intersection	2.178	2.616	2.226	2.588
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	10.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.615

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	122	465	254	273	202	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	122	465	254	273	202	55
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	129	71	76	56	15
Total Analysis Volume [veh/h]	136	517	282	303	224	61
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	12	40	40	0	20	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	46	46	0	24	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	35	35	35	35	35	35
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	4	18	11	11	6	6
g / C, Green / Cycle	0.11	0.53	0.31	0.31	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.08	0.28	0.15	0.19	0.13	0.04
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1589
c, Capacity [veh/h]	190	988	574	488	329	294
d1, Uniform Delay [s]	15.07	5.36	9.86	10.34	13.26	12.05
k, delay calibration	0.04	0.15	0.15	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.89	0.61	0.93	1.84	2.48	0.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.72	0.52	0.49	0.62	0.68	0.21
d, Delay for Lane Group [s/veh]	16.96	5.97	10.78	12.18	15.73	12.40
Lane Group LOS	B	A	B	B	B	B
Critical Lane Group	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.78	0.55	1.03	1.25	1.50	0.34
50th-Percentile Queue Length [ft/ln]	19.42	13.69	25.84	31.19	37.59	8.61
95th-Percentile Queue Length [veh/ln]	1.40	0.99	1.86	2.25	2.71	0.62
95th-Percentile Queue Length [ft/ln]	34.95	24.64	46.50	56.13	67.67	15.50

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	16.96	5.97	10.78	12.18	15.73	12.40
Movement LOS	B	A	B	B	B	B
d_A, Approach Delay [s/veh]	8.26		11.51		15.02	
Approach LOS	A		B		B	
d_I, Intersection Delay [s/veh]	10.77					
Intersection LOS	B					
Intersection V/C	0.615					

Emissions

Vehicle Miles Traveled [mph]	16.78	63.79	162.86	174.99	52.61	14.33
Stops [stops/h]	80.55	56.78	107.16	129.36	155.94	35.73
Fuel consumption [US gal/h]	2.53	3.82	8.06	9.01	3.74	0.94
CO [g/h]	176.63	266.79	563.21	629.62	261.75	65.78
NOx [g/h]	34.37	51.91	109.58	122.50	50.93	12.80
VOC [g/h]	40.94	61.83	130.53	145.92	60.66	15.25

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0		0.0		8.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	10.28		0.00		10.28	
I_p,int, Pedestrian LOS Score for Intersectio	2.484		0.000		2.126	
Crosswalk LOS	B		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	2304		2304		1152	
d_b, Bicycle Delay [s]	0.40		0.40		3.12	
I_b,int, Bicycle LOS Score for Intersection	2.637		2.525		1.560	
Bicycle LOS	B		B		A	

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.077

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	548	0	14	295	0	0	0	0	0	0	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	548	0	14	295	0	0	0	0	0	0	39
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	149	0	4	80	0	0	0	0	0	0	10
Total Analysis Volume [veh/h]	0	596	0	14	321	0	0	0	0	0	0	39
Pedestrian Volume [ped/h]		0			0			0			0	

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			Yes	Yes
Storage Area [veh]	0	0	1	1
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
d_M, Delay for Movement [s/veh]	7.91	0.00	0.00	8.69	0.00	0.00	21.93	18.99	10.00	20.75	19.59	12.75
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.02	0.02	0.02	0.00	0.00	0.00	0.25	0.25	0.25
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.59	0.59	0.59	0.00	0.00	0.00	6.27	6.27	6.27
d_A, Approach Delay [s/veh]	0.00			0.36			16.97			12.75		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	0.64											
Intersection LOS	B											

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Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Two-way stop	Delay (sec / veh):	20.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.037

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	387	32	41	254	0	0	0	0	10	0	161
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	387	32	41	254	0	0	0	0	10	0	161
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	104	9	11	68	0	0	0	0	3	0	43
Total Analysis Volume [veh/h]	0	416	34	44	273	0	0	0	0	11	0	173
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.28
d_M, Delay for Movement [s/veh]	7.79	0.00	0.00	8.38	0.00	0.00	24.41	16.96	9.70	20.07	19.50	13.59
Movement LOS	A	A	A	A	A	A	C	C	A	C	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	1.34	1.34	1.34
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	3.09	0.00	0.00	0.00	0.00	0.00	33.62	33.62	33.62
d_A, Approach Delay [s/veh]	0.00			1.16			17.02			13.98		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	3.09											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Two-way stop	Delay (sec / veh):	66.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.212

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	13	232	128	45	0	546	152
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	13	232	128	45	0	546	152
Peak Hour Factor	1.0000	0.9060	0.9060	0.9060	0.9060	1.0000	0.9060	0.9060
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	64	35	12	0	151	42
Total Analysis Volume [veh/h]	0	14	256	141	50	0	603	168
Pedestrian Volume [ped/h]	0			0		0		

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.21	0.29	0.00	0.00	0.00	0.44	0.00
d_M, Delay for Movement [s/veh]	66.24	66.24	15.72	0.00	0.00	11.86	8.61	0.00
Movement LOS	F	F	C	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	2.81	2.81	2.81	0.00	0.00	1.50	1.50	1.50
95th-Percentile Queue Length [ft/ln]	70.23	70.23	70.23	0.00	0.00	37.41	37.41	37.41
d_A, Approach Delay [s/veh]	18.34			0.00		6.73		
Approach LOS	C			A		A		
d_I, Intersection Delay [s/veh]	8.23							
Intersection LOS	F							

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Intersection Level Of Service Report
Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Control Type:	All-way stop	Delay (sec / veh):	25.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.869

Intersection Setup

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Base Volume Input [veh/h]	2	39	63	2	30	443	13	2	9	0	225	26	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	39	63	2	30	443	13	2	9	0	225	26	46
Peak Hour Factor	0.8300	0.8300	0.8300	1.000	0.830	0.830	0.830	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	12	19	1	9	133	4	1	3	0	68	8	14
Total Analysis Volume [veh/h]	2	47	76	2	36	534	16	2	11	0	271	31	55
Pedestrian Volume [ped/h]	0			0				0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	631	676	532	604
Degree of Utilization, x	0.20	0.87	0.02	0.59

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.73	10.32	0.08	3.86
95th-Percentile Queue Length [ft]	18.30	257.99	1.88	96.60
Approach Delay [s/veh]	10.10	33.20	9.94	17.25
Approach LOS	B	D	A	C
Intersection Delay [s/veh]	25.00			
Intersection LOS	C			

Intersection Level Of Service Report
Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.048

Intersection Setup

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00			30.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	No		No			No		

Volumes

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Base Volume Input [veh/h]	31	108	1	65	13	0	49	91
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	108	1	65	13	0	49	91
Peak Hour Factor	0.9500	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	28	0	17	3	0	13	24
Total Analysis Volume [veh/h]	33	114	1	68	14	0	52	96
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.12	0.00	0.00	0.00	0.00	0.03	0.00
d_M, Delay for Movement [s/veh]	10.48	9.13	8.60	0.00	0.00	9.07	7.46	0.00
Movement LOS	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.15	0.39	0.00	0.00	0.00	0.11	0.11	0.00
95th-Percentile Queue Length [ft/ln]	3.76	9.77	0.04	0.04	0.04	2.66	2.66	0.00
d_A, Approach Delay [s/veh]	9.43		0.10			2.62		
Approach LOS	A		A			A		
d_I, Intersection Delay [s/veh]	4.72							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 16: Carson Crossing Rd/Calypso Cir.

Control Type:	Two-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.073

Intersection Setup

Name			Carson Crossing Rd		Carson Crossing Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	190.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			Carson Crossing Rd		Carson Crossing Rd	
Base Volume Input [veh/h]	45	43	78	31	65	51
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	43	78	31	65	51
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	12	21	8	18	14
Total Analysis Volume [veh/h]	49	47	85	34	71	55
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.05	0.00	0.00	0.05	0.00
d_M, Delay for Movement [s/veh]	10.97	9.32	0.00	0.00	7.58	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.41	0.41	0.00	0.00	0.15	0.00
95th-Percentile Queue Length [ft/ln]	10.27	10.27	0.00	0.00	3.81	0.00
d_A, Approach Delay [s/veh]	10.16		0.00		4.27	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	4.44					
Intersection LOS	B					

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Intersection Level Of Service Report
Intersection 17: Carson Crossing Rd/Four Seasons Dr

Control Type:	All-way stop	Delay (sec / veh):	7.9
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.081

Intersection Setup

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	500.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	1	0	0
Exit Pocket Length [ft]	0.00	500.00	0.00	49.21	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Base Volume Input [veh/h]	67	10	10	114	18	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	67	10	10	114	18	18
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	3	3	31	5	5
Total Analysis Volume [veh/h]	73	11	11	124	20	20
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	734	763	692	765	765	749
Degree of Utilization, x	0.06	0.06	0.02	0.08	0.08	0.05

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.18	0.17	0.05	0.26	0.26	0.17
95th-Percentile Queue Length [ft]	4.54	4.36	1.21	6.59	6.59	4.22
Approach Delay [s/veh]	7.80		7.83			8.08
Approach LOS	A		A			A
Intersection Delay [s/veh]	7.86					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	22.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.243

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	65	0	18	66	1	8	4	227	71	37	439	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	0	18	66	1	8	4	227	71	37	439	15
Peak Hour Factor	0.9700	1.0000	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	0	5	17	0	2	1	59	18	10	113	4
Total Analysis Volume [veh/h]	67	0	19	68	1	8	4	234	73	38	453	15
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.24	0.00	0.02	0.24	0.00	0.01	0.00	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	22.00	17.32	9.81	22.11	21.78	15.15	8.30	0.00	0.00	7.91	0.00	0.00
Movement LOS	C	C	A	C	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.92	0.08	0.08	1.02	1.02	1.02	0.01	0.00	0.00	0.06	0.06	0.03
95th-Percentile Queue Length [ft/ln]	22.99	1.90	1.90	25.42	25.42	25.42	0.28	0.00	0.00	1.62	1.62	0.81
d_A, Approach Delay [s/veh]	19.30			21.38			0.11			0.59		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	3.71											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 19: White Rock Rd/Windfield Way

Control Type:	Signalized	Delay (sec / veh):	25.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.398

Intersection Setup

Name	Windfield Way				White Rock Rd				White Rock Rd			
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00			
Grade [%]	0.00			0.00			0.00			0.00			
Curb Present	No			No			No			No			
Crosswalk	Yes			Yes			Yes			No			

Volumes

Name	Windfield Way						White Rock Rd			White Rock Rd			
Base Volume Input [veh/h]	53	5	117	5	5	5	5	359	115	0	300	415	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	35	0	0	2	0	0	35	0	0	0	2
Total Hourly Volume [veh/h]	53	5	82	5	5	3	5	359	80	0	300	415	3
Peak Hour Factor	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000	1.0000	0.9700	0.9700	1.000	0.970	0.970	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	14	1	21	1	1	1	1	93	21	0	77	107	1
Total Analysis Volume [veh/h]	55	5	85	5	5	3	5	370	82	0	309	428	3
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	31.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi
Signal Group	3	8	0	7	4	0	5	2	0	0	1	6	0
Auxiliary Signal Groups													
Maximum Green [s]	25	25	0	10	10	0	9	19	0	0	44	54	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	2.0	1.0	0.0	0.0	2.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	26	0	0	13	0	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	245.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	15	15	0	15	25	0	0	50	60	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	3	3	0	5	3	0	5	7	0	0	3	7	0
Vehicle Extension [s]	1.0	1.0	0.0	3.0	1.0	0.0	3.0	3.6	0.0	0.0	1.0	3.6	0.0
Minimum Recall	No	No		No	No		No	Yes			No	Yes	
Maximum Recall	No	No		No	No		No	No			No	No	
Pedestrian Recall	No	No		No	No		No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	5	8	1	4	1	66	66	23	88	88
g / C, Green / Cycle	0.04	0.07	0.01	0.04	0.01	0.55	0.55	0.19	0.73	0.73
(v / s)_i Volume / Saturation Flow Rate	0.03	0.06	0.00	0.00	0.00	0.12	0.13	0.17	0.12	0.12
s, saturation flow rate [veh/h]	1781	1603	1781	1754	1781	1870	1755	1781	1870	1865
c, Capacity [veh/h]	72	111	12	62	12	1034	970	335	1373	1370
d1, Uniform Delay [s]	57.02	55.09	59.37	56.07	59.37	13.69	13.73	47.86	4.79	4.79
k, delay calibration	0.04	0.04	0.11	0.04	0.11	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.19	5.30	21.73	0.34	21.99	0.50	0.55	4.53	0.24	0.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.81	0.42	0.13	0.42	0.22	0.23	0.92	0.16	0.16
d, Delay for Lane Group [s/veh]	63.21	60.38	81.09	56.41	81.36	14.19	14.27	52.39	5.04	5.04
Lane Group LOS	E	E	F	E	F	B	B	D	A	A
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.78	2.85	0.22	0.24	0.22	3.31	3.18	9.46	1.55	1.54
50th-Percentile Queue Length [ft/ln]	44.40	71.18	5.59	6.03	5.60	82.81	79.51	236.57	38.67	38.59
95th-Percentile Queue Length [veh/ln]	3.20	5.13	0.40	0.43	0.40	5.96	5.72	14.51	2.78	2.78
95th-Percentile Queue Length [ft/ln]	79.91	128.13	10.06	10.85	10.08	149.05	143.12	362.69	69.61	69.46

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	63.21	60.38	60.38	81.09	56.41	56.41	81.36	14.22	14.27	52.39	52.39	5.04	5.04
Movement LOS	E	E	E	F	E	E	F	B	B	D	D	A	A
d_A, Approach Delay [s/veh]	61.45			65.91			14.97			24.81			
Approach LOS	E			E			B			C			
d_I, Intersection Delay [s/veh]	25.81												
Intersection LOS	C												
Intersection V/C	0.398												

Emissions

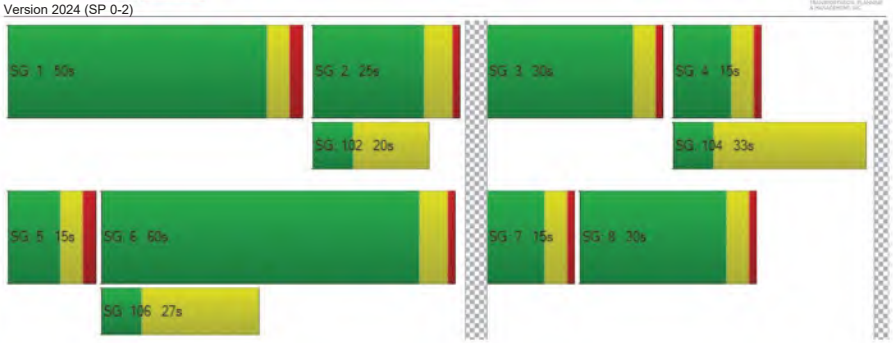
Vehicle Miles Traveled [mph]	21.19	34.68	0.17	0.28	4.21	194.56	185.81	77.01	53.77	53.64
Stops [stops/h]	53.28	85.42	6.71	7.23	6.72	99.37	95.42	283.88	46.41	46.31
Fuel consumption [US gal/h]	1.87	3.01	0.13	0.14	0.29	9.23	8.82	8.03	2.69	2.68
CO [g/h]	131.00	210.07	8.86	10.02	20.49	644.92	616.35	561.47	188.10	187.67
NOx [g/h]	25.49	40.87	1.72	1.95	3.99	125.48	119.92	109.24	36.60	36.51
VOC [g/h]	30.36	48.68	2.05	2.32	4.75	149.47	142.85	130.13	43.59	43.49

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.202	1.967	2.555	0.000
Crosswalk LOS	B	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	417	167	317	900
d_b, Bicycle Delay [s]	37.60	50.42	42.50	18.15
I_b,int, Bicycle LOS Score for Intersection	1.857	1.584	1.966	1.917
Bicycle LOS	A	A	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 20: White Rock Rd/Post St

Control Type:	Signalized	Delay (sec / veh):	39.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.453

Intersection Setup

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Approach	Northbound			Southbound			Eastbound				Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0	120.00	100.00	400.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00				30.00		
Grade [%]	0.00			0.00			0.00				0.00		
Curb Present	No			No			No				No		
Crosswalk	Yes			Yes			Yes				No		

Volumes

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	57	7	20	114	11	147	0	145	431	12	53	508	204
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	6	0	0	44	0	0	0	4	0	0	61
Total Hourly Volume [veh/h]	57	7	14	114	11	103	0	145	431	8	53	508	143
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	1.000	0.910	0.910	0.910	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	2	4	31	3	28	0	40	118	2	15	140	39
Total Analysis Volume [veh/h]	63	8	15	125	12	113	0	159	474	9	58	558	157
Presence of On-Street Parking	No		No	No		No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0				0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0				0		
v_co, Outbound Pedestrian Volume crossing	0			0			0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0				0		
Bicycle Volume [bicycles/h]	0			0			0				0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	71.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups													
Maximum Green [s]	21	62	0	8	48	0	0	14	31	0	16	34	0
Amber [s]	3.5	5.0	0.0	3.5	5.0	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.7	1.0	0.0	1.0	1.0	0.0	0.0	2.0	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	32	0	0	0	21	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.2	4.0	0.0	2.5	4.0	0.0	0.0	3.5	2.5	0.0	3.0	2.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	100.0	0.0	100.0	100.0	0.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	0	13	54	0	0	20	36	0	21	39	0
Lead / Lag	Lead	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	3	7	0	3	7	0	0	3	3	0	3	3	0
Vehicle Extension [s]	1.0	3.6	0.0	1.0	3.6	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No			No	Yes		No	Yes	
Maximum Recall	No	No		No	No			No	No		No	No	
Pedestrian Recall	No	No		No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	5.20	6.00	4.50	6.00	5.50	4.50	4.50	5.00	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.20	4.00	2.50	4.00	3.50	2.50	2.50	3.00	2.50	2.50
g_i, Effective Green Time [s]	6	12	9	13	14	94	94	6	85	85
g / C, Green / Cycle	0.05	0.08	0.06	0.09	0.10	0.67	0.67	0.04	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.04	0.01	0.07	0.08	0.09	0.13	0.01	0.03	0.20	0.20
s, saturation flow rate [veh/h]	1781	1677	1781	1613	1781	3560	1589	1781	1870	1731
c, Capacity [veh/h]	81	140	108	152	182	2388	1066	75	1135	1050
d1, Uniform Delay [s]	66.12	59.59	65.75	62.29	61.92	8.76	7.63	66.41	13.51	13.52
k, delay calibration	0.04	0.13	0.40	0.13	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.91	0.68	125.62	12.93	4.94	0.19	0.01	6.26	0.77	0.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.16	1.16	0.82	0.87	0.20	0.01	0.78	0.33	0.33
d, Delay for Lane Group [s/veh]	72.03	60.26	191.37	75.22	66.86	8.94	7.65	72.66	14.27	14.35
Lane Group LOS	E	E	F	E	E	A	A	E	B	B
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.37	0.79	7.65	4.93	5.84	2.77	0.09	2.19	5.97	5.57
50th-Percentile Queue Length [ft/ln]	59.23	19.76	191.15	123.24	146.02	69.22	2.35	54.77	149.34	139.22
95th-Percentile Queue Length [veh/ln]	4.26	1.42	12.73	8.57	9.80	4.98	0.17	3.94	9.98	9.44
95th-Percentile Queue Length [ft/ln]	106.62	35.57	318.26	214.27	245.10	124.59	4.22	98.59	249.55	235.97

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	72.03	60.26	60.26	191.37	75.22	75.22	66.86	66.86	8.94	7.65	72.66	14.30	14.35
Movement LOS	E	E	E	F	E	E	E	E	A	A	E	B	B
d_A, Approach Delay [s/veh]	68.88			133.30			23.27				18.69		
Approach LOS	E			F			C				B		
d_I, Intersection Delay [s/veh]	39.20												
Intersection LOS	D												
Intersection V/C	0.453												

Emissions

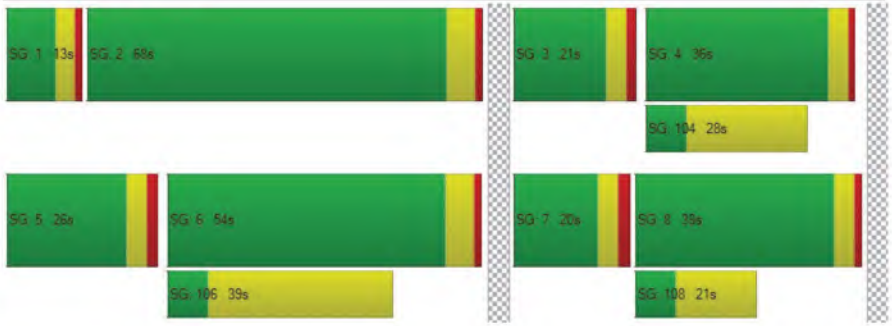
Vehicle Miles Traveled [mph]	3.15	1.15	5.81	5.81	16.73	49.88	0.95	20.29	129.67	120.39
Stops [stops/h]	60.92	20.33	196.61	126.76	150.19	142.39	2.41	56.34	153.61	143.20
Fuel consumption [US gal/h]	1.39	0.44	6.19	2.85	3.68	3.70	0.07	2.00	7.26	6.75
CO [g/h]	97.14	30.88	432.86	199.41	257.34	258.82	4.64	140.07	507.75	472.00
NOx [g/h]	18.90	6.01	84.22	38.80	50.07	50.36	0.90	27.25	98.79	91.83
VOC [g/h]	22.51	7.16	100.32	46.21	59.64	59.98	1.07	32.46	117.68	109.39

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	59.43	59.43	59.43	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.027	2.245	2.711	0.000
Crosswalk LOS	B	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	886	686	450	493
d_b, Bicycle Delay [s]	21.73	30.23	42.04	39.75
I_b,int, Bicycle LOS Score for Intersection	1.711	2.045	1.961	2.248
Bicycle LOS	A	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	75.0
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.983

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	95	50	256	155	36	46	68	194	30	162	653	238
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	77	0	0	14	0	0	9	0	0	71
Total Hourly Volume [veh/h]	95	50	179	155	36	32	68	194	21	162	653	167
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	14	51	45	10	9	20	56	6	47	188	48
Total Analysis Volume [veh/h]	109	57	206	178	41	37	78	223	24	186	751	192
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	0	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	35	0	0	40	0	25	45	0	25	45	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	18	0	0	17	0	0	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	0	0	44	0	29	50	0	29	51	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	0.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	3.50	5.30	3.50	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	1.50	3.30	1.50	4.00
g_i, Effective Green Time [s]	19	19	13	13	6	39	12	45
g / C, Green / Cycle	0.19	0.19	0.13	0.13	0.06	0.39	0.12	0.45
(v / s)_i Volume / Saturation Flow Rate	0.06	0.16	0.10	0.05	0.04	0.13	0.10	0.52
s, saturation flow rate [veh/h]	1781	1643	1781	1726	1781	1838	1781	1805
c, Capacity [veh/h]	338	312	227	220	102	712	221	808
d1, Uniform Delay [s]	35.16	39.30	42.53	40.09	46.73	21.80	43.05	27.79
k, delay calibration	0.13	0.13	0.13	0.13	0.04	0.11	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.68	7.58	7.22	1.21	4.39	0.29	3.27	88.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.84	0.78	0.35	0.76	0.35	0.84	1.17
d, Delay for Lane Group [s/veh]	35.85	46.88	49.76	41.30	51.12	22.09	46.32	116.39
Lane Group LOS	D	D	D	D	D	C	D	F
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.35	6.83	4.70	1.83	2.03	4.10	4.68	38.15
50th-Percentile Queue Length [ft/ln]	58.85	170.80	117.47	45.67	50.86	102.53	116.89	953.78
95th-Percentile Queue Length [veh/ln]	4.24	11.12	8.25	3.29	3.66	7.38	8.22	53.91
95th-Percentile Queue Length [ft/ln]	105.93	277.97	206.35	82.20	91.54	184.55	205.55	1347.81

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.85	46.88	46.88	49.76	41.30	41.30	51.12	22.09	22.09	46.32	116.39	116.39
Movement LOS	D	D	D	D	D	D	D	C	C	D	F	F
d_A, Approach Delay [s/veh]	43.65			47.18			29.06			104.85		
Approach LOS	D			D			C			F		
d_I, Intersection Delay [s/veh]	74.99											
Intersection LOS	E											
Intersection V/C	0.983											

Emissions

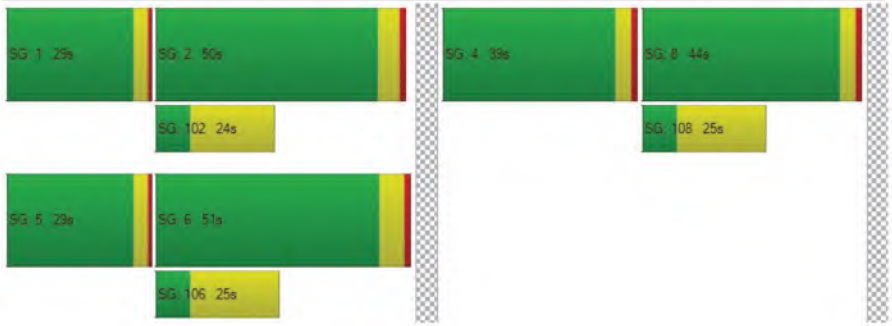
Vehicle Miles Traveled [mph]	187.55	452.53	36.09	15.81	27.28	86.39	83.93	425.50
Stops [stops/h]	84.42	245.01	168.51	65.51	72.95	147.07	167.68	1368.18
Fuel consumption [US gal/h]	8.98	22.49	4.22	1.67	2.34	5.48	6.13	47.41
CO [g/h]	627.86	1572.18	294.89	116.62	163.39	383.00	428.82	3313.76
NOx [g/h]	122.16	305.89	57.38	22.69	31.79	74.52	83.43	644.74
VOC [g/h]	145.51	364.37	68.34	27.03	37.87	88.76	99.38	768.00

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	39.80	39.80	39.80	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.285	2.182	2.363	0.000
Crosswalk LOS	B	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	693	793	891	897
d_b, Bicycle Delay [s]	21.42	18.28	15.44	15.28
l_b,int, Bicycle LOS Score for Intersection	2.300	2.005	2.111	3.540
Bicycle LOS	B	B	B	D

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 22: White Rock Rd/Clarksville Crossing

Control Type:	Signalized	Delay (sec / veh):	23.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.733

Intersection Setup

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	180.00	460.00	100.00	100.00	290.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	0	0	4	4	0	354	3	602	0	0	699	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	4	4	0	354	3	602	0	0	699	31
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	1	0	113	1	193	0	0	224	10
Total Analysis Volume [veh/h]	0	0	5	5	0	454	4	772	0	0	896	40
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	20	0	0	20	0	20	50	0	20	50	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	5.0	0.0	4.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	5.0	0.0	3.0	5.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	R
C, Cycle Length [s]	62	62	62	62	62	62	62	62	62	62
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	7.00	7.00	5.00	7.00	7.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	5.00	5.00	3.00	5.00	5.00
g_i, Effective Green Time [s]	0	0	19	19	0	20	20	0	20	20
g / C, Green / Cycle	0.01	0.01	0.31	0.31	0.01	0.32	0.32	0.00	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.00	0.29	0.00	0.21	0.21	0.00	0.25	0.03
s, saturation flow rate [veh/h]	1870	1589	1781	1589	1781	1870	1870	1781	3560	1589
c, Capacity [veh/h]	13	11	557	497	10	606	606	0	1135	507
d1, Uniform Delay [s]	0.00	30.58	14.64	20.43	30.64	17.79	17.79	0.00	19.17	14.72
k, delay calibration	0.11	0.11	0.11	0.32	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	26.65	0.01	16.85	23.88	1.12	1.12	0.00	1.27	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.46	0.01	0.91	0.40	0.64	0.64	0.00	0.79	0.08
d, Delay for Lane Group [s/veh]	0.00	57.24	14.64	37.28	54.52	18.91	18.91	0.00	20.44	14.78
Lane Group LOS	A	E	B	D	D	B	B	A	C	B
Critical Lane Group	No	Yes	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.00	0.15	0.05	7.98	0.12	4.42	4.42	0.00	5.46	0.37
50th-Percentile Queue Length [ft/ln]	0.00	3.80	1.14	199.41	3.07	110.44	110.44	0.00	136.53	9.25
95th-Percentile Queue Length [veh/ln]	0.00	0.27	0.08	12.61	0.22	7.86	7.86	0.00	9.29	0.67
95th-Percentile Queue Length [ft/ln]	0.00	6.85	2.05	315.20	5.53	196.62	196.62	0.00	232.35	16.64

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	57.24	14.64	14.64	37.28	54.52	18.91	18.91	0.00	20.44	14.78
Movement LOS	A	A	E	B	B	D	D	B	B	A	C	B
d_A, Approach Delay [s/veh]	57.24			37.03			19.09			20.20		
Approach LOS	E			D			B			C		
d_I, Intersection Delay [s/veh]	23.44											
Intersection LOS	C											
Intersection V/C	0.733											

Emissions

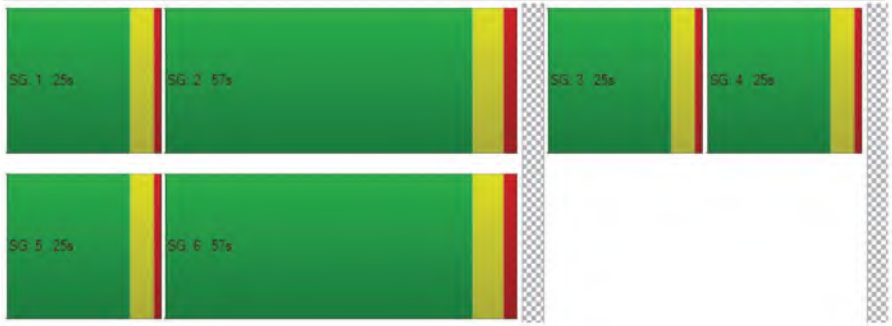
Vehicle Miles Traveled [mph]	0.00	0.25	2.37	215.36	1.80	174.17	174.17	0.00	156.30	6.98
Stops [stops/h]	0.00	8.89	2.66	465.84	7.18	258.01	258.01	0.00	637.91	21.60
Fuel consumption [US gal/h]	0.00	0.12	0.13	14.88	0.16	10.08	10.08	0.00	13.69	0.53
CO [g/h]	0.00	8.22	8.89	1040.37	11.07	704.66	704.66	0.00	956.67	36.83
NOx [g/h]	0.00	1.60	1.73	202.42	2.15	137.10	137.10	0.00	186.13	7.17
VOC [g/h]	0.00	1.91	2.06	241.12	2.57	163.31	163.31	0.00	221.72	8.54

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	649	649	1622	1622
d_b, Bicycle Delay [s]	14.07	14.07	1.10	1.10
I_b,int, Bicycle LOS Score for Intersection	1.568	2.317	2.200	2.332
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 23: White Rock Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	16.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.452

Intersection Setup

Name	White Rock Rd		White Rock Rd		US 50 EB	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	1	0	1
Entry Pocket Length [ft]	500.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	White Rock Rd		White Rock Rd		US 50 EB	
Base Volume Input [veh/h]	295	315	697	220	156	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	12
Total Hourly Volume [veh/h]	295	315	697	220	156	21
Peak Hour Factor	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	89	95	210	66	47	6
Total Analysis Volume [veh/h]	355	380	840	265	188	25
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	21	61	32	0	16	0
Amber [s]	3.7	4.8	4.8	0.0	4.8	0.0
All red [s]	0.5	2.0	2.0	0.0	1.0	0.0
Walk [s]	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.2	4.8	4.8	0.0	3.8	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	39	0	22	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	8	9	9	0	8	0
Vehicle Extension [s]	2.0	1.0	1.0	0.0	2.0	0.0
Minimum Recall	No	Yes	Yes		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80
g_i, Effective Green Time [s]	11	69	54	54	8	8	8
g / C, Green / Cycle	0.13	0.77	0.60	0.60	0.09	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.10	0.11	0.24	0.17	0.05	0.05	0.02
s, saturation flow rate [veh/h]	3459	3560	3560	1589	1781	1781	1589
c, Capacity [veh/h]	442	2744	2123	948	159	159	142
d1, Uniform Delay [s]	38.14	2.65	9.60	8.80	39.41	39.41	37.93
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.31	0.11	0.55	0.74	1.31	1.31	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.14	0.40	0.28	0.59	0.59	0.18
d, Delay for Lane Group [s/veh]	39.46	2.75	10.15	9.54	40.72	40.72	38.15
Lane Group LOS	D	A	B	A	D	D	D
Critical Lane Group	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.82	0.64	4.12	2.48	2.03	2.03	0.51
50th-Percentile Queue Length [ft/ln]	95.60	16.09	102.94	62.03	50.80	50.80	12.85
95th-Percentile Queue Length [veh/ln]	6.88	1.16	7.41	4.47	3.66	3.66	0.93
95th-Percentile Queue Length [ft/ln]	172.08	28.95	185.29	111.66	91.45	91.45	23.13

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.46	2.75	10.15	9.54	40.72	38.15
Movement LOS	D	A	B	A	D	D
d_A, Approach Delay [s/veh]	20.48		10.00		40.42	
Approach LOS	C		B		D	
d_I, Intersection Delay [s/veh]	16.91					
Intersection LOS	B					
Intersection V/C	0.452					

Emissions

Vehicle Miles Traveled [mph]	61.93	66.29	148.85	46.96	5.69	5.69	1.51
Stops [stops/h]	305.92	51.47	329.40	99.25	81.29	81.29	20.56
Fuel consumption [US gal/h]	7.09	3.23	9.68	3.00	1.46	1.46	0.37
CO [g/h]	495.57	225.50	676.86	209.41	102.22	102.22	25.86
NOx [g/h]	96.42	43.87	131.69	40.74	19.89	19.89	5.03
VOC [g/h]	114.85	52.26	156.87	48.53	23.69	23.69	5.99

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1360	716	360
d_b, Bicycle Delay [s]	4.61	18.56	30.26
l_b,int, Bicycle LOS Score for Intersection	2.166	2.471	1.931
Bicycle LOS	B	B	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 24: Silva Valley Pkwy/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	34.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.847

Intersection Setup

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Approach	Northbound				Southbound			Westbound			Northeastbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	550.0	100.0	100.0	100.0	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No					
Crosswalk	No				No			No			No		

Volumes

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Base Volume Input [veh/h]	0	78	393	0	0	223	590	694	0	169	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	47	0	0	30	0	0	0
Total Hourly Volume [veh/h]	0	78	393	0	0	223	543	694	0	139	0	0	0
Peak Hour Factor	1.000	0.790	0.790	1.000	1.0000	0.7900	0.7900	0.7900	0.7900	0.7900	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	25	124	0	0	71	172	220	0	44	0	0	0
Total Analysis Volume [veh/h]	0	99	497	0	0	282	687	878	0	176	0	0	0
Presence of On-Street Parking	No			No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	6	0	0	8	0	0	0	0	0
Auxiliary Signal Groups														
Maximum Green [s]	0	20	54	0	0	26	0	0	23	0	0	0	0	0
Amber [s]	0.0	3.7	4.8	0.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	0.5	2.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No					
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	4.8	0.0	0.0	4.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	61	0	0	33	0	0	29	0	0	0	0	0
Lead / Lag	-	Lead	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	8	8	0	0	8	0	0	8	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No	Yes			Yes			No					
Maximum Recall		No	No			No			No					
Pedestrian Recall		No	No			No			No					

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	R	
C, Cycle Length [s]	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80	
g_i, Effective Green Time [s]	7	54	42	42	24	24	24	
g / C, Green / Cycle	0.08	0.59	0.47	0.47	0.27	0.27	0.27	
(v / s)_i Volume / Saturation Flow Rate	0.06	0.14	0.08	0.43	0.25	0.25	0.11	
s, saturation flow rate [veh/h]	1781	3560	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	147	2118	1658	740	472	472	422	
d1, Uniform Delay [s]	40.10	8.59	13.96	22.64	32.25	32.25	27.32	
k, delay calibration	0.04	0.50	0.50	0.50	0.26	0.26	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	2.00	0.26	0.22	19.60	17.03	17.03	0.24	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.67	0.23	0.17	0.93	0.93	0.93	0.42	
d, Delay for Lane Group [s/veh]	42.10	8.85	14.18	42.24	49.28	49.28	27.57	
Lane Group LOS	D	A	B	D	D	D	C	
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	2.18	2.17	1.65	16.69	11.26	11.26	3.09	
50th-Percentile Queue Length [ft/ln]	54.62	54.23	41.33	417.19	281.43	281.43	77.34	
95th-Percentile Queue Length [veh/ln]	3.93	3.90	2.98	23.39	16.76	16.76	5.57	
95th-Percentile Queue Length [ft/ln]	98.32	97.61	74.40	584.68	418.99	418.99	139.21	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.10	42.10	8.85	0.00	0.00	14.18	42.24	49.28	49.28	27.57	0.00	0.00	0.00
Movement LOS	D	D	A			B	D	D	D	C			
d_A, Approach Delay [s/veh]	14.37				34.07			45.65			0.00		
Approach LOS	B				C			D			A		
d_I, Intersection Delay [s/veh]	34.25												
Intersection LOS	C												
Intersection V/C	0.847												

Emissions

Vehicle Miles Traveled [mph]	17.54	88.07	38.56	93.94	15.21	15.21	6.10	
Stops [stops/h]	87.40	173.54	132.26	667.50	450.28	450.28	123.74	
Fuel consumption [US gal/h]	2.05	5.48	3.13	13.46	7.52	7.52	1.92	
CO [g/h]	143.52	383.00	218.92	940.83	525.37	525.37	134.35	
NOx [g/h]	27.92	74.52	42.59	183.05	102.22	102.22	26.14	
VOC [g/h]	33.26	88.76	50.74	218.05	121.76	121.76	31.14	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1204	582	516	0
d_b, Bicycle Delay [s]	7.12	22.61	24.79	45.00
l_b,int, Bicycle LOS Score for Intersection	2.051	2.398	3.348	4.132
Bicycle LOS	B	B	C	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 25: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Base Volume Input [veh/h]	0	548	295	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	548	295	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	137	74	0	0	0
Total Analysis Volume [veh/h]	0	548	295	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	9.84
Movement LOS		A	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		9.84	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 26: Latrobe/Wetsl-Oviatt

Control Type:	Two-way stop	Delay (sec / veh):	13.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Base Volume Input [veh/h]	0	415	226	38	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	415	226	38	4	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	104	57	10	1	0
Total Analysis Volume [veh/h]	0	415	226	38	4	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.77	0.00	0.00	0.00	13.49	9.61
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.71	0.71
d_A, Approach Delay [s/veh]	0.00		0.00		13.49	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.08					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 27: Latrobe/S. Shingle

Control Type:	Two-way stop	Delay (sec / veh):	19.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.131

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Base Volume Input [veh/h]	6	238	41	52	127	9	44	72	0	37	72	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	238	41	52	127	9	44	72	0	37	72	38
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	60	10	13	32	2	11	18	0	9	18	10
Total Analysis Volume [veh/h]	6	238	41	52	127	9	44	72	0	37	72	38
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.00	0.00	0.13	0.17	0.00	0.10	0.16	0.05
d_M, Delay for Movement [s/veh]	7.49	0.00	0.00	7.87	0.00	0.00	19.60	17.14	12.77	18.44	16.58	13.08
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.09	0.09	0.09	1.22	1.22	1.22	1.33	1.33	1.33
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.26	2.26	2.26	2.26	30.61	30.61	30.61	33.16	33.16	33.16
d_A, Approach Delay [s/veh]	0.16			2.18			18.07			16.14		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	6.69											
Intersection LOS	C											

Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	548	309	39	0
2	532	300	38	0
3	521	294	37	0
4	488	275	35	0
5	433	244	31	0
6	427	241	30	0
7	422	238	30	0
8	384	216	27	0
9	378	213	27	0
10	373	210	27	0
11	323	182	23	0
12	301	170	21	0
13	296	167	21	0
14	219	124	16	0
15	219	124	16	0
16	153	87	11	0
17	88	49	6	0
18	88	49	6	0
19	49	28	4	0
20	27	15	2	0
21	16	9	1	0
22	5	3	0	0
23	5	3	0	0
24	5	3	0	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	857	1	39	No	No	No	No	No	No	No	No	No	No
2	1	832	1	38	No	No	No	No	No	No	No	No	No	No
3	1	815	1	37	No	No	No	No	No	No	No	No	No	No
4	1	763	1	35	No	No	No	No	No	No	No	No	No	No
5	1	677	1	31	No	No	No	No	No	No	No	No	No	No
6	1	668	1	30	No	No	No	No	No	No	No	No	No	No
7	1	660	1	30	No	No	No	No	No	No	No	No	No	No
8	1	600	1	27	No	No	No	No	No	No	No	No	No	No
9	1	591	1	27	No	No	No	No	No	No	No	No	No	No
10	1	583	1	27	No	No	No	No	No	No	No	No	No	No
11	1	505	1	23	No	No	No	No	No	No	No	No	No	No
12	1	471	1	21	No	No	No	No	No	No	No	No	No	No
13	1	463	1	21	No	No	No	No	No	No	No	No	No	No
14	1	343	1	16	No	No	No	No	No	No	No	No	No	No
15	1	343	1	16	No	No	No	No	No	No	No	No	No	No
16	1	240	1	11	No	No	No	No	No	No	No	No	No	No
17	1	137	1	6	No	No	No	No	No	No	No	No	No	No
18	1	137	1	6	No	No	No	No	No	No	No	No	No	No
19	1	77	1	4	No	No	No	No	No	No	No	No	No	No
20	1	42	1	2	No	No	No	No	No	No	No	No	No	No
21	1	25	1	1	No	No	No	No	No	No	No	No	No	No
22	1	8	1	0	No	No	No	No	No	No	No	No	No	No
23	1	8	1	0	No	No	No	No	No	No	No	No	No	No
24	1	8	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	12.7	17
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:08	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	39	0
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	896	896
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 12: Latrobe Rd/Royal Oaks Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	419	295	171	0
2	406	286	166	0
3	398	280	162	0
4	373	263	152	0
5	331	233	135	0
6	327	230	133	0
7	323	227	132	0
8	293	207	120	0
9	289	204	118	0
10	285	201	116	0
11	247	174	101	0
12	230	162	94	0
13	226	159	92	0
14	168	118	68	0
15	168	118	68	0
16	117	83	48	0
17	67	47	27	0
18	67	47	27	0
19	38	27	15	0
20	21	15	9	0
21	13	9	5	0
22	4	3	2	0
23	4	3	2	0
24	4	3	2	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	714	1	171	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
2	2	692	1	166	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
3	2	678	1	162	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
4	2	636	1	152	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
5	2	564	1	135	No	Yes	Yes	Yes	No	No	No	Yes	No	No
6	2	557	1	133	No	Yes	Yes	Yes	No	No	No	Yes	No	No
7	2	550	1	132	No	Yes	Yes	Yes	No	No	No	Yes	No	No
8	2	500	1	120	No	Yes	Yes	Yes	No	No	No	No	No	No
9	2	493	1	118	No	No	Yes	Yes	No	No	No	No	No	No
10	2	486	1	116	No	No	Yes	Yes	No	No	No	No	No	No
11	2	421	1	101	No	No	No	Yes	No	No	No	No	No	No
12	2	392	1	94	No	No	No	Yes	No	No	No	No	No	No
13	2	385	1	92	No	No	No	Yes	No	No	No	No	No	No
14	2	286	1	68	No	No	No	No	No	No	No	No	No	No
15	2	286	1	68	No	No	No	No	No	No	No	No	No	No
16	2	200	1	48	No	No	No	No	No	No	No	No	No	No
17	2	114	1	27	No	No	No	No	No	No	No	No	No	No
18	2	114	1	27	No	No	No	No	No	No	No	No	No	No
19	2	65	1	15	No	No	No	No	No	No	No	No	No	No
20	2	36	1	9	No	No	No	No	No	No	No	No	No	No
21	2	22	1	5	No	No	No	No	No	No	No	No	No	No
22	2	7	1	2	No	No	No	No	No	No	No	No	No	No
23	2	7	1	2	No	No	No	No	No	No	No	No	No	No
24	2	7	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					4	8	10	13	0	0	4	7	4	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	14	17
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:39	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	171	0
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	885	885
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 13: Golden Foothill/Robert J Mathews

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	698	173	245
2	677	168	238
3	663	164	233
4	621	154	218
5	551	137	194
6	544	135	191
7	537	133	189
8	489	121	172
9	482	119	169
10	475	118	167
11	412	102	145
12	384	95	135
13	377	93	132
14	279	69	98
15	279	69	98
16	195	48	69
17	112	28	39
18	112	28	39
19	63	16	22
20	35	9	12
21	21	5	7
22	7	2	2
23	7	2	2
24	7	2	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	871	1	245	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
2	1	845	1	238	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
3	1	827	1	233	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
4	1	775	1	218	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
5	1	688	1	194	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
6	1	679	1	191	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
7	1	670	1	189	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
8	1	610	1	172	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
9	1	601	1	169	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
10	1	593	1	167	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
11	1	514	1	145	No	Yes	Yes	Yes	No	No	No	Yes	No	No
12	1	479	1	135	No	Yes	Yes	Yes	No	No	No	Yes	No	No
13	1	470	1	132	No	Yes	Yes	Yes	No	No	No	Yes	No	No
14	1	348	1	98	No	No	No	Yes	No	No	No	No	No	No
15	1	348	1	98	No	No	No	Yes	No	No	No	No	No	No
16	1	243	1	69	No	No	No	No	No	No	No	No	No	No
17	1	140	1	39	No	No	No	No	No	No	No	No	No	No
18	1	140	1	39	No	No	No	No	No	No	No	No	No	No
19	1	79	1	22	No	No	No	No	No	No	No	No	No	No
20	1	44	1	12	No	No	No	No	No	No	No	No	No	No
21	1	26	1	7	No	No	No	No	No	No	No	No	No	No
22	1	9	1	2	No	No	No	No	No	No	No	No	No	No
23	1	9	1	2	No	No	No	No	No	No	No	No	No	No
24	1	9	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					10	13	13	15	4	9	10	13	6	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	18.3
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:14
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	245
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1116
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

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Signal Warrants Report For Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	104	488	297	11
2	101	473	288	11
3	99	464	282	10
4	93	434	264	10
5	82	386	235	9
6	81	381	232	9
7	80	376	229	8
8	73	342	208	8
9	72	337	205	8
10	71	332	202	7
11	61	288	175	6
12	57	268	163	6
13	56	264	160	6
14	42	195	119	4
15	42	195	119	4
16	29	137	83	3
17	17	78	48	2
18	17	78	48	2
19	9	44	27	1
20	5	24	15	1
21	3	15	9	0
22	1	5	3	0
23	1	5	3	0
24	1	5	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	592	1	297	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
2	1	574	1	288	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
3	1	563	1	282	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
4	1	527	1	264	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
5	1	468	1	235	No	Yes	Yes	Yes	No	No	No	Yes	No	No
6	1	462	1	232	No	Yes	Yes	Yes	No	No	No	Yes	No	No
7	1	456	1	229	No	Yes	Yes	Yes	No	No	No	Yes	No	No
8	1	415	1	208	No	Yes	Yes	Yes	No	No	No	No	No	No
9	1	409	1	205	No	Yes	Yes	Yes	No	No	No	No	No	No
10	1	403	1	202	No	Yes	Yes	Yes	No	No	No	No	No	No
11	1	349	1	175	No	No	No	Yes	No	No	No	No	No	No
12	1	325	1	163	No	No	No	Yes	No	No	No	No	No	No
13	1	320	1	160	No	No	No	Yes	No	No	No	No	No	No
14	1	237	1	119	No	No	No	No	No	No	No	No	No	No
15	1	237	1	119	No	No	No	No	No	No	No	No	No	No
16	1	166	1	83	No	No	No	No	No	No	No	No	No	No
17	1	95	1	48	No	No	No	No	No	No	No	No	No	No
18	1	95	1	48	No	No	No	No	No	No	No	No	No	No
19	1	53	1	27	No	No	No	No	No	No	No	No	No	No
20	1	29	1	15	No	No	No	No	No	No	No	No	No	No
21	1	18	1	9	No	No	No	No	No	No	No	No	No	No
22	1	6	1	3	No	No	No	No	No	No	No	No	No	No
23	1	6	1	3	No	No	No	No	No	No	No	No	No	No
24	1	6	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					4	10	10	13	0	0	4	7	4	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	17.2	9.9
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:25	0:01
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	297	11
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	900	900
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

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Signal Warrants Report For Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	140	79	139
2	136	77	135
3	133	75	132
4	125	70	124
5	111	62	110
6	109	62	108
7	108	61	107
8	98	55	97
9	97	55	96
10	95	54	95
11	83	47	82
12	77	43	76
13	76	43	75
14	56	32	56
15	56	32	56
16	39	22	39
17	22	13	22
18	22	13	22
19	13	7	13
20	7	4	7
21	4	2	4
22	1	1	1
23	1	1	1
24	1	1	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	219	2	139	No	No	No	No	No	No	No	No	No	No
2	2	213	2	135	No	No	No	No	No	No	No	No	No	No
3	2	208	2	132	No	No	No	No	No	No	No	No	No	No
4	2	195	2	124	No	No	No	No	No	No	No	No	No	No
5	2	173	2	110	No	No	No	No	No	No	No	No	No	No
6	2	171	2	108	No	No	No	No	No	No	No	No	No	No
7	2	169	2	107	No	No	No	No	No	No	No	No	No	No
8	2	153	2	97	No	No	No	No	No	No	No	No	No	No
9	2	152	2	96	No	No	No	No	No	No	No	No	No	No
10	2	149	2	95	No	No	No	No	No	No	No	No	No	No
11	2	130	2	82	No	No	No	No	No	No	No	No	No	No
12	2	120	2	76	No	No	No	No	No	No	No	No	No	No
13	2	119	2	75	No	No	No	No	No	No	No	No	No	No
14	2	88	2	56	No	No	No	No	No	No	No	No	No	No
15	2	88	2	56	No	No	No	No	No	No	No	No	No	No
16	2	61	2	39	No	No	No	No	No	No	No	No	No	No
17	2	35	2	22	No	No	No	No	No	No	No	No	No	No
18	2	35	2	22	No	No	No	No	No	No	No	No	No	No
19	2	20	2	13	No	No	No	No	No	No	No	No	No	No
20	2	11	2	7	No	No	No	No	No	No	No	No	No	No
21	2	6	2	4	No	No	No	No	No	No	No	No	No	No
22	2	2	2	1	No	No	No	No	No	No	No	No	No	No
23	2	2	2	1	No	No	No	No	No	No	No	No	No	No
24	2	2	2	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	9.4
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:21
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	139
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	358
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 16: Carson Crossing Rd/Calypso Cir.

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	116	109	88
2	113	106	85
3	110	104	84
4	103	97	78
5	92	86	70
6	90	85	69
7	89	84	68
8	81	76	62
9	80	75	61
10	79	74	60
11	68	64	52
12	64	60	48
13	63	59	48
14	46	44	35
15	46	44	35
16	32	31	25
17	19	17	14
18	19	17	14
19	10	10	8
20	6	5	4
21	3	3	3
22	1	1	1
23	1	1	1
24	1	1	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	225	1	88	No	No	No	No	No	No	No	No	No	No
2	2	219	1	85	No	No	No	No	No	No	No	No	No	No
3	2	214	1	84	No	No	No	No	No	No	No	No	No	No
4	2	200	1	78	No	No	No	No	No	No	No	No	No	No
5	2	178	1	70	No	No	No	No	No	No	No	No	No	No
6	2	175	1	69	No	No	No	No	No	No	No	No	No	No
7	2	173	1	68	No	No	No	No	No	No	No	No	No	No
8	2	157	1	62	No	No	No	No	No	No	No	No	No	No
9	2	155	1	61	No	No	No	No	No	No	No	No	No	No
10	2	153	1	60	No	No	No	No	No	No	No	No	No	No
11	2	132	1	52	No	No	No	No	No	No	No	No	No	No
12	2	124	1	48	No	No	No	No	No	No	No	No	No	No
13	2	122	1	48	No	No	No	No	No	No	No	No	No	No
14	2	90	1	35	No	No	No	No	No	No	No	No	No	No
15	2	90	1	35	No	No	No	No	No	No	No	No	No	No
16	2	63	1	25	No	No	No	No	No	No	No	No	No	No
17	2	36	1	14	No	No	No	No	No	No	No	No	No	No
18	2	36	1	14	No	No	No	No	No	No	No	No	No	No
19	2	20	1	8	No	No	No	No	No	No	No	No	No	No
20	2	11	1	4	No	No	No	No	No	No	No	No	No	No
21	2	6	1	3	No	No	No	No	No	No	No	No	No	No
22	2	2	1	1	No	No	No	No	No	No	No	No	No	No
23	2	2	1	1	No	No	No	No	No	No	No	No	No	No
24	2	2	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	10.2
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:14
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	88
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	313
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 17: Carson Crossing Rd/Four Seasons Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	77	124	36
2	75	120	35
3	73	118	34
4	69	110	32
5	61	98	28
6	60	97	28
7	59	95	28
8	54	87	25
9	53	86	25
10	52	84	24
11	45	73	21
12	42	68	20
13	42	67	19
14	31	50	14
15	31	50	14
16	22	35	10
17	12	20	6
18	12	20	6
19	7	11	3
20	4	6	2
21	2	4	1
22	1	1	0
23	1	1	0
24	1	1	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	201	1	36	No	No	No	No	No	No	No	No	No	No
2	3	195	1	35	No	No	No	No	No	No	No	No	No	No
3	3	191	1	34	No	No	No	No	No	No	No	No	No	No
4	3	179	1	32	No	No	No	No	No	No	No	No	No	No
5	3	159	1	28	No	No	No	No	No	No	No	No	No	No
6	3	157	1	28	No	No	No	No	No	No	No	No	No	No
7	3	154	1	28	No	No	No	No	No	No	No	No	No	No
8	3	141	1	25	No	No	No	No	No	No	No	No	No	No
9	3	139	1	25	No	No	No	No	No	No	No	No	No	No
10	3	136	1	24	No	No	No	No	No	No	No	No	No	No
11	3	118	1	21	No	No	No	No	No	No	No	No	No	No
12	3	110	1	20	No	No	No	No	No	No	No	No	No	No
13	3	109	1	19	No	No	No	No	No	No	No	No	No	No
14	3	81	1	14	No	No	No	No	No	No	No	No	No	No
15	3	81	1	14	No	No	No	No	No	No	No	No	No	No
16	3	57	1	10	No	No	No	No	No	No	No	No	No	No
17	3	32	1	6	No	No	No	No	No	No	No	No	No	No
18	3	32	1	6	No	No	No	No	No	No	No	No	No	No
19	3	18	1	3	No	No	No	No	No	No	No	No	No	No
20	3	10	1	2	No	No	No	No	No	No	No	No	No	No
21	3	6	1	1	No	No	No	No	No	No	No	No	No	No
22	3	2	1	0	No	No	No	No	No	No	No	No	No	No
23	3	2	1	0	No	No	No	No	No	No	No	No	No	No
24	3	2	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	8.1
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:04
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	36
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	237
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 18: White Rock Rd/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	491	302	83	75
2	476	293	81	73
3	466	287	79	71
4	437	269	74	67
5	388	239	66	59
6	383	236	65	59
7	378	233	64	58
8	344	211	58	53
9	339	208	57	52
10	334	205	56	51
11	290	178	49	44
12	270	166	46	41
13	265	163	45	41
14	196	121	33	30
15	196	121	33	30
16	137	85	23	21
17	79	48	13	12
18	79	48	13	12
19	44	27	7	7
20	25	15	4	4
21	15	9	2	2
22	5	3	1	1
23	5	3	1	1
24	5	3	1	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	793	1	83	No	No	No	No	No	Yes	Yes	Yes	No	No
2	2	769	1	81	No	No	No	No	No	Yes	Yes	Yes	No	No
3	2	753	1	79	No	No	No	No	No	Yes	Yes	Yes	No	No
4	2	706	1	74	No	No	No	No	No	No	Yes	Yes	No	No
5	2	627	1	66	No	No	No	No	No	No	No	Yes	No	No
6	2	619	1	65	No	No	No	No	No	No	No	Yes	No	No
7	2	611	1	64	No	No	No	No	No	No	No	Yes	No	No
8	2	555	1	58	No	No	No	No	No	No	No	Yes	No	No
9	2	547	1	57	No	No	No	No	No	No	No	Yes	No	No
10	2	539	1	56	No	No	No	No	No	No	No	Yes	No	No
11	2	468	1	49	No	No	No	No	No	No	No	No	No	No
12	2	436	1	46	No	No	No	No	No	No	No	No	No	No
13	2	428	1	45	No	No	No	No	No	No	No	No	No	No
14	2	317	1	33	No	No	No	No	No	No	No	No	No	No
15	2	317	1	33	No	No	No	No	No	No	No	No	No	No
16	2	222	1	23	No	No	No	No	No	No	No	No	No	No
17	2	127	1	13	No	No	No	No	No	No	No	No	No	No
18	2	127	1	13	No	No	No	No	No	No	No	No	No	No
19	2	71	1	7	No	No	No	No	No	No	No	No	No	No
20	2	40	1	4	No	No	No	No	No	No	No	No	No	No
21	2	24	1	2	No	No	No	No	No	No	No	No	No	No
22	2	8	1	1	No	No	No	No	No	No	No	No	No	No
23	2	8	1	1	No	No	No	No	No	No	No	No	No	No
24	2	8	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	3	4	10	0	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	19.3	21.4
Number of Lanes on Minor Street Approach	2	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:26	0:26
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	83	75
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	951	951
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

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Signal Warrants Report For Intersection 25: New Intersection

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	548	295	0
2	532	286	0
3	521	280	0
4	488	263	0
5	433	233	0
6	427	230	0
7	422	227	0
8	384	207	0
9	378	204	0
10	373	201	0
11	323	174	0
12	301	162	0
13	296	159	0
14	219	118	0
15	219	118	0
16	153	83	0
17	88	47	0
18	88	47	0
19	49	27	0
20	27	15	0
21	16	9	0
22	5	3	0
23	5	3	0
24	5	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	843	1	0	No	No	No	No	No	No	No	No	No	No
2	1	818	1	0	No	No	No	No	No	No	No	No	No	No
3	1	801	1	0	No	No	No	No	No	No	No	No	No	No
4	1	751	1	0	No	No	No	No	No	No	No	No	No	No
5	1	666	1	0	No	No	No	No	No	No	No	No	No	No
6	1	657	1	0	No	No	No	No	No	No	No	No	No	No
7	1	649	1	0	No	No	No	No	No	No	No	No	No	No
8	1	591	1	0	No	No	No	No	No	No	No	No	No	No
9	1	582	1	0	No	No	No	No	No	No	No	No	No	No
10	1	574	1	0	No	No	No	No	No	No	No	No	No	No
11	1	497	1	0	No	No	No	No	No	No	No	No	No	No
12	1	463	1	0	No	No	No	No	No	No	No	No	No	No
13	1	455	1	0	No	No	No	No	No	No	No	No	No	No
14	1	337	1	0	No	No	No	No	No	No	No	No	No	No
15	1	337	1	0	No	No	No	No	No	No	No	No	No	No
16	1	236	1	0	No	No	No	No	No	No	No	No	No	No
17	1	135	1	0	No	No	No	No	No	No	No	No	No	No
18	1	135	1	0	No	No	No	No	No	No	No	No	No	No
19	1	76	1	0	No	No	No	No	No	No	No	No	No	No
20	1	42	1	0	No	No	No	No	No	No	No	No	No	No
21	1	25	1	0	No	No	No	No	No	No	No	No	No	No
22	1	8	1	0	No	No	No	No	No	No	No	No	No	No
23	1	8	1	0	No	No	No	No	No	No	No	No	No	No
24	1	8	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	9.8
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	843
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 26: Latrobe/Wetsl-Oviatt

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	415	264	4
2	403	256	4
3	394	251	4
4	369	235	4
5	328	209	3
6	324	206	3
7	320	203	3
8	291	185	3
9	286	182	3
10	282	180	3
11	245	156	2
12	228	145	2
13	224	143	2
14	166	106	2
15	166	106	2
16	116	74	1
17	66	42	1
18	66	42	1
19	37	24	0
20	21	13	0
21	12	8	0
22	4	3	0
23	4	3	0
24	4	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	679	1	4	No	No	No	No	No	No	No	No	No	No
2	1	659	1	4	No	No	No	No	No	No	No	No	No	No
3	1	645	1	4	No	No	No	No	No	No	No	No	No	No
4	1	604	1	4	No	No	No	No	No	No	No	No	No	No
5	1	537	1	3	No	No	No	No	No	No	No	No	No	No
6	1	530	1	3	No	No	No	No	No	No	No	No	No	No
7	1	523	1	3	No	No	No	No	No	No	No	No	No	No
8	1	476	1	3	No	No	No	No	No	No	No	No	No	No
9	1	468	1	3	No	No	No	No	No	No	No	No	No	No
10	1	462	1	3	No	No	No	No	No	No	No	No	No	No
11	1	401	1	2	No	No	No	No	No	No	No	No	No	No
12	1	373	1	2	No	No	No	No	No	No	No	No	No	No
13	1	367	1	2	No	No	No	No	No	No	No	No	No	No
14	1	272	1	2	No	No	No	No	No	No	No	No	No	No
15	1	272	1	2	No	No	No	No	No	No	No	No	No	No
16	1	190	1	1	No	No	No	No	No	No	No	No	No	No
17	1	108	1	1	No	No	No	No	No	No	No	No	No	No
18	1	108	1	1	No	No	No	No	No	No	No	No	No	No
19	1	61	1	0	No	No	No	No	No	No	No	No	No	No
20	1	34	1	0	No	No	No	No	No	No	No	No	No	No
21	1	20	1	0	No	No	No	No	No	No	No	No	No	No
22	1	7	1	0	No	No	No	No	No	No	No	No	No	No
23	1	7	1	0	No	No	No	No	No	No	No	No	No	No
24	1	7	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	13.5
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	4
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	683
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 27: Latrobe/S. Shingle

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	285	188	147	116
2	276	182	143	113
3	271	179	140	110
4	254	167	131	103
5	225	149	116	92
6	222	147	115	90
7	219	145	113	89
8	200	132	103	81
9	197	130	101	80
10	194	128	100	79
11	168	111	87	68
12	157	103	81	64
13	154	102	79	63
14	114	75	59	46
15	114	75	59	46
16	80	53	41	32
17	46	30	24	19
18	46	30	24	19
19	26	17	13	10
20	14	9	7	6
21	9	6	4	3
22	3	2	1	1
23	3	2	1	1
24	3	2	1	1

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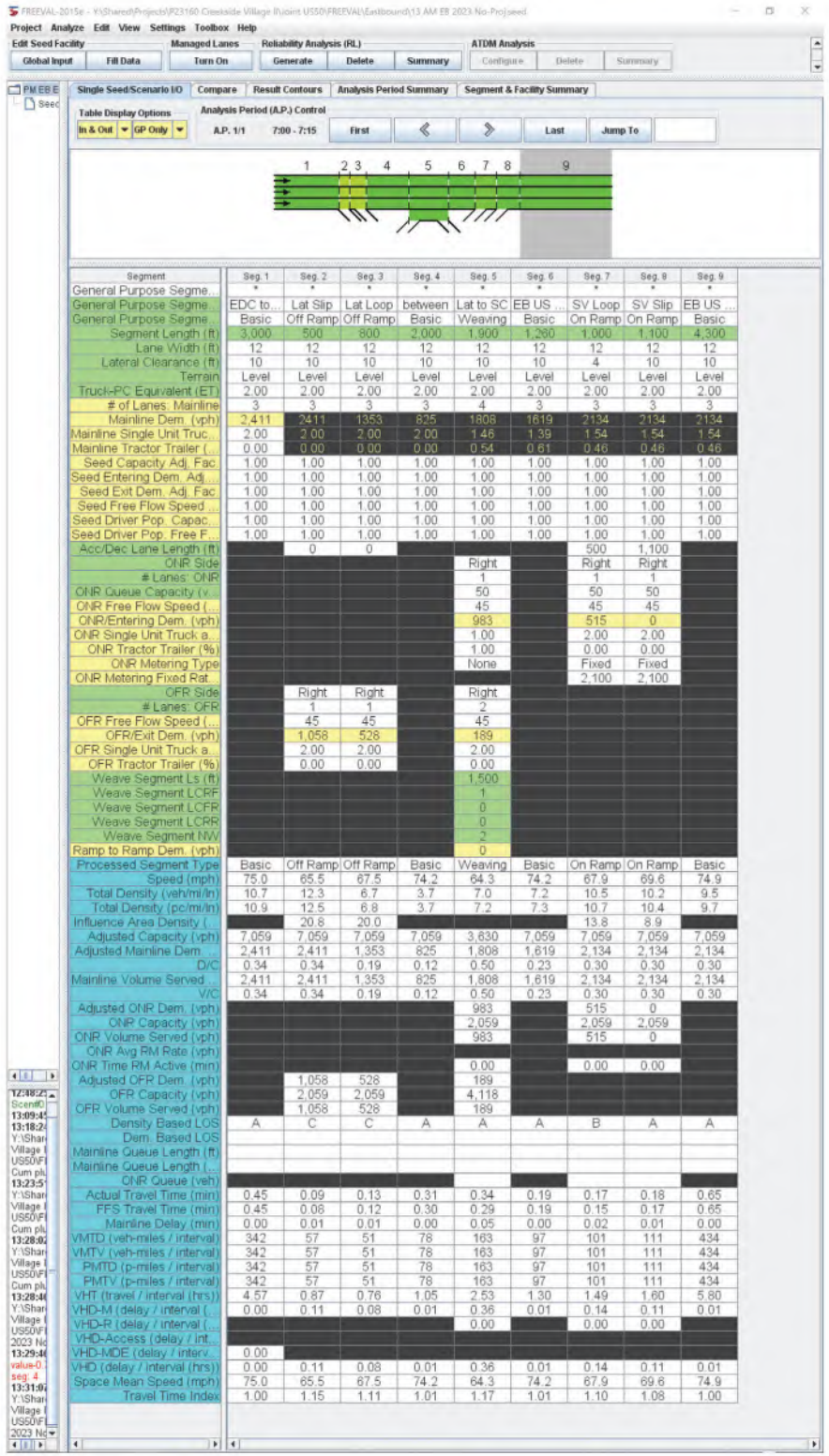
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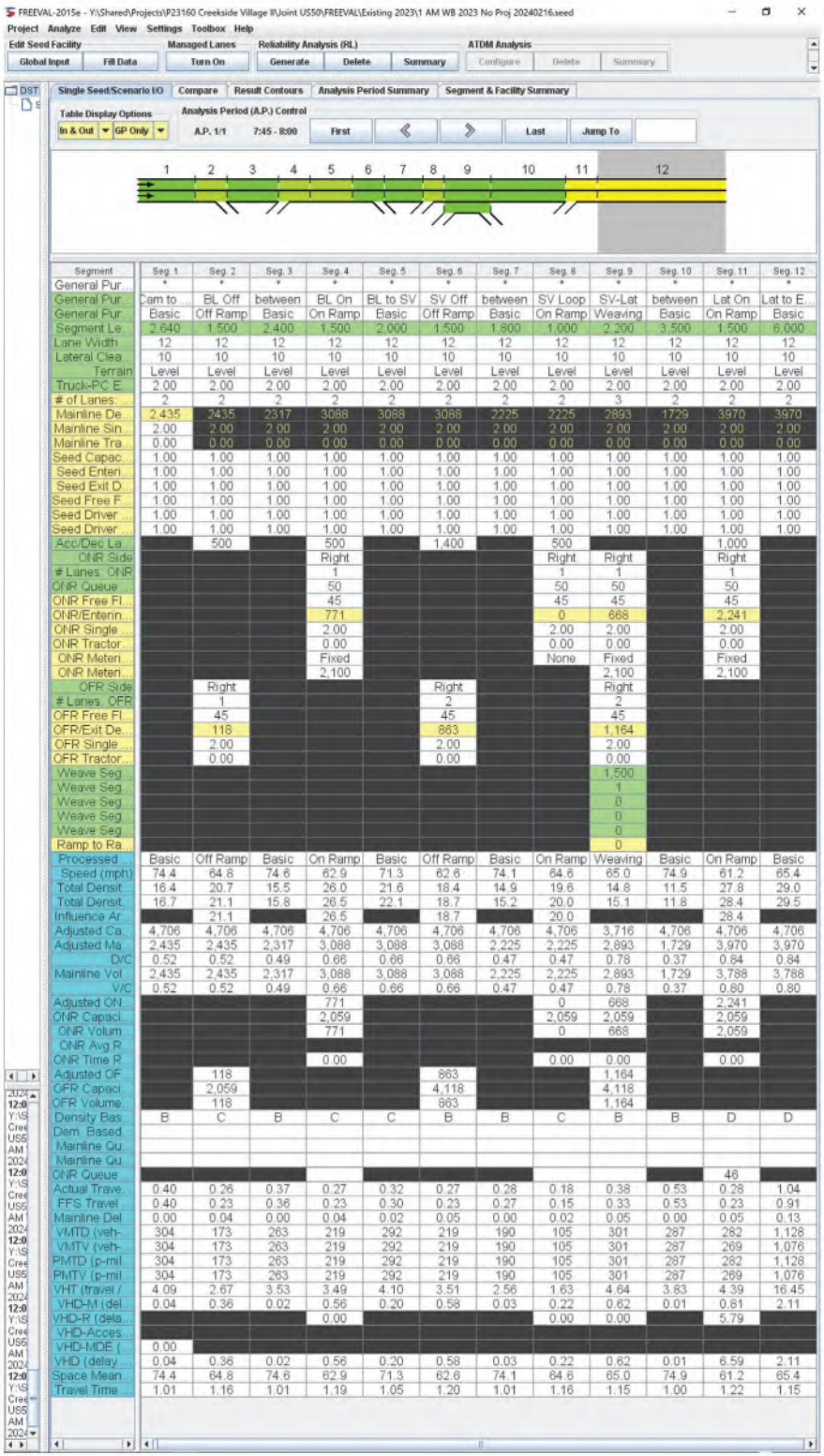
Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	473	1	147	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
2	1	458	1	143	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
3	1	450	1	140	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
4	1	421	1	131	No	Yes	Yes	Yes	No	No	No	Yes	No	No
5	1	374	1	116	No	No	Yes	Yes	No	No	No	No	No	No
6	1	369	1	115	No	No	Yes	Yes	No	No	No	No	No	No
7	1	364	1	113	No	No	Yes	Yes	No	No	No	No	No	No
8	1	332	1	103	No	No	No	Yes	No	No	No	No	No	No
9	1	327	1	101	No	No	No	Yes	No	No	No	No	No	No
10	1	322	1	100	No	No	No	Yes	No	No	No	No	No	No
11	1	279	1	87	No	No	No	No	No	No	No	No	No	No
12	1	260	1	81	No	No	No	No	No	No	No	No	No	No
13	1	256	1	79	No	No	No	No	No	No	No	No	No	No
14	1	189	1	59	No	No	No	No	No	No	No	No	No	No
15	1	189	1	59	No	No	No	No	No	No	No	No	No	No
16	1	133	1	41	No	No	No	No	No	No	No	No	No	No
17	1	76	1	24	No	No	No	No	No	No	No	No	No	No
18	1	76	1	24	No	No	No	No	No	No	No	No	No	No
19	1	43	1	13	No	No	No	No	No	No	No	No	No	No
20	1	23	1	7	No	No	No	No	No	No	No	No	No	No
21	1	15	1	4	No	No	No	No	No	No	No	No	No	No
22	1	5	1	1	No	No	No	No	No	No	No	No	No	No
23	1	5	1	1	No	No	No	No	No	No	No	No	No	No
24	1	5	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	10	0	0	0	4	3	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.1	18.1
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:39	0:34
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	147	116
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	736	736
Number of Approaches on Intersection	4	4
Total Volume Condition Met	No	No
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	





Segment	Seg. 1	Seg. 2	Seg. 3	Seg. 4	Seg. 5	Seg. 6	Seg. 7	Seg. 8	Seg. 9	Seg. 10	Seg. 11	Seg. 12
General Pur...	*	*	*	*	*	*	*	*	*	*	*	*
General Pur...	Cam to ...	BL Off	between	BL On	BL to SV	SV Off	between	SV Loop	SV-Lat	between	Lat On	Lat to E...
General Pur...	Basic	Off Ramp	Basic	On Ramp	Basic	Off Ramp	Basic	On Ramp	Weaving	Basic	On Ramp	Basic
Segment Le...	2,640	1,500	2,400	1,500	2,000	1,500	1,800	1,000	2,200	3,500	1,500	6,000
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Lateral Clea...	10	10	10	10	10	10	10	10	10	10	10	10
Terrain	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
Truck-PC E...	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
# of Lanes:	2	2	2	2	2	2	2	2	3	2	2	2
Mainline De...	2,435	2,435	2,317	3,088	3,088	3,088	2,225	2,225	2,893	1,729	3,970	3,970
Mainline Sin...	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Mainline Tra...	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Seed Capac...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Enteri...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Exit D...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Free F...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Driver ...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Driver ...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Acc/Dec La...		500		500		1,400		500			1,000	
ONR Side				Right				Right	Right		Right	
# Lanes: ONR				1				1	1		1	
ONR Queue ...				50				50	50		50	
ONR Free Fl...				45				45	45		45	
ONR/Enterin...				771				0	668		2,241	
ONR Single ...				2.00				2.00	2.00		2.00	
ONR Tractor...				0.00				0.00	0.00		0.00	
ONR Meteri...				Fixed				None	Fixed		Fixed	
ONR Meteri...				2,100					2,100		2,100	
OFR Side		Right				Right			Right			
# Lanes: OFR		1				2			2			
OFR Free Fl...		45				45			45			
OFR/Exit De...		118				863			1,164			
OFR Single ...		2.00				2.00			2.00			
OFR Tractor...		0.00				0.00			0.00			
Weave Seg...									1,500			
Weave Seg...									1			
Weave Seg...									0			
Weave Seg...									0			
Weave Seg...									0			
Ramp to Ra...									0			
Processed ...	Basic	Off Ramp	Basic	On Ramp	Basic	Off Ramp	Basic	On Ramp	Weaving	Basic	On Ramp	Basic
Speed (mph)	74.4	64.8	74.6	62.9	71.3	62.6	74.1	64.6	65.0	74.9	61.2	65.4
Total Densit...	16.4	20.7	15.5	26.0	21.6	18.4	14.9	19.6	14.8	11.5	27.8	29.0
Total Densit...	16.7	21.1	15.8	26.5	22.1	18.7	15.2	20.0	15.1	11.8	28.4	29.5
Influence Ar...		21.1		26.5		18.7		20.0			28.4	
Adjusted Ca...	4,706	4,706	4,706	4,706	4,706	4,706	4,706	4,706	3,716	4,706	4,706	4,706
Adjusted Ma...	2,435	2,435	2,317	3,088	3,088	3,088	2,225	2,225	2,893	1,729	3,970	3,970
D/C	0.52	0.52	0.49	0.66	0.66	0.66	0.47	0.47	0.78	0.37	0.84	0.84
Mainline Vol	2,435	2,435	2,317	3,088	3,088	3,088	2,225	2,225	2,893	1,729	3,788	3,788
V/C	0.52	0.52	0.49	0.66	0.66	0.66	0.47	0.47	0.78	0.37	0.80	0.80
Adjusted ON...				771				0	668		2,241	
ONR Capaci...				2,059				2,059	2,059		2,059	
ONR Volum...				771				0	668		2,059	
ONR Avg R...												
ONR Time R...				0.00				0.00	0.00		0.00	
Adjusted OF...		118				863			1,164			
OFR Capaci...		2,059				4,118			4,118			
OFR Volume...		118				863			1,164			
Density Bas...	B	C	B	C	C	B	B	C	B	B	D	D
Dem. Based...												
Mainline Gu...												
Mainline Gu...												
ONR Queue ...											46	
Actual Trave...	0.40	0.26	0.37	0.27	0.32	0.27	0.28	0.18	0.38	0.53	0.28	1.04
FFS Travel ...	0.40	0.23	0.36	0.23	0.30	0.23	0.27	0.15	0.33	0.53	0.23	0.91
Mainline Del...	0.00	0.04	0.00	0.04	0.02	0.05	0.00	0.02	0.05	0.00	0.05	0.13
VMTD (veh-...	304	173	263	219	292	219	190	105	301	287	282	1,128
VMTV (veh-...	304	173	263	219	292	219	190	105	301	287	269	1,076
PMTD (p-mil...	304	173	263	219	292	219	190	105	301	287	282	1,128
PMTV (p-mil...	304	173	263	219	292	219	190	105	301	287	269	1,076
VHT (travel / ...	4.09	2.67	3.53	3.49	4.10	3.51	2.56	1.63	4.64	3.83	4.39	16.45
VHD-M (del...	0.04	0.36	0.02	0.56	0.20	0.58	0.03	0.22	0.62	0.01	0.81	2.11
VHD-R (dela...				0.00				0.00	0.00		5.79	
VHD-Acces...												
VHD-MDE (...	0.00											
VHD (delay ...	0.04	0.36	0.02	0.56	0.20	0.58	0.03	0.22	0.62	0.01	6.59	2.11
Space Mean ...	74.4	64.8	74.6	62.9	71.3	62.6	74.1	64.6	65.0	74.9	61.2	65.4
Travel Time ...	1.01	1.16	1.01	1.19	1.05	1.20	1.01	1.16	1.15	1.00	1.22	1.15

Existing PM no Project

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Scenario 1 2023 PM, No Project
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Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	El Dorado Hills Blvd/Serrano Pkwy	Signalized	HCM 7th Edition	NB Thru	0.957	46.8	D
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	NB Left	1.222	107.8	F
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	WB Right	0.989	47.9	D
4	Latrobe Rd/US 50 EB	Signalized	HCM 7th Edition	EB Right	0.912	22.8	C
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	SB Left	0.925	38.1	D
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	WB Left	0.630	51.0	D
7	Latrobe Rd/Golden Foothill Pkwy N	Signalized	HCM 7th Edition	SB Left	0.825	20.9	C
8	Latrobe Rd/Suncast Ln	Signalized	HCM 7th Edition	NB Left	0.728	10.8	B
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	SB Left	0.845	37.5	D
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	NB Left	0.779	18.0	B
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	WB Right	0.077	11.1	B
12	Latrobe Rd/Royal Oaks Dr	Two-way stop	HCM 7th Edition	WB Left	0.278	28.6	D
13	Golden Foothill/Robert J Mathews	Two-way stop	HCM 7th Edition	NB Left	5.387	2,479.7	F
14	Investment Blvd/Robert J Mathews Pkwy	All-way stop	HCM 7th Edition	SB Thru	0.735	19.6	C
15	Golden Foothill Pkwy/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.019	14.8	B
16	Carson Crossing Rd/Calypso Cir.	Two-way stop	HCM 7th Edition	NB Left	0.021	11.1	B
17	Carson Crossing Rd/Four Seasons Dr	All-way stop	HCM 7th Edition	NB Thru	0.127	8.1	A
18	White Rock Rd/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.767	69.3	F
19	White Rock Rd/Windfield Way	Signalized	HCM 7th Edition	SB Thru	0.452	29.1	C
20	White Rock Rd/Post St	Signalized	HCM 7th Edition	SB Left	0.522	70.4	E
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 6th Edition	EB Thru	0.917	54.2	D
22	White Rock Rd/Clarksville Crossing	Signalized	HCM 7th Edition	NB Right	0.755	23.4	C
23	White Rock Rd/US 50 EB	Signalized	HCM 7th Edition	EB Left	0.659	31.7	C
24	Silva Valley Pkwy/US 50 WB	Signalized	HCM 7th Edition	NB Left	0.528	19.3	B
25	New Intersection	Two-way stop	HCM 6th Edition	SB Thru	0.005	0.0	A
26	Latrobe/Wetsl-Oviatt	Two-way stop	HCM 7th Edition	EB Left	0.071	15.2	C
27	Latrobe/S. Shingle	Two-way stop	HCM 7th Edition	WB Left	0.133	18.2	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: El Dorado Hills Blvd/Serrano Pkwy

Control Type:	Signalized	Delay (sec / veh):	46.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.957

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	260.0	100.0	100.0	100.0	110.00	100.00	100.00	100.00	100.00	100.00	430.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No			No		
Crosswalk	No				Yes			Yes			Yes		

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Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Base Volume Input [veh/h]	3	91	1766	401	35	1038	55	36	17	54	339	52	22
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	17	0	0	16	0	0	7
Total Hourly Volume [veh/h]	3	91	1766	401	35	1038	38	36	17	38	339	52	15
Peak Hour Factor	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	26	507	115	10	298	11	10	5	11	97	15	4
Total Analysis Volume [veh/h]	3	105	2030	461	40	1193	44	41	20	44	390	60	17
Presence of On-Street Parking	No			No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	1	6	0	7	7	0	0	8	0
Auxiliary Signal Groups													
Maximum Green [s]	0	25	40	0	25	40	0	35	35	0	0	35	0
Amber [s]	0.0	3.0	4.7	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	12	0	0	12	0	0	0	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	100.0	245.0	0.0	100.0	100.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	29	46	0	29	46	0	39	39	0	0	39	0
Lead / Lag	-	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	3	6	0	3	3	0	3	3	0	0	3	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	4.0	0.0
Minimum Recall		No	No		No	No			No			No	
Maximum Recall		No	No		No	No			No			No	
Pedestrian Recall		No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C
C, Cycle Length [s]	79	79	79	79	79	79	79	79	79	79
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	40	40	2	36	36	5	5	14	14
g / C, Green / Cycle	0.08	0.51	0.51	0.03	0.46	0.46	0.06	0.06	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.06	0.57	0.29	0.02	0.33	0.33	0.02	0.04	0.13	0.13
s, saturation flow rate [veh/h]	1781	3560	1589	1781	1870	1847	1781	1668	1781	1787
c, Capacity [veh/h]	141	1810	808	51	856	846	105	99	318	320
d1, Uniform Delay [s]	35.52	19.35	13.40	37.98	17.33	17.34	35.66	36.23	30.54	30.54
k, delay calibration	0.04	0.05	0.06	0.04	0.13	0.13	0.04	0.04	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.22	55.62	0.36	9.10	1.45	1.48	0.87	2.66	4.58	4.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	1.12	0.57	0.78	0.73	0.73	0.39	0.65	0.73	0.73
d, Delay for Lane Group [s/veh]	38.75	74.97	13.76	47.08	18.78	18.82	36.53	38.89	35.13	35.11
Lane Group LOS	D	F	B	D	B	B	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.03	27.13	4.72	0.85	8.03	7.95	0.77	1.25	4.44	4.46
50th-Percentile Queue Length [ft/ln]	50.70	678.35	117.97	21.28	200.64	198.68	19.16	31.20	111.04	111.39
95th-Percentile Queue Length [veh/ln]	3.65	38.84	8.28	1.53	12.67	12.57	1.38	2.25	7.90	7.92
95th-Percentile Queue Length [ft/ln]	91.26	971.05	207.04	38.31	316.79	314.26	34.49	56.16	197.45	197.94

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.75	38.75	74.97	13.76	47.08	18.80	18.82	36.53	38.89	38.89	35.12	35.11	35.11
Movement LOS	D	D	F	B	D	B	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	62.61				19.69			37.97			35.12		
Approach LOS	E				B			D			D		
d_I, Intersection Delay [s/veh]	46.82												
Intersection LOS	D												
Intersection V/C	0.957												

Emissions

Vehicle Miles Traveled [mph]	25.79	484.83	110.10	5.88	91.45	90.42	1.75	2.73	12.20	12.24
Stops [stops/h]	92.93	2486.77	216.24	39.01	367.77	364.16	35.12	57.19	203.53	204.18
Fuel consumption [US gal/h]	2.89	78.51	7.75	1.07	10.08	9.98	0.57	0.93	3.29	3.30
CO [g/h]	202.09	5487.61	541.97	74.78	704.93	697.83	39.91	65.35	230.16	230.88
NOx [g/h]	39.32	1067.69	105.45	14.55	137.15	135.77	7.76	12.72	44.78	44.92
VOC [g/h]	46.84	1271.81	125.61	17.33	163.37	161.73	9.25	15.15	53.34	53.51

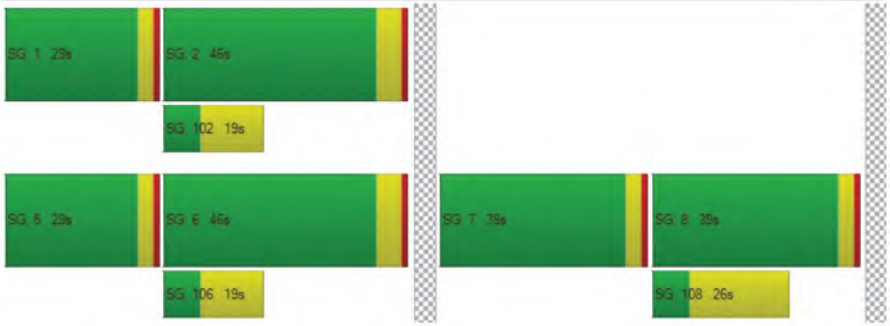
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	29.05	29.05	29.05
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.308	2.068	2.266
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1026	1026	891	891
d_b, Bicycle Delay [s]	9.32	9.32	12.08	12.08
l_b,int, Bicycle LOS Score for Intersection	3.701	2.627	1.759	2.342
Bicycle LOS	D	B	A	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	107.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.222

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	1	0	1	0	0	1
Entry Pocket Length [ft]	230.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	5	442	1616	75	4	164	1068	198	365	41	525	59	107	276
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	23	0	0	0	59	0	0	158	0	0	83
Total Hourly Volume [veh/h]	5	442	1616	52	4	164	1068	139	365	41	367	59	107	193
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	119	434	14	1	44	287	37	98	11	99	16	29	52
Total Analysis Volume [veh/h]	5	475	1738	56	4	176	1148	149	392	44	395	63	115	208
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	0	3	8	0
Auxiliary Signal Groups														
Maximum Green [s]	0	20	50	0	0	20	50	0	20	20	0	0	20	0
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	18	0	0	0	16	0	0	0	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	0	24	56	0	24	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C
C, Cycle Length [s]	125	125	125	125	125	125	125	125	125	125	125
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	53	53	15	48	48	20	20	20	20	20
g / C, Green / Cycle	0.16	0.42	0.42	0.12	0.38	0.38	0.16	0.16	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.27	0.33	0.33	0.10	0.35	0.36	0.12	0.12	0.25	0.04	0.19
s, saturation flow rate [veh/h]	1781	3560	1840	1781	1870	1796	1781	1798	1589	1781	1679
c, Capacity [veh/h]	284	1504	777	208	710	682	284	287	254	284	268
d1, Uniform Delay [s]	52.62	31.26	31.34	54.33	37.19	37.41	50.37	50.34	52.62	45.84	52.62
k, delay calibration	0.50	0.13	0.34	0.11	0.37	0.37	0.22	0.22	0.50	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	324.32	1.13	5.49	10.32	15.95	17.98	8.37	8.05	268.77	0.14	121.91
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.69	0.79	0.79	0.86	0.93	0.94	0.76	0.76	1.56	0.22	1.20
d, Delay for Lane Group [s/veh]	376.95	32.39	36.83	64.65	53.14	55.39	58.74	58.38	321.39	45.98	174.53
Lane Group LOS	F	C	D	E	D	E	E	E	F	D	F
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	34.31	14.82	16.37	6.04	21.44	21.27	7.19	7.19	26.91	1.73	17.48
50th-Percentile Queue Length [ft/ln]	857.63	370.47	409.33	150.92	536.09	531.83	179.64	179.85	672.64	43.29	437.12
95th-Percentile Queue Length [veh/ln]	53.37	21.13	23.01	10.07	29.04	28.84	11.58	11.59	42.07	3.12	26.51
95th-Percentile Queue Length [ft/ln]	1334.16	528.30	575.24	251.65	725.94	720.93	289.55	289.82	1051.84	77.92	662.71

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	376.9	376.9	33.81	36.83	64.65	64.65	54.10	55.39	58.58	58.38	321.39	45.98	174.53	174.53
Movement LOS	F	F	C	D	E	E	D	E	E	E	F	D	F	F
d_A, Approach Delay [s/veh]	106.31				55.52				183.49			153.55		
Approach LOS	F				E				F			F		
d_I, Intersection Delay [s/veh]	107.79													
Intersection LOS	F													
Intersection V/C	1.222													

Emissions

Vehicle Miles Traveled [mph]	90.33	222.20	115.42	42.99	157.18	152.59	13.56	13.63	24.63	3.07	15.75
Stops [stops/h]	986.38	852.17	470.79	173.57	616.57	611.67	206.61	206.85	773.63	49.79	502.75
Fuel consumption [US gal/h]	52.17	25.99	14.41	6.00	20.17	20.04	4.30	4.30	31.12	0.99	14.90
CO [g/h]	3646.85	1816.93	1006.98	419.36	1409.93	1400.56	300.50	300.57	2175.04	69.27	1041.21
NOx [g/h]	709.54	353.51	195.92	81.59	274.32	272.50	58.47	58.48	423.18	13.48	202.58
VOC [g/h]	845.19	421.09	233.38	97.19	326.76	324.59	69.64	69.66	504.09	16.05	241.31

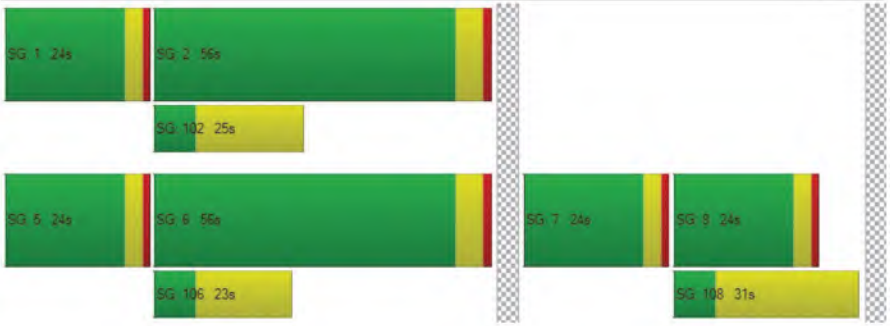
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	52.08	52.08	52.08
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.517	2.807	2.324
Crosswalk LOS	F	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	803	803	319	319
d_b, Bicycle Delay [s]	22.41	22.41	44.20	44.20
l_b,int, Bicycle LOS Score for Intersection	2.820	2.682	3.191	2.333
Bicycle LOS	C	B	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	47.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.989

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	500.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	980	1679	319	0	37	1192	428	208	130	290	236	80	251
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	96	0	0	0	128	0	0	87	0	0	75
Total Hourly Volume [veh/h]	1	980	1679	223	0	37	1192	300	208	130	203	236	80	176
Peak Hour Factor	1.000	0.840	0.990	0.840	1.000	0.840	0.990	0.840	0.8400	0.8400	0.8400	0.8400	0.8400	0.8400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	292	424	66	0	11	301	89	62	39	60	70	24	52
Total Analysis Volume [veh/h]	1	1167	1696	265	0	44	1204	357	248	155	242	281	95	210
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	136
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	45	62	0	0	14	29	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	50	68	0	0	19	35	28	0	28	0	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	45	73	73	7	34	57	18	18	18	18	18
g / C, Green / Cycle	0.33	0.54	0.54	0.05	0.25	0.42	0.13	0.13	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.34	0.36	0.39	0.02	0.24	0.22	0.11	0.11	0.10	0.10	0.13
s, saturation flow rate [veh/h]	3459	3532	1735	1781	5053	1589	1781	1847	1781	1824	1589
c, Capacity [veh/h]	1155	1901	934	86	1275	668	232	241	241	247	216
d1, Uniform Delay [s]	45.29	22.80	23.74	63.17	49.89	29.48	57.87	57.86	56.74	56.71	58.54
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.15	0.15	0.20	0.20	0.37
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.50	1.95	4.85	1.76	14.94	3.05	11.47	11.02	9.28	8.86	46.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.01	0.68	0.72	0.51	0.94	0.53	0.85	0.85	0.77	0.77	0.97
d, Delay for Lane Group [s/veh]	55.80	24.75	28.59	64.94	64.83	32.54	69.34	68.88	66.02	65.57	104.89
Lane Group LOS	F	C	C	E	E	C	E	E	E	E	F
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	21.00	15.22	17.34	1.50	14.76	9.01	7.41	7.65	6.81	6.92	9.98
50th-Percentile Queue Length [ft/ln]	525.05	380.44	433.45	37.60	369.01	225.17	185.34	191.29	170.24	173.01	249.49
95th-Percentile Queue Length [veh/ln]	28.74	21.62	24.17	2.71	21.06	13.93	11.88	12.19	11.09	11.23	15.16
95th-Percentile Queue Length [ft/ln]	718.46	540.38	604.17	67.67	526.53	348.21	296.97	304.71	277.23	280.87	379.01

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.80	55.80	25.68	28.59	64.94	64.94	64.83	32.54	69.25	68.88	0.00	65.87	65.57	104.89
Movement LOS	E	F	C	C	E	E	E	C	E	E		E	E	F
d_A, Approach Delay [s/veh]	37.17				57.65				45.96			79.80		
Approach LOS	D				E				D			E		
d_I, Intersection Delay [s/veh]	47.90													
Intersection LOS	D													
Intersection V/C	0.989													

Emissions

Vehicle Miles Traveled [mph]	200.04	220.20	115.65	8.28	226.59	67.19	9.15	9.49	5.92	6.04	6.68
Stops [stops/h]	1111.86	805.64	458.95	39.81	1172.16	238.41	196.24	202.55	180.25	183.19	264.17
Fuel consumption [US gal/h]	27.64	19.99	11.23	1.36	38.22	7.63	4.25	4.38	3.74	3.79	6.22
CO [g/h]	1931.92	1397.45	784.63	95.08	2671.78	533.39	297.32	306.43	261.35	265.23	434.50
NOx [g/h]	375.88	271.89	152.66	18.50	519.83	103.78	57.85	59.62	50.85	51.60	84.54
VOC [g/h]	447.74	323.87	181.85	22.03	619.21	123.62	68.91	71.02	60.57	61.47	100.70

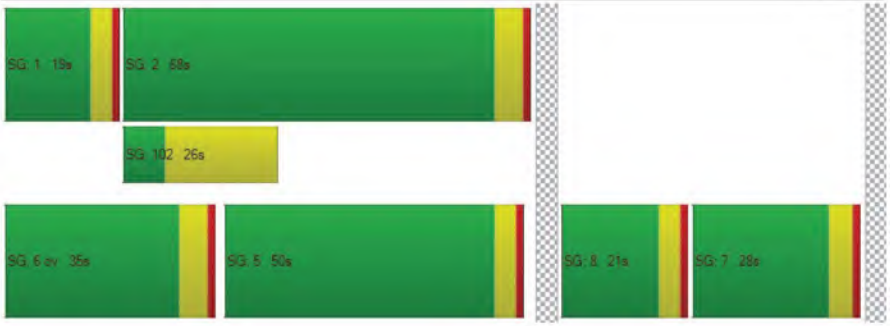
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	57.44
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.555
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	915	429	337	241
d_b, Bicycle Delay [s]	20.02	41.93	47.03	52.59
l_b,int, Bicycle LOS Score for Intersection	3.333	2.489	2.225	2.105
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 4: Latrobe Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	22.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.912

Intersection Setup

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	200.00	570.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No			No		
Crosswalk	No			No				No			Yes		

Volumes

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Base Volume Input [veh/h]	0	2117	609	1	388	1330	0	0	0	1197	0	0	861
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	183	0	0	0	0	0	0	359	0	0	258
Total Hourly Volume [veh/h]	0	2117	426	1	388	1330	0	0	0	838	0	0	603
Peak Hour Factor	1.0000	0.9500	0.8400	1.000	0.840	0.950	1.000	1.0000	1.0000	0.8400	1.0000	1.0000	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	557	127	0	115	350	0	0	0	249	0	0	179
Total Analysis Volume [veh/h]	0	2228	507	1	462	1400	0	0	0	998	0	0	718
Presence of On-Street Parking	No		No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0				0			0	
v_co, Outbound Pedestrian Volume crossing		0			0				0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0	
Bicycle Volume [bicycles/h]		0			0				0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	26.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	30	0	0	26	34	0	0	0	22	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No				No			
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	4.2	0.0	0.0	2.6	4.2	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	2.5	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Minimum Recall		Yes			No	Yes				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	R	L	C	R	
C, Cycle Length [s]	68	68	68	68	68	
L, Total Lost Time per Cycle [s]	6.20	6.20	4.60	6.20	4.60	
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	4.20	4.20	2.60	4.20	2.60	
g_i, Effective Green Time [s]	38	38	20	35	22	
g / C, Green / Cycle	0.55	0.55	0.29	0.51	0.33	
(v / s)_i Volume / Saturation Flow Rate	0.44	0.32	0.26	0.21	0.35	
s, saturation flow rate [veh/h]	5094	1589	1781	6792	2813	
c, Capacity [veh/h]	2809	876	516	3476	927	
d1, Uniform Delay [s]	12.16	10.05	23.17	10.21	22.80	
k, delay calibration	0.50	0.50	0.17	0.50	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	2.40	2.78	8.80	0.35	36.65	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.79	0.58	0.90	0.40	1.08	
d, Delay for Lane Group [s/veh]	14.56	12.83	31.97	10.56	59.45	
Lane Group LOS	B	B	C	B	F	
Critical Lane Group	Yes	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	7.08	4.32	7.43	2.58	11.48	
50th-Percentile Queue Length [ft/ln]	177.08	107.99	185.84	64.46	286.92	
95th-Percentile Queue Length [veh/ln]	11.45	7.73	11.90	4.64	17.80	
95th-Percentile Queue Length [ft/ln]	286.20	193.20	297.62	116.02	444.96	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	14.56	12.83	31.97	31.97	10.56	0.00	0.00	0.00	59.45	0.00	0.00	0.00
Movement LOS		B	B	C	C	B				F			
d_A, Approach Delay [s/veh]		14.24			15.88				59.45			0.00	
Approach LOS		B			B				E			A	
d_I, Intersection Delay [s/veh]	22.85												
Intersection LOS	C												
Intersection V/C	0.912												

Emissions

Vehicle Miles Traveled [mph]	322.38	73.36	79.30	239.78	71.42	
Stops [stops/h]	1125.01	228.68	393.53	545.99	1215.17	
Fuel consumption [US gal/h]	31.64	6.68	10.62	18.02	21.73	
CO [g/h]	2211.68	467.03	742.59	1259.31	1518.63	
NOx [g/h]	430.31	90.87	144.48	245.02	295.47	
VOC [g/h]	512.58	108.24	172.10	291.86	351.96	

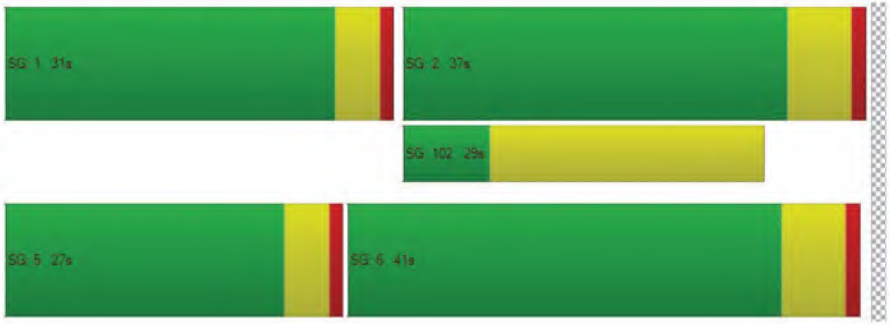
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	23.89
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.067
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	906	1024	659	0
d_b, Bicycle Delay [s]	10.18	8.10	15.29	34.00
l_b,int, Bicycle LOS Score for Intersection	3.165	2.138	1.560	1.560
Bicycle LOS	C	B	A	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	38.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.925

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	24	1820	215	3	532	1803	189	299	33	67	1	91	6	604
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	65	0	0	0	57	0	0	20	0	0	0	181
Total Hourly Volume [veh/h]	1	24	1820	150	3	532	1803	132	299	33	47	1	91	6	423
Peak Hour Factor	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.9600	0.9600	0.9600	0.960	0.960	0.960	0.960
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	6	474	39	1	139	470	34	78	9	12	0	24	2	110
Total Analysis Volume [veh/h]	1	25	1896	156	3	554	1878	138	311	34	49	1	95	6	441
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	138
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	0	5	2	0	3	4	0	4	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	40	0	0	12	65	0	15	20	0	20	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	0.0	3.0	4.5	0.0	3.0	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.0	0.5	1.0	0.0	0.5	0.5	0.0	0.5	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	7	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	20	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	0.0	1.5	3.5	0.0	1.5	1.5	0.0	1.5	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	245.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	46	0	0	16	71	0	19	24	0	24	19	19	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	Lag	Lag	-	-
Minimum Green [s]	0	4	5	0	0	4	5	0	6	6	0	6	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.5	2.5	0.0	2.5	2.5	2.5	0.0
Minimum Recall		No	Yes			No	Yes			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	92	92	92	92	92	92	92	92	92	92	92	92
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	2	38	38	12	48	48	11	11	11	15	15	15
g / C, Green / Cycle	0.02	0.42	0.42	0.13	0.53	0.53	0.12	0.12	0.12	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.01	0.37	0.10	0.16	0.37	0.09	0.09	0.02	0.03	0.05	0.14	0.14
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	1870	1589	1781	1596	1589
c, Capacity [veh/h]	75	2120	662	452	2676	835	408	221	187	286	257	256
d1, Uniform Delay [s]	44.25	24.91	17.34	39.89	16.38	11.33	39.23	36.36	36.84	34.16	37.59	37.59
k, delay calibration	0.04	0.04	0.04	0.08	0.04	0.04	0.08	0.08	0.08	0.08	0.32	0.32
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.01	0.57	0.07	107.68	0.13	0.03	2.23	0.24	0.54	0.51	21.97	22.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.35	0.89	0.24	1.23	0.70	0.17	0.76	0.15	0.26	0.34	0.87	0.87
d, Delay for Lane Group [s/veh]	45.26	25.48	17.41	147.56	16.51	11.36	41.45	36.60	37.38	34.67	59.57	59.64
Lane Group LOS	D	C	B	F	B	B	D	D	D	C	E	E
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.30	12.16	2.08	11.76	9.14	1.40	3.47	0.69	1.02	1.91	6.38	6.36
50th-Percentile Queue Length [ft/ln]	7.47	304.01	52.07	294.05	228.38	34.88	86.70	17.30	25.43	47.85	159.41	158.91
95th-Percentile Queue Length [veh/ln]	0.54	17.88	3.75	18.89	14.09	2.51	6.24	1.25	1.83	3.45	10.52	10.49
95th-Percentile Queue Length [ft/ln]	13.45	446.98	93.72	472.34	352.30	62.79	156.06	31.14	45.77	86.13	262.94	262.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.26	45.26	25.48	17.41	147.5	147.5	16.51	11.36	41.45	36.60	37.38	34.67	34.67	59.57	59.61
Movement LOS	D	D	C	B	F	F	B	B	D	D	D	C	C	E	E
d_A, Approach Delay [s/veh]	25.12				44.60				40.53			55.20			
Approach LOS	C				D				D			E			
d_I, Intersection Delay [s/veh]	38.10														
Intersection LOS	D														
Intersection V/C	0.925														

Emissions

Vehicle Miles Traveled [mph]	5.80	423.26	34.82	80.60	271.74	19.97	39.67	4.34	6.25	33.69	78.60	78.29
Stops [stops/h]	23.50	1434.36	81.88	924.91	1077.50	54.86	272.70	27.20	39.99	75.26	250.70	249.92
Fuel consumption [US gal/h]	0.61	35.18	2.44	25.15	23.45	1.44	5.76	0.58	0.85	2.48	7.34	7.31
CO [g/h]	42.51	2459.09	170.46	1758.07	1639.11	100.95	402.84	40.69	59.48	173.35	512.72	511.01
NOx [g/h]	8.27	478.45	33.17	342.06	318.91	19.64	78.38	7.92	11.57	33.73	99.76	99.42
VOC [g/h]	9.85	569.92	39.51	407.45	379.88	23.40	93.36	9.43	13.79	40.18	118.83	118.43

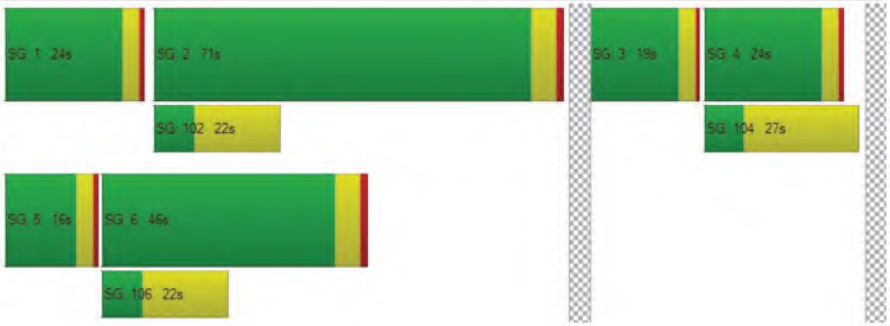
Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	35.44	0.00	35.44	35.44
l_p,int, Pedestrian LOS Score for Intersectio	3.395	0.000	2.586	2.857
Crosswalk LOS	C	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	885	1431	448	339
d_b, Bicycle Delay [s]	14.24	3.71	27.58	31.59
l_b,int, Bicycle LOS Score for Intersection	2.738	2.701	1.901	2.597
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	51.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.630

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	3	2	0	0	1	2	0	0	0	3	0	0
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	260.0	100.0	100.0	260.0	360.0	100.0	100.0	100.0	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	6	73	1515	362	2	243	1325	392	2	349	336	86	393	164	194
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	109	0	0	0	118	0	0	0	26	0	0	58
Total Hourly Volume [veh/h]	6	73	1515	253	2	243	1325	274	2	349	336	60	393	164	136
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	20	407	68	1	65	356	74	1	94	90	16	106	44	37
Total Analysis Volume [veh/h]	6	78	1629	272	2	261	1425	295	2	375	361	65	423	176	146
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	158
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups															
Maximum Green [s]	0	25	50	0	0	35	50	0	0	25	15	0	15	25	0
Amber [s]	0.0	4.0	4.7	0.0	0.0	4.0	4.7	0.0	0.0	4.5	4.7	0.0	4.5	4.7	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	39	0	0	0	37	0	0	0	48	0	0	50	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	3.7	0.0	0.0	3.0	3.7	0.0	0.0	4.0	3.7	0.0	4.0	3.7	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	30	56	0	0	40	56	0	0	31	21	0	21	31	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	7	0	0	10	7	0	0	10	10	0	10	10	0
Vehicle Extension [s]	0.0	1.5	3.0	0.0	0.0	1.5	3.0	0.0	0.0	1.5	2.0	0.0	1.5	2.0	0.0
Minimum Recall		No	Yes			No	Yes			No	No		No	No	
Maximum Recall		No	No			No	No			No	No		No	No	
Pedestrian Recall		No	No			No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	158	158	158	158	158	158	158	158	158	158	158	158
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	6.00	5.70	5.70	6.00	5.70	5.70
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	4.00	3.70	3.70	4.00	3.70	3.70
g_i, Effective Green Time [s]	10	85	85	14	90	90	19	21	21	15	17	17
g / C, Green / Cycle	0.06	0.54	0.54	0.09	0.57	0.57	0.12	0.13	0.13	0.09	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.05	0.24	0.17	0.08	0.28	0.19	0.11	0.12	0.12	0.12	0.05	0.09
s, saturation flow rate [veh/h]	1781	6792	1589	3459	5094	1589	3459	1870	1772	3459	3560	1589
c, Capacity [veh/h]	111	3672	859	309	2893	903	424	249	236	328	376	168
d1, Uniform Delay [s]	72.94	21.93	20.11	70.89	20.47	18.10	68.27	67.21	67.22	71.50	66.47	69.58
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.47	0.48	0.05	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.97	0.39	0.97	2.55	0.60	0.96	2.61	31.29	32.83	132.03	0.34	5.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.44	0.32	0.85	0.49	0.33	0.89	0.88	0.88	1.29	0.47	0.87
d, Delay for Lane Group [s/veh]	76.91	22.32	21.08	73.44	21.07	19.07	70.88	98.50	100.06	203.53	66.81	74.84
Lane Group LOS	E	C	C	E	C	B	E	F	F	F	E	E
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.50	9.35	5.90	5.29	10.31	5.81	7.69	10.87	10.41	12.70	3.38	6.09
50th-Percentile Queue Length [ft/ln]	87.44	233.75	147.42	132.27	257.66	145.35	192.28	271.68	260.34	317.58	84.62	152.31
95th-Percentile Queue Length [veh/ln]	6.30	14.36	9.88	9.06	15.57	9.77	12.24	16.27	15.71	20.28	6.09	10.14
95th-Percentile Queue Length [ft/ln]	157.38	359.12	246.98	226.58	389.29	244.22	305.99	406.84	392.65	506.94	152.31	253.50

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	76.91	76.91	22.32	21.08	73.44	73.44	21.07	19.07	70.88	70.88	99.12	100.0	203.53	66.81	74.84
Movement LOS	E	E	C	C	E	E	C	B	E	E	F	F	F	E	E
d_A, Approach Delay [s/veh]	24.46				27.72				85.94				146.01		
Approach LOS	C				C				F				F		
d_I, Intersection Delay [s/veh]	51.00														
Intersection LOS	D														
Intersection V/C	0.630														

Emissions

Vehicle Miles Traveled [mph]	33.44	648.48	108.28	58.71	318.11	65.85	94.09	54.55	51.77	44.20	18.39	15.25
Stops [stops/h]	79.69	852.15	134.36	241.10	704.50	132.47	350.49	247.61	237.28	578.88	154.24	138.81
Fuel consumption [US gal/h]	3.13	38.80	6.37	8.94	25.77	5.05	11.25	7.99	7.67	22.53	4.00	3.62
CO [g/h]	218.88	2712.27	445.01	624.92	1801.60	352.93	786.16	558.77	535.80	1575.10	279.72	252.90
NOx [g/h]	42.59	527.71	86.58	121.59	350.53	68.67	152.96	108.72	104.25	306.46	54.42	49.20
VOC [g/h]	50.73	628.60	103.14	144.83	417.54	81.80	182.20	129.50	124.18	365.04	64.83	58.61

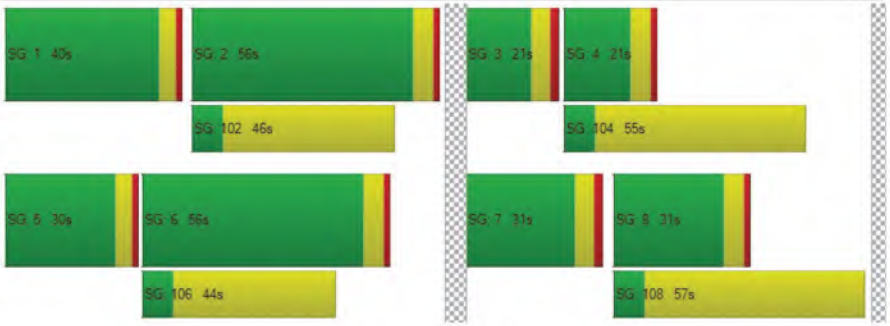
Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	68.38	68.38	68.38	68.38
l_p,int, Pedestrian LOS Score for Intersectio	3.468	3.791	2.760	2.955
Crosswalk LOS	C	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	637	637	194	320
d_b, Bicycle Delay [s]	36.71	36.71	64.44	55.73
l_b,int, Bicycle LOS Score for Intersection	2.421	2.572	1.934	2.222
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	20.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.825

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	6	1300	21	0	21	1371	285	408	7	15	1	4	9
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	6	0	0	0	86	0	0	5	0	0	3
Total Hourly Volume [veh/h]	1	6	1300	15	0	21	1371	199	408	7	10	1	4	6
Peak Hour Factor	1.000	0.890	0.890	0.870	1.000	0.870	0.890	0.890	0.8900	0.8700	0.8900	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	365	4	0	6	385	56	115	2	3	0	1	2
Total Analysis Volume [veh/h]	1	7	1461	17	0	24	1540	224	458	8	11	1	5	7
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	112
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	12	40	0	0	15	40	0	0	20	0	0	20	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	12	0	0	0	20	0	0	20	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	0	0	18	46	0	0	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	38	38	1	38	38	12	12	1
g / C, Green / Cycle	0.01	0.54	0.54	0.02	0.54	0.54	0.17	0.17	0.02
(v / s)_i Volume / Saturation Flow Rate	0.00	0.40	0.40	0.01	0.47	0.49	0.13	0.13	0.01
s, saturation flow rate [veh/h]	1781	1870	1862	1781	1870	1789	1781	1774	1702
c, Capacity [veh/h]	19	1006	1002	29	1017	973	306	305	28
d1, Uniform Delay [s]	34.37	12.35	12.36	34.28	13.86	14.26	27.66	27.66	34.07
k, delay calibration	0.04	0.24	0.24	0.04	0.33	0.35	0.11	0.11	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.69	2.37	2.40	19.51	7.16	9.57	4.30	4.32	4.55
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.74	0.74	0.83	0.87	0.90	0.78	0.78	0.47
d, Delay for Lane Group [s/veh]	40.06	14.73	14.76	53.79	21.02	23.84	31.96	31.98	38.63
Lane Group LOS	D	B	B	D	C	C	C	C	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.16	8.10	8.09	0.52	10.18	10.87	4.00	3.98	0.25
50th-Percentile Queue Length [ft/ln]	4.01	202.46	202.15	13.06	254.39	271.64	99.98	99.62	6.17
95th-Percentile Queue Length [veh/ln]	0.29	12.77	12.75	0.94	15.41	16.27	7.20	7.17	0.44
95th-Percentile Queue Length [ft/ln]	7.22	319.14	318.74	23.51	385.17	406.78	179.96	179.31	11.11

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.06	40.06	14.74	14.76	53.79	53.79	22.21	23.84	31.97	31.98	31.98	38.63	38.63	38.63
Movement LOS	D	D	B	B	D	D	C	C	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	14.88				22.84				31.97			38.63		
Approach LOS	B				C				C			D		
d_I, Intersection Delay [s/veh]	20.91													
Intersection LOS	C													
Intersection V/C	0.825													

Emissions

Vehicle Miles Traveled [mph]	2.83	261.89	261.12	9.55	353.46	348.77	57.55	57.32	0.25
Stops [stops/h]	8.28	417.99	417.35	26.97	525.19	560.80	206.40	205.66	12.74
Fuel consumption [US gal/h]	0.23	15.31	15.27	1.08	25.38	26.33	5.06	5.05	0.18
CO [g/h]	15.90	1070.05	1067.49	75.72	1773.87	1840.68	353.97	352.65	12.78
NOx [g/h]	3.09	208.19	207.70	14.73	345.13	358.13	68.87	68.61	2.49
VOC [g/h]	3.69	247.99	247.40	17.55	411.11	426.60	82.04	81.73	2.96

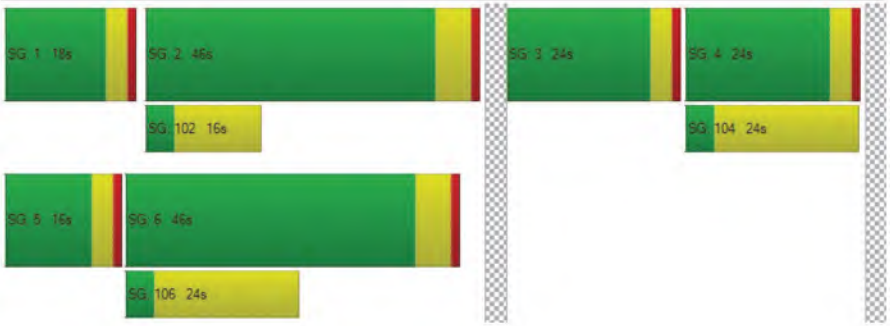
Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	27.33	0.00	27.33	27.33
l_p,int, Pedestrian LOS Score for Intersectio	2.893	0.000	2.199	1.744
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1147	1147	573	573
d_b, Bicycle Delay [s]	6.34	6.34	17.74	17.74
l_b,int, Bicycle LOS Score for Intersection	2.790	3.086	2.355	1.586
Bicycle LOS	C	C	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 8: Latrobe Rd/Suncast Ln

Control Type:	Signalized	Delay (sec / veh):	10.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.728

Intersection Setup

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Approach	Northbound			Southbound		Eastbound	
Lane Configuration							
Turning Movement	U-turn	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			No		Yes	

Volumes

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Base Volume Input [veh/h]	0	48	1131	1259	129	197	61
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	39	0	18
Total Hourly Volume [veh/h]	0	48	1131	1259	90	197	43
Peak Hour Factor	1.0000	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	318	354	25	55	12
Total Analysis Volume [veh/h]	0	54	1271	1415	101	221	48
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permissive	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	5	2	6	0	3	0
Auxiliary Signal Groups							
Maximum Green [s]	0	12	40	40	0	20	0
Amber [s]	0.0	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No	No		No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	46	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-
Minimum Green [s]	0	5	5	5	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall		No	No	No		No	
Maximum Recall		No	No	No		No	
Pedestrian Recall		No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	C	L	R
C, Cycle Length [s]	55	55	55	55	55	55
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	3	36	29	29	9	9
g / C, Green / Cycle	0.05	0.66	0.53	0.53	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.03	0.36	0.41	0.41	0.12	0.03
s, saturation flow rate [veh/h]	1781	3560	1870	1827	1781	1589
c, Capacity [veh/h]	91	2334	994	971	291	260
d1, Uniform Delay [s]	25.62	5.10	10.18	10.35	22.06	19.92
k, delay calibration	0.04	0.15	0.16	0.17	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.25	0.28	1.83	2.17	4.06	0.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.54	0.76	0.78	0.76	0.18
d, Delay for Lane Group [s/veh]	27.87	5.38	12.01	12.52	26.12	20.26
Lane Group LOS	C	A	B	B	C	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.71	2.46	5.97	6.14	2.83	0.52
50th-Percentile Queue Length [ft/ln]	17.63	61.39	149.26	153.49	70.83	12.89
95th-Percentile Queue Length [veh/ln]	1.27	4.42	9.98	10.20	5.10	0.93
95th-Percentile Queue Length [ft/ln]	31.74	110.49	249.43	255.07	127.49	23.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.87	27.87	5.38	12.25	12.52	26.12	20.26
Movement LOS	C	C	A	B	B	C	C
d_A, Approach Delay [s/veh]	6.30			12.26		25.08	
Approach LOS	A			B		C	
d_I, Intersection Delay [s/veh]	10.83						
Intersection LOS	B						
Intersection V/C	0.728						

Emissions

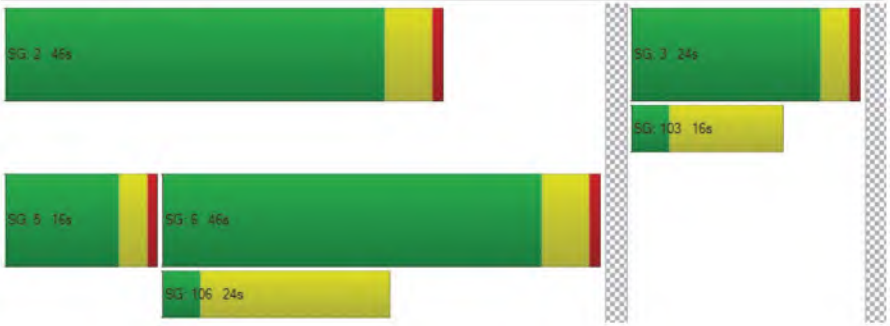
Vehicle Miles Traveled [mph]	37.56	884.05	268.23	268.23	74.56	16.20
Stops [stops/h]	46.07	320.78	389.98	401.03	185.07	33.69
Fuel consumption [US gal/h]	2.11	39.56	15.05	15.19	5.27	1.05
CO [g/h]	147.28	2765.04	1051.97	1061.69	368.16	73.45
NOx [g/h]	28.66	537.98	204.67	206.57	71.63	14.29
VOC [g/h]	34.13	640.82	243.80	246.06	85.32	17.02

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	20.14	0.00	20.14
l_p,int, Pedestrian LOS Score for Intersectio	2.825	0.000	2.100
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1452	1452	726
d_b, Bicycle Delay [s]	2.07	2.07	11.19
l_b,int, Bicycle LOS Score for Intersection	2.653	2.842	1.560
Bicycle LOS	B	C	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	37.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.845

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

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Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	98	575	21	249	446	625	494	119	26	13	155	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	6	0	0	188	0	0	8	0	0	33
Total Hourly Volume [veh/h]	98	575	15	249	446	437	494	119	18	13	155	77
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	158	4	68	123	120	136	33	5	4	43	21
Total Analysis Volume [veh/h]	108	632	16	274	490	480	543	131	20	14	170	85
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Cycle Length [s]	71	71	71	71	71	71	71	71	71	71
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	6	17	17	12	23	23	15	15	9	9
g / C, Green / Cycle	0.08	0.23	0.23	0.17	0.32	0.32	0.21	0.21	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.06	0.17	0.17	0.15	0.26	0.30	0.19	0.19	0.10	0.05
s, saturation flow rate [veh/h]	1781	1870	1854	1781	1870	1589	1781	1801	1863	1589
c, Capacity [veh/h]	139	439	435	299	606	515	373	378	233	199
d1, Uniform Delay [s]	32.36	25.37	25.37	29.28	22.13	23.40	27.71	27.70	30.37	28.92
k, delay calibration	0.04	0.04	0.04	0.30	0.19	0.28	0.31	0.31	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.48	0.94	0.95	24.42	4.50	17.19	22.18	21.67	2.26	0.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.74	0.74	0.92	0.81	0.93	0.92	0.92	0.79	0.43
d, Delay for Lane Group [s/veh]	35.84	26.30	26.32	53.70	26.63	40.58	49.89	49.37	32.63	29.46
Lane Group LOS	D	C	C	D	C	D	D	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.91	4.97	4.93	6.07	6.99	8.92	7.78	7.80	3.10	1.33
50th-Percentile Queue Length [ft/ln]	47.65	124.13	123.14	151.74	174.85	222.97	194.51	195.02	77.54	33.24
95th-Percentile Queue Length [veh/ln]	3.43	8.62	8.57	10.11	11.33	13.82	12.35	12.38	5.58	2.39
95th-Percentile Queue Length [ft/ln]	85.77	215.49	214.14	252.75	283.28	345.42	308.87	309.53	139.57	59.84

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.84	26.31	26.32	53.70	26.63	40.58	49.70	49.37	49.37	32.63	32.63	29.46
Movement LOS	D	C	C	D	C	D	D	D	D	C	C	C
d_A, Approach Delay [s/veh]	27.67			37.98			49.63			31.63		
Approach LOS	C			D			D			C		
d_I, Intersection Delay [s/veh]	37.50											
Intersection LOS	D											
Intersection V/C	0.845											

Emissions

Vehicle Miles Traveled [mph]	62.37	187.89	186.34	190.58	340.82	333.86	25.99	26.22	20.35	9.40
Stops [stops/h]	96.08	250.28	248.30	305.95	352.56	449.58	392.19	393.22	156.34	67.03
Fuel consumption [US gal/h]	3.89	10.86	10.77	15.05	20.61	23.48	6.74	6.75	2.92	1.27
CO [g/h]	271.65	759.06	752.88	1052.15	1440.31	1641.49	471.36	472.12	204.34	88.55
NOx [g/h]	52.85	147.68	146.48	204.71	280.23	319.37	91.71	91.86	39.76	17.23
VOC [g/h]	62.96	175.92	174.49	243.85	333.81	380.43	109.24	109.42	47.36	20.52

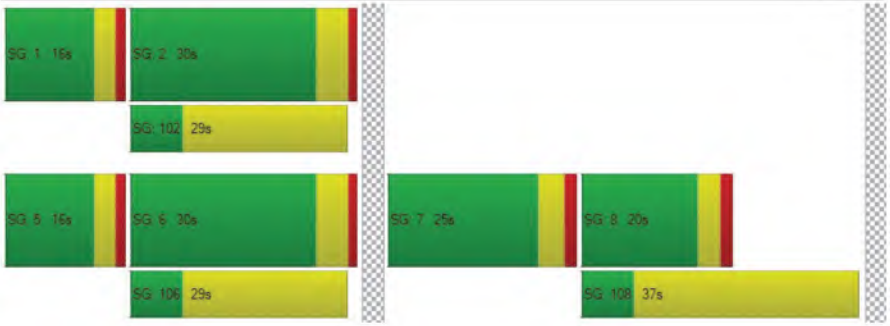
Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	25.56	0.00	25.56	25.56
l_p,int, Pedestrian LOS Score for Intersectio	2.548	0.000	2.474	2.211
Crosswalk LOS	B	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	692	692	434	560
d_b, Bicycle Delay [s]	15.28	15.28	21.89	18.51
l_b,int, Bicycle LOS Score for Intersection	2.188	2.741	2.718	2.058
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	18.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.779

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

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Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	115	314	447	38	380	79
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	11	0	24
Total Hourly Volume [veh/h]	115	314	447	27	380	55
Peak Hour Factor	0.9000	0.9000	0.9000	0.7900	0.7900	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	87	124	9	120	15
Total Analysis Volume [veh/h]	128	349	497	34	481	61
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	164
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	50	50	50	0	50	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	54	56	56	0	54	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	55	55	55	55	55	55
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	5	27	18	18	17	17
g / C, Green / Cycle	0.09	0.50	0.33	0.33	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.07	0.19	0.27	0.02	0.27	0.04
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1589
c, Capacity [veh/h]	168	929	615	523	571	510
d1, Uniform Delay [s]	24.17	8.52	16.77	12.58	17.30	13.13
k, delay calibration	0.04	0.15	0.15	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.68	0.36	3.63	0.07	3.47	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.38	0.81	0.06	0.84	0.12
d, Delay for Lane Group [s/veh]	26.85	8.88	20.39	12.65	20.77	13.23
Lane Group LOS	C	A	C	B	C	B
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.46	1.64	4.78	0.22	5.44	0.49
50th-Percentile Queue Length [ft/ln]	36.60	41.06	119.60	5.61	135.99	12.13
95th-Percentile Queue Length [veh/ln]	2.64	2.96	8.37	0.40	9.26	0.87
95th-Percentile Queue Length [ft/ln]	65.88	73.92	209.27	10.10	231.61	21.84

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.85	8.88	20.39	12.65	20.77	13.23
Movement LOS	C	A	C	B	C	B
d_A, Approach Delay [s/veh]	13.70		19.90		19.92	
Approach LOS	B		B		B	
d_I, Intersection Delay [s/veh]	18.00					
Intersection LOS	B					
Intersection V/C	0.779					

Emissions

Vehicle Miles Traveled [mph]	15.79	43.06	287.03	19.64	112.97	14.33
Stops [stops/h]	96.59	108.36	315.60	14.81	358.86	32.01
Fuel consumption [US gal/h]	3.02	4.08	17.53	1.02	8.67	0.93
CO [g/h]	211.21	285.47	1225.09	71.26	605.81	65.07
NOx [g/h]	41.09	55.54	238.36	13.86	117.87	12.66
VOC [g/h]	48.95	66.16	283.93	16.51	140.40	15.08

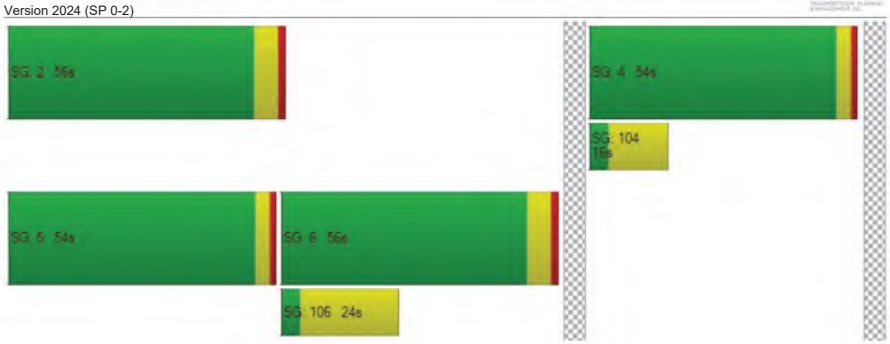
Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	19.87	0.00	19.87
l_p,int, Pedestrian LOS Score for Intersectio	2.548	0.000	2.192
Crosswalk LOS	B	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1833	1833	1833
d_b, Bicycle Delay [s]	0.19	0.19	0.19
l_b,int, Bicycle LOS Score for Intersection	2.347	2.454	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	11.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.077

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	380	0	25	501	0	0	0	0	0	0	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	380	0	25	501	0	0	0	0	0	0	49
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	103	0	6	136	0	0	0	0	0	0	12
Total Analysis Volume [veh/h]	0	413	0	25	545	0	0	0	0	0	0	49
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			Yes	Yes
Storage Area [veh]	0	0	1	1
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08
d_M, Delay for Movement [s/veh]	8.52	0.00	0.00	8.17	0.00	0.00	24.09	20.45	11.69	22.43	20.92	11.10
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.04	0.04	0.04	0.00	0.00	0.00	0.25	0.25	0.25
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	1.06	1.06	1.06	0.00	0.00	0.00	6.21	6.21	6.21
d_A, Approach Delay [s/veh]	0.00			0.36			18.74			11.10		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	0.72											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Two-way stop	Delay (sec / veh):	28.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.278

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	311	16	94	407	0	0	0	0	54	0	69
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	311	16	94	407	0	0	0	0	54	0	69
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	84	4	25	109	0	0	0	0	15	0	19
Total Analysis Volume [veh/h]	0	334	17	101	438	0	0	0	0	58	0	74
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.28	0.00	0.11
d_M, Delay for Movement [s/veh]	8.21	0.00	0.00	8.25	0.00	0.00	25.41	20.96	10.82	28.58	27.13	16.49
Movement LOS	A	A	A	A	A	A	D	C	B	D	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.00	0.00	1.75	1.75	1.75
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	6.83	0.00	0.00	0.00	0.00	0.00	43.72	43.72	43.72
d_A, Approach Delay [s/veh]	0.00			1.55			19.07			21.80		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	3.63											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Two-way stop	Delay (sec / veh):	2,479.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	5.387

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	101	470	168	48	1	692	185
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	101	470	168	48	1	692	185
Peak Hour Factor	1.0000	0.8800	0.8800	0.8800	0.8800	1.0000	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	29	134	48	14	0	197	53
Total Analysis Volume [veh/h]	0	115	534	191	55	1	786	210
Pedestrian Volume [ped/h]	0			0		0		

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Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	5.39	0.65	0.00	0.00	0.00	0.60	0.00
d_M, Delay for Movement [s/veh]	2479.69	2479.69	2315.45	0.00	0.00	19.45	9.30	0.00
Movement LOS	F	F	F	A	A	C	A	A
95th-Percentile Queue Length [veh/ln]	71.11	71.11	71.11	0.00	0.00	2.31	2.31	2.31
95th-Percentile Queue Length [ft/ln]	1777.74	1777.74	1777.74	0.00	0.00	57.79	57.79	57.79
d_A, Approach Delay [s/veh]	2344.55			0.00		7.35		
Approach LOS	F			A		A		
d_I, Intersection Delay [s/veh]	808.11							
Intersection LOS	F							

Intersection Level Of Service Report
Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Control Type:	All-way stop	Delay (sec / veh):	19.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.735

Intersection Setup

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Base Volume Input [veh/h]	30	195	59	0	25	319	22	16	23	19	211	16	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	195	59	0	25	319	22	16	23	19	211	16	45
Peak Hour Factor	0.8300	0.8300	0.8300	1.000	0.790	0.830	0.830	0.8300	0.8300	0.8300	0.8300	0.8300	0.7900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	59	18	0	8	96	7	5	7	6	64	5	14
Total Analysis Volume [veh/h]	36	235	71	0	32	384	27	19	28	23	254	19	57
Pedestrian Volume [ped/h]	0			0				0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	592	603	506	555
Degree of Utilization, x	0.58	0.74	0.14	0.59

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.68	6.33	0.48	3.87
95th-Percentile Queue Length [ft]	91.97	158.21	11.94	96.71
Approach Delay [s/veh]	17.09	23.75	11.25	18.55
Approach LOS	C	C	B	C
Intersection Delay [s/veh]	19.64			
Intersection LOS	C			

Intersection Level Of Service Report
Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	14.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.019

Intersection Setup

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00			30.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	No		No			No		

Volumes

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Base Volume Input [veh/h]	6	80	0	143	48	2	109	190
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	80	0	143	48	2	109	190
Peak Hour Factor	0.8400	0.8400	1.0000	0.8400	0.8400	1.0000	0.8400	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	24	0	43	14	1	32	57
Total Analysis Volume [veh/h]	7	95	0	170	57	2	130	226
Pedestrian Volume [ped/h]	0		0			0		

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Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.11	0.00	0.00	0.00	0.00	0.10	0.00
d_M, Delay for Movement [s/veh]	14.84	9.81	9.37	0.00	0.00	10.24	7.98	0.00
Movement LOS	B	A	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.38	0.00	0.00	0.00	0.33	0.33	0.00
95th-Percentile Queue Length [ft/ln]	1.43	9.49	0.00	0.00	0.00	8.28	8.28	0.00
d_A, Approach Delay [s/veh]	10.16		0.00			2.96		
Approach LOS	B		A			A		
d_I, Intersection Delay [s/veh]	3.05							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 16: Carson Crossing Rd/Calypso Cir.

Control Type:	Two-way stop	Delay (sec / veh):	11.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.021

Intersection Setup

Name			Carson Crossing Rd		Carson Crossing Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	190.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			Carson Crossing Rd		Carson Crossing Rd	
Base Volume Input [veh/h]	12	43	87	36	37	174
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	43	87	36	37	174
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	12	24	10	10	47
Total Analysis Volume [veh/h]	13	47	95	39	40	189
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.05	0.00	0.00	0.03	0.00
d_M, Delay for Movement [s/veh]	11.14	9.06	0.00	0.00	7.55	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.23	0.23	0.00	0.00	0.09	0.00
95th-Percentile Queue Length [ft/ln]	5.63	5.63	0.00	0.00	2.13	0.00
d_A, Approach Delay [s/veh]	9.51		0.00		1.32	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.06					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 17: Carson Crossing Rd/Four Seasons Dr

Control Type:	All-way stop	Delay (sec / veh):	8.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.127

Intersection Setup

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	500.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	500.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Base Volume Input [veh/h]	174	0	19	125	0	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	174	0	19	125	0	3
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	0	5	34	0	1
Total Analysis Volume [veh/h]	189	0	21	136	0	3
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	746	746	695	770	770	771
Degree of Utilization, x	0.13	0.13	0.03	0.09	0.09	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.43	0.43	0.09	0.29	0.29	0.01
95th-Percentile Queue Length [ft]	10.82	10.82	2.33	7.25	7.25	0.29
Approach Delay [s/veh]	8.23		7.86			7.69
Approach LOS	A		A			A
Intersection Delay [s/veh]	8.06					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	69.3
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.767

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	138	0	25	7	1	21	5	408	85	66	397	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	138	0	25	7	1	21	5	408	85	66	397	11
Peak Hour Factor	0.9700	1.0000	0.9300	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9300	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	0	7	2	0	5	1	105	22	18	102	3
Total Analysis Volume [veh/h]	142	0	27	7	1	22	5	421	88	71	409	11
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.77	0.00	0.05	0.04	0.00	0.03	0.00	0.00	0.00	0.07	0.00	0.00
d_M, Delay for Movement [s/veh]	69.30	22.05	11.31	24.99	23.43	11.41	8.17	0.00	0.00	8.65	0.00	0.00
Movement LOS	F	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	5.08	0.14	0.14	0.25	0.25	0.25	0.01	0.00	0.00	0.22	0.00	0.00
95th-Percentile Queue Length [ft/ln]	127.10	3.54	3.54	6.20	6.20	6.20	0.33	0.00	0.00	5.40	0.00	0.00
d_A, Approach Delay [s/veh]	60.03			14.98			0.08			1.25		
Approach LOS	F			B			A			A		
d_I, Intersection Delay [s/veh]	9.34											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 19: White Rock Rd/Windfield Way

Control Type:	Signalized	Delay (sec / veh):	29.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.452

Intersection Setup

Name	Windfield Way						White Rock Rd			White Rock Rd			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00			
Grade [%]	0.00			0.00			0.00			0.00			
Curb Present	No			No			No			No			
Crosswalk	Yes			Yes			Yes			No			

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Volumes

Name	Windfield Way						White Rock Rd			White Rock Rd			
Base Volume Input [veh/h]	238	5	239	5	5	5	5	520	71	14	144	468	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	72	0	0	0	0	0	21	0	0	0	0
Total Hourly Volume [veh/h]	238	5	167	5	5	5	5	520	50	14	144	468	5
Peak Hour Factor	0.9400	1.0000	0.9400	1.0000	1.0000	1.0000	1.0000	0.9400	0.9400	1.000	0.940	0.940	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	63	1	44	1	1	1	1	138	13	4	38	124	1
Total Analysis Volume [veh/h]	253	5	178	5	5	5	5	553	53	14	153	498	5
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0		
v_co, Outbound Pedestrian Volume crossing		0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0		
Bicycle Volume [bicycles/h]		0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	73.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi
Signal Group	3	8	0	7	4	0	5	2	0	0	1	6	0
Auxiliary Signal Groups													
Maximum Green [s]	25	25	0	10	10	0	9	19	0	0	44	54	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	2.0	1.0	0.0	0.0	2.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	26	0	0	13	0	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	245.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	15	15	0	15	25	0	0	50	60	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	3	3	0	5	3	0	5	7	0	0	3	7	0
Vehicle Extension [s]	1.0	1.0	0.0	3.0	1.0	0.0	3.0	3.6	0.0	0.0	1.0	3.6	0.0
Minimum Recall	No	No		No	No		No	Yes			No	Yes	
Maximum Recall	No	No		No	No		No	No			No	No	
Pedestrian Recall	No	No		No	No		No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	19	19	1	1	1	65	65	13	78	78
g / C, Green / Cycle	0.16	0.16	0.01	0.01	0.01	0.54	0.54	0.11	0.65	0.65
(v / s)_i Volume / Saturation Flow Rate	0.14	0.11	0.00	0.01	0.00	0.16	0.16	0.09	0.13	0.13
s, saturation flow rate [veh/h]	1781	1596	1781	1718	1781	1870	1813	1781	1870	1863
c, Capacity [veh/h]	279	251	12	13	12	1016	985	195	1208	1203
d1, Uniform Delay [s]	49.73	48.11	59.37	59.46	59.37	14.98	14.99	52.52	8.70	8.70
k, delay calibration	0.14	0.04	0.11	0.04	0.11	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.27	1.52	21.73	31.68	21.99	0.77	0.79	4.19	0.39	0.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.73	0.42	0.79	0.42	0.30	0.30	0.86	0.21	0.21
d, Delay for Lane Group [s/veh]	62.99	49.62	81.09	91.14	81.36	15.75	15.79	56.71	9.09	9.09
Lane Group LOS	E	D	F	F	F	B	B	E	A	A
Critical Lane Group	Yes	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	8.47	5.31	0.22	0.42	0.22	4.75	4.63	5.17	2.73	2.72
50th-Percentile Queue Length [ft/ln]	211.69	132.87	5.59	10.39	5.60	118.63	115.78	129.19	68.14	67.94
95th-Percentile Queue Length [veh/ln]	13.24	9.10	0.40	0.75	0.40	8.32	8.16	8.90	4.91	4.89
95th-Percentile Queue Length [ft/ln]	330.99	227.39	10.06	18.70	10.08	207.94	204.02	222.39	122.66	122.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	62.99	49.62	49.62	81.09	91.14	91.14	81.36	15.76	15.79	56.71	56.71	9.09	9.09
Movement LOS	E	D	D	F	F	F	F	B	B	E	E	A	A
d_A, Approach Delay [s/veh]	57.38			87.79			16.30			20.96			
Approach LOS	E			F			B			C			
d_I, Intersection Delay [s/veh]	29.06												
Intersection LOS	C												
Intersection V/C	0.452												

Emissions

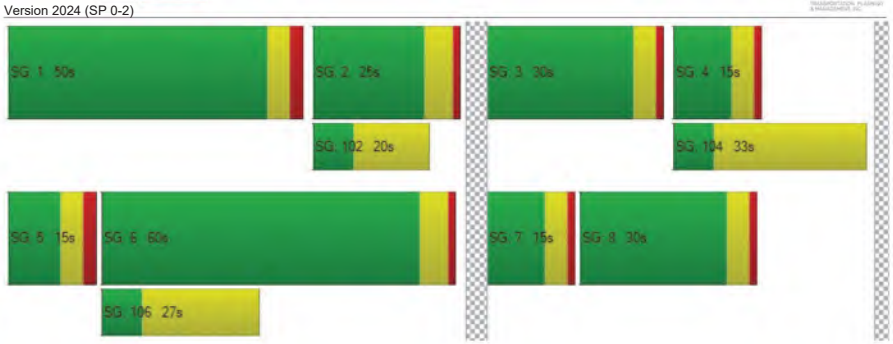
Vehicle Miles Traveled [mph]	97.48	70.51	0.23	0.46	4.21	258.37	251.59	41.68	62.87	62.67
Stops [stops/h]	254.03	159.45	6.71	12.47	6.72	142.36	138.94	155.02	81.77	81.53
Fuel consumption [US gal/h]	8.66	5.63	0.13	0.27	0.29	12.41	12.09	4.50	3.51	3.49
CO [g/h]	605.29	393.64	9.01	19.09	20.49	867.22	844.76	314.50	245.05	244.29
NOx [g/h]	117.77	76.59	1.75	3.71	3.99	168.73	164.36	61.19	47.68	47.53
VOC [g/h]	140.28	91.23	2.09	4.42	4.75	200.99	195.78	72.89	56.79	56.62

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.297	1.964	2.614	0.000
Crosswalk LOS	B	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	417	167	317	900
d_b, Bicycle Delay [s]	37.60	50.42	42.50	18.15
l_b,int, Bicycle LOS Score for Intersection	2.398	1.584	2.081	1.986
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 20: White Rock Rd/Post St

Control Type:	Signalized	Delay (sec / veh):	70.4
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.522

Intersection Setup

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Approach	Northbound			Southbound			Eastbound				Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0	120.00	100.00	400.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00				30.00		
Grade [%]	0.00			0.00			0.00				0.00		
Curb Present	No			No			No				No		
Crosswalk	Yes			Yes			Yes				No		

Volumes

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	50	16	29	186	15	177	3	205	712	21	86	521	178
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	9	0	0	53	0	0	0	6	0	0	53
Total Hourly Volume [veh/h]	50	16	20	186	15	124	3	205	712	15	86	521	125
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	1.000	0.910	0.860	0.910	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	4	5	51	4	34	1	56	207	4	24	143	34
Total Analysis Volume [veh/h]	55	18	22	204	16	136	3	225	828	16	95	573	137
Presence of On-Street Parking	No		No	No		No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0				0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0				0		
v_co, Outbound Pedestrian Volume crossing	0			0			0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0				0		
Bicycle Volume [bicycles/h]	0			0			0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	55.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups													
Maximum Green [s]	21	62	0	8	48	0	0	14	31	0	16	34	0
Amber [s]	3.5	5.0	0.0	3.5	5.0	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.7	1.0	0.0	1.0	1.0	0.0	0.0	2.0	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	32	0	0	0	21	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.2	4.0	0.0	2.5	4.0	0.0	0.0	3.5	2.5	0.0	3.0	2.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	100.0	0.0	100.0	100.0	0.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	0	13	54	0	0	20	36	0	21	39	0
Lead / Lag	Lead	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	3	7	0	3	7	0	0	3	3	0	3	3	0
Vehicle Extension [s]	1.0	3.6	0.0	1.0	3.6	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No			No	Yes		No	Yes	
Maximum Recall	No	No		No	No			No	No		No	No	
Pedestrian Recall	No	No		No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	5.20	6.00	4.50	6.00	5.50	4.50	4.50	5.00	4.50	4.50
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.20	4.00	2.50	4.00	3.50	2.50	2.50	3.00	2.50	2.50
g_i, Effective Green Time [s]	6	13	9	16	20	89	89	9	78	78
g / C, Green / Cycle	0.04	0.10	0.06	0.11	0.14	0.64	0.64	0.07	0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.03	0.02	0.11	0.09	0.13	0.23	0.01	0.05	0.20	0.20
s, saturation flow rate [veh/h]	1781	1705	1781	1615	1781	3560	1589	1781	1870	1747
c, Capacity [veh/h]	71	163	108	180	250	2261	1010	117	1041	972
d1, Uniform Delay [s]	66.57	58.62	65.75	61.02	59.30	12.14	9.41	64.56	17.12	17.13
k, delay calibration	0.04	0.13	0.50	0.13	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.44	0.96	431.73	12.47	5.21	0.46	0.03	5.05	0.94	1.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.25	1.89	0.84	0.91	0.37	0.02	0.81	0.35	0.35
d, Delay for Lane Group [s/veh]	73.00	59.59	497.48	73.49	64.51	12.60	9.44	69.61	18.05	18.13
Lane Group LOS	E	E	F	E	E	B	A	E	B	B
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.08	1.37	16.84	5.94	8.35	6.23	0.19	3.52	6.82	6.40
50th-Percentile Queue Length [ft/ln]	52.07	34.17	421.00	148.48	208.63	155.83	4.76	88.04	170.45	160.07
95th-Percentile Queue Length [veh/ln]	3.75	2.46	27.32	9.94	13.08	10.33	0.34	6.34	11.10	10.55
95th-Percentile Queue Length [ft/ln]	93.73	61.50	682.94	248.40	327.07	258.19	8.57	158.46	277.51	263.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	73.00	59.59	59.59	497.48	73.49	73.49	64.51	64.51	12.60	9.44	69.61	18.08	18.13
Movement LOS	E	E	E	F	E	E	E	E	B	A	E	B	B
d_A, Approach Delay [s/veh]	67.35			316.45			23.59				24.17		
Approach LOS	E			F			C				C		
d_I, Intersection Delay [s/veh]	70.36												
Intersection LOS	E												
Intersection V/C	0.522												

Emissions

Vehicle Miles Traveled [mph]	2.75	2.00	9.48	7.07	23.82	86.51	1.67	33.26	128.41	120.20
Stops [stops/h]	53.56	35.14	433.03	152.72	214.59	320.57	4.90	90.55	175.32	164.65
Fuel consumption [US gal/h]	1.23	0.76	23.43	3.41	5.16	7.46	0.13	3.22	7.60	7.12
CO [g/h]	85.71	53.23	1637.77	238.19	360.60	521.17	8.85	224.75	531.40	498.00
NOx [g/h]	16.68	10.36	318.65	46.34	70.16	101.40	1.72	43.73	103.39	96.89
VOC [g/h]	19.86	12.34	379.57	55.20	83.57	120.79	2.05	52.09	123.16	115.42

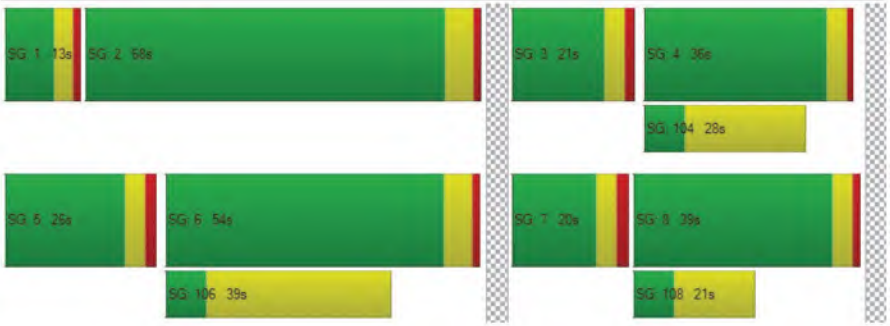
Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	59.43	59.43	59.43	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.051	2.310	2.790	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	886	686	450	493
d_b, Bicycle Delay [s]	21.73	30.23	42.04	39.75
l_b,int, Bicycle LOS Score for Intersection	1.731	2.234	2.263	2.267
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	54.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.917

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

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Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	57	61	268	230	100	36	33	574	121	234	562	158
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	80	0	0	11	0	0	36	0	0	47
Total Hourly Volume [veh/h]	57	61	188	230	100	25	33	574	85	234	562	111
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	16	48	59	26	6	9	148	22	60	145	29
Total Analysis Volume [veh/h]	59	63	194	237	103	26	34	592	88	241	579	114
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	0	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	35	0	0	40	0	25	45	0	25	45	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	18	0	0	17	0	0	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	0	0	44	0	29	50	0	29	51	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	0.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	121	121	121	121	121	121	121	121
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	3.50	5.30	3.50	6.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	1.50	3.30	1.50	4.00
g_i, Effective Green Time [s]	22	22	19	19	3	45	18	59
g / C, Green / Cycle	0.18	0.18	0.16	0.16	0.03	0.37	0.15	0.49
(v / s)_i Volume / Saturation Flow Rate	0.03	0.16	0.13	0.07	0.02	0.37	0.14	0.38
s, saturation flow rate [veh/h]	1781	1650	1781	1806	1781	1828	1781	1817
c, Capacity [veh/h]	318	294	281	285	51	677	270	887
d1, Uniform Delay [s]	42.44	48.60	49.69	46.39	58.48	38.27	50.55	25.76
k, delay calibration	0.13	0.14	0.13	0.13	0.04	0.45	0.15	0.46
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.35	10.13	8.24	1.39	5.63	33.92	13.00	6.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.19	0.87	0.84	0.45	0.67	1.00	0.89	0.78
d, Delay for Lane Group [s/veh]	42.78	58.72	57.93	47.79	64.11	72.19	63.56	32.05
Lane Group LOS	D	E	E	D	E	F	E	C
Critical Lane Group	No	Yes	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.55	8.38	7.61	3.65	1.11	26.06	8.14	17.63
50th-Percentile Queue Length [ft/ln]	38.63	209.54	190.36	91.32	27.85	651.58	203.54	440.73
95th-Percentile Queue Length [veh/ln]	2.78	13.13	12.14	6.58	2.01	34.55	12.82	24.52
95th-Percentile Queue Length [ft/ln]	69.53	328.24	303.50	164.38	50.13	863.77	320.53	612.88

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.78	58.72	58.72	57.93	47.79	47.79	64.11	72.19	72.19	63.56	32.05	32.05
Movement LOS	D	E	E	E	D	D	E	E	E	E	C	C
d_A, Approach Delay [s/veh]	55.75			54.35			71.81			40.18		
Approach LOS	E			D			E			D		
d_I, Intersection Delay [s/veh]	54.21											
Intersection LOS	D											
Intersection V/C	0.917											

Emissions

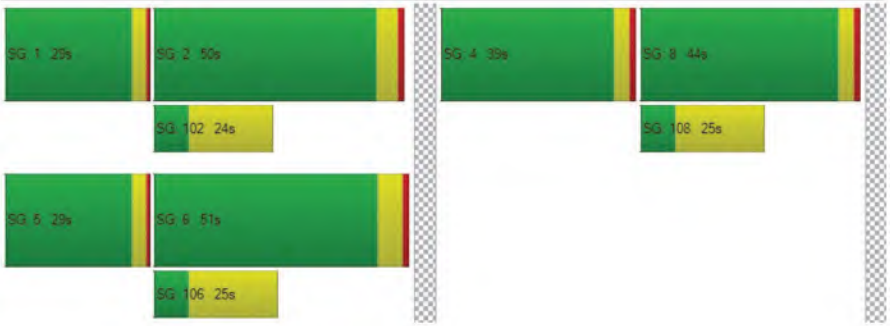
Vehicle Miles Traveled [mph]	101.52	442.21	48.05	26.15	11.91	238.11	108.74	312.70
Stops [stops/h]	45.85	248.74	225.97	108.40	33.06	773.46	241.61	523.17
Fuel consumption [US gal/h]	4.95	22.65	6.02	2.93	1.12	24.06	8.93	20.28
CO [g/h]	345.73	1583.18	420.79	204.80	78.03	1682.07	624.08	1417.74
NOx [g/h]	67.27	308.03	81.87	39.85	15.18	327.27	121.42	275.84
VOC [g/h]	80.13	366.92	97.52	47.46	18.08	389.84	144.64	328.58

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	50.15	50.15	50.15	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.349	2.177	2.469	0.000
Crosswalk LOS	B	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	574	656	737	742
d_b, Bicycle Delay [s]	30.85	27.38	24.19	24.00
l_b,int, Bicycle LOS Score for Intersection	2.213	2.182	2.797	3.178
Bicycle LOS	B	B	C	C

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 22: White Rock Rd/Clarksville Crossing

Control Type:	Signalized	Delay (sec / veh):	23.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.755

Intersection Setup

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	180.00	460.00	100.00	100.00	290.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

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Volumes

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	0	0	2	80	0	334	8	1064	0	0	620	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	2	80	0	334	8	1064	0	0	620	2
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.9600	0.7800	0.7800	0.9600	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	26	0	107	3	277	0	0	161	1
Total Analysis Volume [veh/h]	0	0	3	103	0	428	10	1108	0	0	646	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	20	0	0	20	0	20	50	0	20	50	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	5.0	0.0	4.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	5.0	0.0	3.0	5.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	R
C, Cycle Length [s]	64	64	64	64	64	64	64	64	64	64
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	7.00	7.00	5.00	7.00	7.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	5.00	5.00	3.00	5.00	5.00
g_i, Effective Green Time [s]	0	0	19	19	1	23	23	0	22	22
g / C, Green / Cycle	0.00	0.00	0.30	0.30	0.01	0.36	0.36	0.00	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.06	0.27	0.01	0.30	0.30	0.00	0.18	0.00
s, saturation flow rate [veh/h]	1870	1589	1781	1589	1781	1870	1870	1781	3560	1589
c, Capacity [veh/h]	8	7	528	471	23	669	669	0	1228	548
d1, Uniform Delay [s]	0.00	32.02	16.93	21.82	31.58	18.89	18.89	0.00	16.89	13.85
k, delay calibration	0.11	0.11	0.11	0.31	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	41.33	0.18	16.55	12.38	2.70	2.70	0.00	0.35	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.45	0.19	0.91	0.43	0.83	0.83	0.00	0.53	0.01
d, Delay for Lane Group [s/veh]	0.00	73.35	17.10	38.37	43.96	21.59	21.59	0.00	17.24	13.86
Lane Group LOS	A	E	B	D	D	C	C	A	B	B
Critical Lane Group	No	Yes	No	Yes	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.00	0.12	1.09	7.84	0.23	7.27	7.27	0.00	3.54	0.03
50th-Percentile Queue Length [ft/ln]	0.00	3.03	27.13	196.03	5.69	181.71	181.71	0.00	88.54	0.68
95th-Percentile Queue Length [veh/ln]	0.00	0.22	1.95	12.43	0.41	11.69	11.69	0.00	6.38	0.05
95th-Percentile Queue Length [ft/ln]	0.00	5.45	48.84	310.84	10.24	292.24	292.24	0.00	159.38	1.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	73.35	17.10	17.10	38.37	43.96	21.59	21.59	0.00	17.24	13.86
Movement LOS	A	A	E	B	B	D	D	C	C	A	B	B
d_A, Approach Delay [s/veh]	73.35			34.24			21.79			17.23		
Approach LOS	E			C			C			B		
d_I, Intersection Delay [s/veh]	23.44											
Intersection LOS	C											
Intersection V/C	0.755											

Emissions

Vehicle Miles Traveled [mph]	0.00	0.15	48.86	203.03	4.51	249.98	249.98	0.00	112.69	0.52
Stops [stops/h]	0.00	6.78	60.75	438.89	12.73	406.83	406.83	0.00	396.48	1.52
Fuel consumption [US gal/h]	0.00	0.09	2.71	14.12	0.35	14.97	14.97	0.00	9.10	0.04
CO [g/h]	0.00	6.18	189.12	987.31	24.15	1046.56	1046.56	0.00	635.85	2.68
NOx [g/h]	0.00	1.20	36.80	192.09	4.70	203.62	203.62	0.00	123.71	0.52
VOC [g/h]	0.00	1.43	43.83	228.82	5.60	242.55	242.55	0.00	147.36	0.62

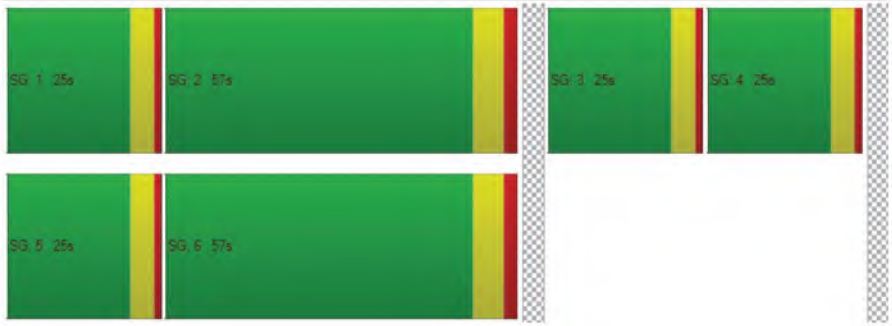
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	622	622	1555	1555
d_b, Bicycle Delay [s]	15.27	15.27	1.59	1.59
l_b,int, Bicycle LOS Score for Intersection	1.565	2.436	2.482	2.095
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 23: White Rock Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	31.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.659

Intersection Setup

Name	White Rock Rd		White Rock Rd		US 50 EB	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	1	0	1
Entry Pocket Length [ft]	500.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

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Volumes

Name	White Rock Rd		White Rock Rd		US 50 EB	
Base Volume Input [veh/h]	623	523	587	200	511	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	12
Total Hourly Volume [veh/h]	623	523	587	200	511	44
Peak Hour Factor	0.8300	0.9100	0.9100	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	188	144	161	60	154	13
Total Analysis Volume [veh/h]	751	575	645	241	616	53
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	21	61	32	0	16	0
Amber [s]	3.7	4.8	4.8	0.0	4.8	0.0
All red [s]	0.5	2.0	2.0	0.0	1.0	0.0
Walk [s]	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.2	4.8	4.8	0.0	3.8	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	39	0	22	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	8	9	9	0	8	0
Vehicle Extension [s]	2.0	1.0	1.0	0.0	2.0	0.0
Minimum Recall	No	Yes	Yes		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80
g_i, Effective Green Time [s]	21	61	36	36	16	16	16
g / C, Green / Cycle	0.24	0.68	0.40	0.40	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.22	0.16	0.18	0.15	0.17	0.17	0.03
s, saturation flow rate [veh/h]	3459	3560	3560	1589	1781	1781	1589
c, Capacity [veh/h]	817	2421	1414	631	321	321	286
d1, Uniform Delay [s]	33.54	5.50	19.97	19.27	36.59	36.59	31.30
k, delay calibration	0.04	0.50	0.50	0.50	0.30	0.30	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.92	0.23	1.06	1.75	30.10	30.10	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.24	0.46	0.38	0.96	0.96	0.19
d, Delay for Lane Group [s/veh]	35.46	5.73	21.03	21.02	66.69	66.69	31.42
Lane Group LOS	D	A	C	C	E	E	C
Critical Lane Group	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	7.99	1.83	5.01	3.77	9.24	9.24	0.97
50th-Percentile Queue Length [ft/ln]	199.87	45.80	125.19	94.20	231.02	231.02	24.37
95th-Percentile Queue Length [veh/ln]	12.63	3.30	8.68	6.78	14.23	14.23	1.75
95th-Percentile Queue Length [ft/ln]	315.80	82.43	216.94	169.56	355.66	355.66	43.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.46	5.73	21.03	21.02	66.69	31.42
Movement LOS	D	A	C	C	E	C
d_A, Approach Delay [s/veh]	22.57		21.03		63.90	
Approach LOS	C		C		E	
d_I, Intersection Delay [s/veh]	31.69					
Intersection LOS	C					
Intersection V/C	0.659					

Emissions

Vehicle Miles Traveled [mph]	131.01	100.30	114.30	42.71	18.65	18.65	3.21
Stops [stops/h]	639.59	146.55	400.61	150.72	369.64	369.64	39.00
Fuel consumption [US gal/h]	14.35	5.61	9.68	3.62	6.99	6.99	0.69
CO [g/h]	1002.80	392.08	676.57	253.17	488.57	488.57	47.98
NOx [g/h]	195.11	76.28	131.64	49.26	95.06	95.06	9.34
VOC [g/h]	232.41	90.87	156.80	58.67	113.23	113.23	11.12

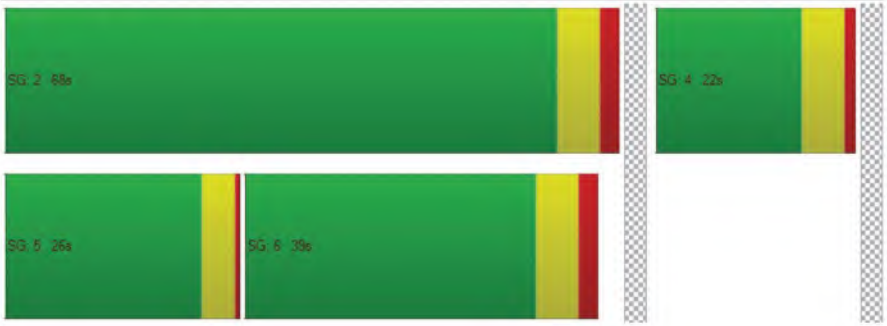
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1360	716	360
d_b, Bicycle Delay [s]	4.61	18.56	30.26
l_b,int, Bicycle LOS Score for Intersection	2.654	2.291	2.683
Bicycle LOS	B	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 24: Silva Valley Pkwy/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	19.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.528

Intersection Setup

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Approach	Northbound				Southbound			Westbound			Northeastbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	550.0	100.0	100.0	100.0	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No					
Crosswalk	No				No			No			No		

Volumes

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Base Volume Input [veh/h]	1	152	881	0	0	381	207	405	1	198	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	47	0	0	30	0	0	0
Total Hourly Volume [veh/h]	1	152	881	0	0	381	160	405	1	168	0	0	0
Peak Hour Factor	1.000	0.790	0.790	1.000	1.0000	0.7900	0.7900	0.7900	0.7900	0.7900	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	48	279	0	0	121	51	128	0	53	0	0	0
Total Analysis Volume [veh/h]	1	192	1115	0	0	482	203	513	1	213	0	0	0
Presence of On-Street Parking	No			No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	6	0	0	8	0	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	20	54	0	0	26	0	0	23	0	0	0	0
Amber [s]	0.0	3.7	4.8	0.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0
All red [s]	0.0	0.5	2.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	4.8	0.0	0.0	4.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	61	0	0	33	0	0	29	0	0	0	0
Lead / Lag	-	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	8	8	0	0	8	0	0	8	0	0	0	0
Vehicle Extension [s]	0.0	2.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No	Yes			Yes			No				
Maximum Recall		No	No			No			No				
Pedestrian Recall		No	No			No			No				

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	R	L	C	R	
C, Cycle Length [s]	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80	
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80	
g_i, Effective Green Time [s]	12	62	47	47	15	15	15	
g / C, Green / Cycle	0.13	0.69	0.52	0.52	0.17	0.17	0.17	
(v / s)_i Volume / Saturation Flow Rate	0.11	0.31	0.14	0.13	0.14	0.14	0.13	
s, saturation flow rate [veh/h]	1781	3560	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	231	2470	1842	822	296	296	264	
d1, Uniform Delay [s]	38.24	6.15	12.12	12.01	36.55	36.55	36.12	
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	3.07	0.60	0.35	0.72	3.03	3.03	2.20	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.84	0.45	0.26	0.25	0.87	0.87	0.81	
d, Delay for Lane Group [s/veh]	41.30	6.75	12.47	12.73	39.59	39.58	38.32	
Lane Group LOS	D	A	B	B	D	D	D	
Critical Lane Group	No	Yes	No	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	4.28	4.07	2.64	2.30	5.64	5.65	4.58	
50th-Percentile Queue Length [ft/ln]	107.12	101.85	66.06	57.40	141.12	141.14	114.52	
95th-Percentile Queue Length [veh/ln]	7.68	7.33	4.76	4.13	9.54	9.54	8.09	
95th-Percentile Queue Length [ft/ln]	191.99	183.33	118.91	103.31	238.53	238.55	202.27	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.30	41.30	6.75	0.00	0.00	12.47	12.73	39.58	39.58	38.32	0.00	0.00	0.00
Movement LOS	D	D	A			B	B	D	D	D			
d_A, Approach Delay [s/veh]	11.84				12.54			39.21			0.00		
Approach LOS	B				B			D			A		
d_I, Intersection Delay [s/veh]	19.34												
Intersection LOS	B												
Intersection V/C	0.528												

Emissions

Vehicle Miles Traveled [mph]	34.20	197.59	65.91	27.76	8.90	8.90	7.38
Stops [stops/h]	171.39	325.93	211.39	91.83	225.79	225.82	183.22
Fuel consumption [US gal/h]	3.98	11.47	5.10	2.18	3.68	3.68	2.98
CO [g/h]	277.99	801.43	356.76	152.10	257.51	257.54	208.09
NOx [g/h]	54.09	155.93	69.41	29.59	50.10	50.11	40.49
VOC [g/h]	64.43	185.74	82.68	35.25	59.68	59.69	48.23

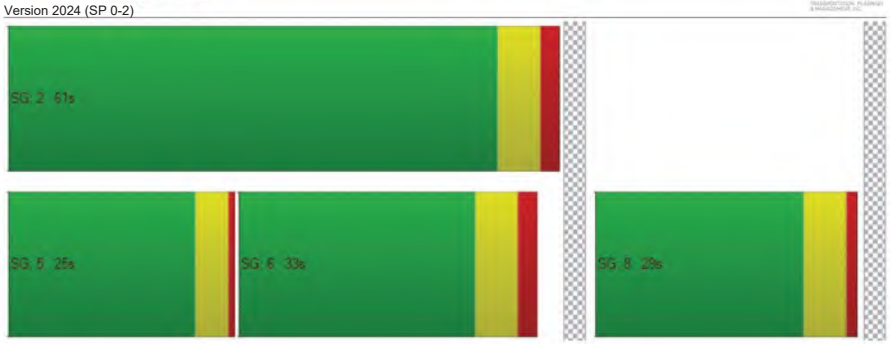
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1204	582	516	0
d_b, Bicycle Delay [s]	7.12	22.61	24.79	45.00
l_b,int, Bicycle LOS Score for Intersection	2.638	2.164	2.809	4.132
Bicycle LOS	B	B	C	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 25: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Base Volume Input [veh/h]	0	380	501	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	380	501	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	95	125	0	0	0
Total Analysis Volume [veh/h]	0	380	501	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	11.32
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		11.32	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 26: Latrobe/Wetsl-Oviatt

Control Type:	Two-way stop	Delay (sec / veh):	15.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.071

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Base Volume Input [veh/h]	0	300	441	20	27	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	300	441	20	27	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	75	110	5	7	0
Total Analysis Volume [veh/h]	0	300	441	20	27	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.07	0.00
d_M, Delay for Movement [s/veh]	8.27	0.00	0.00	0.00	15.24	11.65
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.23	0.23
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	5.73	5.73
d_A, Approach Delay [s/veh]	0.00		0.00		15.24	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.52					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 27: Latrobe/S. Shingle

Control Type:	Two-way stop	Delay (sec / veh):	18.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.133

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Base Volume Input [veh/h]	0	185	66	43	288	31	10	32	2	44	13	79
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	185	66	43	288	31	10	32	2	44	13	79
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	48	17	11	74	8	3	8	1	11	3	20
Total Analysis Volume [veh/h]	0	191	68	44	297	32	10	33	2	45	13	81
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free		Free		Stop		Stop	
Flared Lane					No		No	
Storage Area [veh]	0		0		0		0	
Two-Stage Gap Acceptance					No		No	
Number of Storage Spaces in Median	0		0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.00	0.00	0.03	0.09	0.00	0.13	0.03	0.10
d_M, Delay for Movement [s/veh]	7.93	0.00	0.00	7.81	0.00	0.00	18.12	16.23	11.38	18.19	17.08	11.93
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.08	0.08	0.08	0.42	0.42	0.42	1.07	1.07	1.07
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	1.92	1.92	1.92	10.61	10.61	10.61	26.78	26.78	26.78
d_A, Approach Delay [s/veh]	0.00			0.92			16.43			14.44		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	3.79											
Intersection LOS	C											

Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	380	526	49	0
2	369	510	48	0
3	361	500	47	0
4	338	468	44	0
5	300	416	39	0
6	296	410	38	0
7	293	405	38	0
8	266	368	34	0
9	262	363	34	0
10	258	358	33	0
11	224	310	29	0
12	209	289	27	0
13	205	284	26	0
14	152	210	20	0
15	152	210	20	0
16	106	147	14	0
17	61	84	8	0
18	61	84	8	0
19	34	47	4	0
20	19	26	2	0
21	11	16	1	0
22	4	5	0	0
23	4	5	0	0
24	4	5	0	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	906	1	49	No	No	No	No	No	No	No	Yes	No	No
2	1	879	1	48	No	No	No	No	No	No	No	Yes	No	No
3	1	861	1	47	No	No	No	No	No	No	No	Yes	No	No
4	1	806	1	44	No	No	No	No	No	No	No	Yes	No	No
5	1	716	1	39	No	No	No	No	No	No	No	No	No	No
6	1	706	1	38	No	No	No	No	No	No	No	No	No	No
7	1	698	1	38	No	No	No	No	No	No	No	No	No	No
8	1	634	1	34	No	No	No	No	No	No	No	No	No	No
9	1	625	1	34	No	No	No	No	No	No	No	No	No	No
10	1	616	1	33	No	No	No	No	No	No	No	No	No	No
11	1	534	1	29	No	No	No	No	No	No	No	No	No	No
12	1	498	1	27	No	No	No	No	No	No	No	No	No	No
13	1	489	1	26	No	No	No	No	No	No	No	No	No	No
14	1	362	1	20	No	No	No	No	No	No	No	No	No	No
15	1	362	1	20	No	No	No	No	No	No	No	No	No	No
16	1	253	1	14	No	No	No	No	No	No	No	No	No	No
17	1	145	1	8	No	No	No	No	No	No	No	No	No	No
18	1	145	1	8	No	No	No	No	No	No	No	No	No	No
19	1	81	1	4	No	No	No	No	No	No	No	No	No	No
20	1	45	1	2	No	No	No	No	No	No	No	No	No	No
21	1	27	1	1	No	No	No	No	No	No	No	No	No	No
22	1	9	1	0	No	No	No	No	No	No	No	No	No	No
23	1	9	1	0	No	No	No	No	No	No	No	No	No	No
24	1	9	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	4	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	11.1	18.7
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:09	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	49	0
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	955	955
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 12: Latrobe Rd/Royal Oaks Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	56%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	327	501	123	0
2	317	486	119	0
3	311	476	117	0
4	291	446	109	0
5	258	396	97	0
6	255	391	96	0
7	252	386	95	0
8	229	351	86	0
9	226	346	85	0
10	222	341	84	0
11	193	296	73	0
12	180	276	68	0
13	177	271	66	0
14	131	200	49	0
15	131	200	49	0
16	92	140	34	0
17	52	80	20	0
18	52	80	20	0
19	29	45	11	0
20	16	25	6	0
21	10	15	4	0
22	3	5	1	0
23	3	5	1	0
24	3	5	1	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	828	1	123	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
2	2	803	1	119	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No
3	2	787	1	117	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No
4	2	737	1	109	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No
5	2	654	1	97	No	No	No	Yes	No	No	Yes	Yes	No	No
6	2	646	1	96	No	No	No	Yes	No	No	Yes	Yes	No	No
7	2	638	1	95	No	No	No	Yes	No	No	Yes	Yes	No	No
8	2	580	1	86	No	No	No	Yes	No	No	No	Yes	No	No
9	2	572	1	85	No	No	No	Yes	No	No	No	Yes	No	No
10	2	563	1	84	No	No	No	Yes	No	No	No	Yes	No	No
11	2	489	1	73	No	No	No	No	No	No	No	No	No	No
12	2	456	1	68	No	No	No	No	No	No	No	No	No	No
13	2	448	1	66	No	No	No	No	No	No	No	No	No	No
14	2	331	1	49	No	No	No	No	No	No	No	No	No	No
15	2	331	1	49	No	No	No	No	No	No	No	No	No	No
16	2	232	1	34	No	No	No	No	No	No	No	No	No	No
17	2	132	1	20	No	No	No	No	No	No	No	No	No	No
18	2	132	1	20	No	No	No	No	No	No	No	No	No	No
19	2	74	1	11	No	No	No	No	No	No	No	No	No	No
20	2	41	1	6	No	No	No	No	No	No	No	No	No	No
21	2	25	1	4	No	No	No	No	No	No	No	No	No	No
22	2	8	1	1	No	No	No	No	No	No	No	No	No	No
23	2	8	1	1	No	No	No	No	No	No	No	No	No	No
24	2	8	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	1	4	10	0	4	7	10	4	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	21.8	19.1
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:44	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	123	0
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	951	951
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 13: Golden Foothill/Robert J Mathews

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	878	216	571
2	852	210	554
3	834	205	542
4	781	192	508
5	694	171	451
6	685	168	445
7	676	166	440
8	615	151	400
9	606	149	394
10	597	147	388
11	518	127	337
12	483	119	314
13	474	117	308
14	351	86	228
15	351	86	228
16	246	60	160
17	140	35	91
18	140	35	91
19	79	19	51
20	44	11	29
21	26	6	17
22	9	2	6
23	9	2	6
24	9	2	6

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1094	1	571	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1062	1	554	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1039	1	542	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	973	1	508	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	865	1	451	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	853	1	445	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1	842	1	440	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	1	766	1	400	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	1	755	1	394	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	1	744	1	388	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
11	1	645	1	337	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
12	1	602	1	314	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
13	1	591	1	308	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
14	1	437	1	228	No	Yes	Yes	Yes	No	No	No	Yes	No	No
15	1	437	1	228	No	Yes	Yes	Yes	No	No	No	Yes	No	No
16	1	306	1	160	No	No	No	Yes	No	No	No	No	No	No
17	1	175	1	91	No	No	No	No	No	No	No	No	No	No
18	1	175	1	91	No	No	No	No	No	No	No	No	No	No
19	1	98	1	51	No	No	No	No	No	No	No	No	No	No
20	1	55	1	29	No	No	No	No	No	No	No	No	No	No
21	1	32	1	17	No	No	No	No	No	No	No	No	No	No
22	1	11	1	6	No	No	No	No	No	No	No	No	No	No
23	1	11	1	6	No	No	No	No	No	No	No	No	No	No
24	1	11	1	6	No	No	No	No	No	No	No	No	No	No
Hours Met					13	15	15	16	9	12	13	15	13	9

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	2344.6
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	371:52
Delay Condition Met	Yes
Volume on Minor Street Approach During Same Hour	571
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1665
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	Yes
Warrant Met for Intersection	**Yes**

Signal Warrants Report For Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	284	366	272	58
2	275	355	264	56
3	270	348	258	55
4	253	326	242	52
5	224	289	215	46
6	222	285	212	45
7	219	282	209	45
8	199	256	190	41
9	196	253	188	40
10	193	249	185	39
11	168	216	160	34
12	156	201	150	32
13	153	198	147	31
14	114	146	109	23
15	114	146	109	23
16	80	102	76	16
17	45	59	44	9
18	45	59	44	9
19	26	33	24	5
20	14	18	14	3
21	9	11	8	2
22	3	4	3	1
23	3	4	3	1
24	3	4	3	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	650	1	272	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
2	1	630	1	264	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
3	1	618	1	258	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
4	1	579	1	242	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
5	1	513	1	215	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
6	1	507	1	212	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
7	1	501	1	209	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
8	1	455	1	190	No	Yes	Yes	Yes	No	No	No	Yes	No	No
9	1	449	1	188	No	Yes	Yes	Yes	No	No	No	Yes	No	No
10	1	442	1	185	No	Yes	Yes	Yes	No	No	No	Yes	No	No
11	1	384	1	160	No	No	Yes	Yes	No	No	No	No	No	No
12	1	357	1	150	No	No	Yes	Yes	No	No	No	No	No	No
13	1	351	1	147	No	No	Yes	Yes	No	No	No	No	No	No
14	1	260	1	109	No	No	No	No	No	No	No	No	No	No
15	1	260	1	109	No	No	No	No	No	No	No	No	No	No
16	1	182	1	76	No	No	No	No	No	No	No	No	No	No
17	1	104	1	44	No	No	No	No	No	No	No	No	No	No
18	1	104	1	44	No	No	No	No	No	No	No	No	No	No
19	1	59	1	24	No	No	No	No	No	No	No	No	No	No
20	1	32	1	14	No	No	No	No	No	No	No	No	No	No
21	1	20	1	8	No	No	No	No	No	No	No	No	No	No
22	1	7	1	3	No	No	No	No	No	No	No	No	No	No
23	1	7	1	3	No	No	No	No	No	No	No	No	No	No
24	1	7	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					7	10	13	13	0	3	4	10	4	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	18.6	11.3
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:24	0:10
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	272	58
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	980	980
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	301	191	86
2	292	185	83
3	286	181	82
4	268	170	77
5	238	151	68
6	235	149	67
7	232	147	66
8	211	134	60
9	208	132	59
10	205	130	58
11	178	113	51
12	166	105	47
13	163	103	46
14	120	76	34
15	120	76	34
16	84	53	24
17	48	31	14
18	48	31	14
19	27	17	8
20	15	10	4
21	9	6	3
22	3	2	1
23	3	2	1
24	3	2	1

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	492	2	86	No	No	No	No	No	No	No	No	No	No
2	2	477	2	83	No	No	No	No	No	No	No	No	No	No
3	2	467	2	82	No	No	No	No	No	No	No	No	No	No
4	2	438	2	77	No	No	No	No	No	No	No	No	No	No
5	2	389	2	68	No	No	No	No	No	No	No	No	No	No
6	2	384	2	67	No	No	No	No	No	No	No	No	No	No
7	2	379	2	66	No	No	No	No	No	No	No	No	No	No
8	2	345	2	60	No	No	No	No	No	No	No	No	No	No
9	2	340	2	59	No	No	No	No	No	No	No	No	No	No
10	2	335	2	58	No	No	No	No	No	No	No	No	No	No
11	2	291	2	51	No	No	No	No	No	No	No	No	No	No
12	2	271	2	47	No	No	No	No	No	No	No	No	No	No
13	2	266	2	46	No	No	No	No	No	No	No	No	No	No
14	2	196	2	34	No	No	No	No	No	No	No	No	No	No
15	2	196	2	34	No	No	No	No	No	No	No	No	No	No
16	2	137	2	24	No	No	No	No	No	No	No	No	No	No
17	2	79	2	14	No	No	No	No	No	No	No	No	No	No
18	2	79	2	14	No	No	No	No	No	No	No	No	No	No
19	2	44	2	8	No	No	No	No	No	No	No	No	No	No
20	2	25	2	4	No	No	No	No	No	No	No	No	No	No
21	2	15	2	3	No	No	No	No	No	No	No	No	No	No
22	2	5	2	1	No	No	No	No	No	No	No	No	No	No
23	2	5	2	1	No	No	No	No	No	No	No	No	No	No
24	2	5	2	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	10.2
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:14
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	86
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	578
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 16: Carson Crossing Rd/Calypso Cir.

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	211	123	55
2	205	119	53
3	200	117	52
4	188	109	49
5	167	97	43
6	165	96	43
7	162	95	42
8	148	86	39
9	146	85	38
10	143	84	37
11	124	73	32
12	116	68	30
13	114	66	30
14	84	49	22
15	84	49	22
16	59	34	15
17	34	20	9
18	34	20	9
19	19	11	5
20	11	6	3
21	6	4	2
22	2	1	1
23	2	1	1
24	2	1	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	334	1	55	No	No	No	No	No	No	No	No	No	No
2	2	324	1	53	No	No	No	No	No	No	No	No	No	No
3	2	317	1	52	No	No	No	No	No	No	No	No	No	No
4	2	297	1	49	No	No	No	No	No	No	No	No	No	No
5	2	264	1	43	No	No	No	No	No	No	No	No	No	No
6	2	261	1	43	No	No	No	No	No	No	No	No	No	No
7	2	257	1	42	No	No	No	No	No	No	No	No	No	No
8	2	234	1	39	No	No	No	No	No	No	No	No	No	No
9	2	231	1	38	No	No	No	No	No	No	No	No	No	No
10	2	227	1	37	No	No	No	No	No	No	No	No	No	No
11	2	197	1	32	No	No	No	No	No	No	No	No	No	No
12	2	184	1	30	No	No	No	No	No	No	No	No	No	No
13	2	180	1	30	No	No	No	No	No	No	No	No	No	No
14	2	133	1	22	No	No	No	No	No	No	No	No	No	No
15	2	133	1	22	No	No	No	No	No	No	No	No	No	No
16	2	93	1	15	No	No	No	No	No	No	No	No	No	No
17	2	54	1	9	No	No	No	No	No	No	No	No	No	No
18	2	54	1	9	No	No	No	No	No	No	No	No	No	No
19	2	30	1	5	No	No	No	No	No	No	No	No	No	No
20	2	17	1	3	No	No	No	No	No	No	No	No	No	No
21	2	10	1	2	No	No	No	No	No	No	No	No	No	No
22	2	3	1	1	No	No	No	No	No	No	No	No	No	No
23	2	3	1	1	No	No	No	No	No	No	No	No	No	No
24	2	3	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	9.5
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:08
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	55
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	389
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 17: Carson Crossing Rd/Four Seasons Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	174	144	3
2	169	140	3
3	165	137	3
4	155	128	3
5	137	114	2
6	136	112	2
7	134	111	2
8	122	101	2
9	120	99	2
10	118	98	2
11	103	85	2
12	96	79	2
13	94	78	2
14	70	58	1
15	70	58	1
16	49	40	1
17	28	23	0
18	28	23	0
19	16	13	0
20	9	7	0
21	5	4	0
22	2	1	0
23	2	1	0
24	2	1	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	318	1	3	No	No	No	No	No	No	No	No	No	No
2	3	309	1	3	No	No	No	No	No	No	No	No	No	No
3	3	302	1	3	No	No	No	No	No	No	No	No	No	No
4	3	283	1	3	No	No	No	No	No	No	No	No	No	No
5	3	251	1	2	No	No	No	No	No	No	No	No	No	No
6	3	248	1	2	No	No	No	No	No	No	No	No	No	No
7	3	245	1	2	No	No	No	No	No	No	No	No	No	No
8	3	223	1	2	No	No	No	No	No	No	No	No	No	No
9	3	219	1	2	No	No	No	No	No	No	No	No	No	No
10	3	216	1	2	No	No	No	No	No	No	No	No	No	No
11	3	188	1	2	No	No	No	No	No	No	No	No	No	No
12	3	175	1	2	No	No	No	No	No	No	No	No	No	No
13	3	172	1	2	No	No	No	No	No	No	No	No	No	No
14	3	128	1	1	No	No	No	No	No	No	No	No	No	No
15	3	128	1	1	No	No	No	No	No	No	No	No	No	No
16	3	89	1	1	No	No	No	No	No	No	No	No	No	No
17	3	51	1	0	No	No	No	No	No	No	No	No	No	No
18	3	51	1	0	No	No	No	No	No	No	No	No	No	No
19	3	29	1	0	No	No	No	No	No	No	No	No	No	No
20	3	16	1	0	No	No	No	No	No	No	No	No	No	No
21	3	9	1	0	No	No	No	No	No	No	No	No	No	No
22	3	3	1	0	No	No	No	No	No	No	No	No	No	No
23	3	3	1	0	No	No	No	No	No	No	No	No	No	No
24	3	3	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	7.7
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	3
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	321
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 18: White Rock Rd/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	474	498	163	29
2	460	483	158	28
3	450	473	155	28
4	422	443	145	26
5	374	393	129	23
6	370	388	127	23
7	365	383	126	22
8	332	349	114	20
9	327	344	112	20
10	322	339	111	20
11	280	294	96	17
12	261	274	90	16
13	256	269	88	16
14	190	199	65	12
15	190	199	65	12
16	133	139	46	8
17	76	80	26	5
18	76	80	26	5
19	43	45	15	3
20	24	25	8	1
21	14	15	5	1
22	5	5	2	0
23	5	5	2	0
24	5	5	2	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	972	2	163	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
2	2	943	2	158	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
3	2	923	2	155	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
4	2	865	2	145	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No
5	2	767	2	129	No	No	No	Yes	No	Yes	Yes	Yes	No	No
6	2	758	2	127	No	No	No	Yes	No	Yes	Yes	Yes	No	No
7	2	748	2	126	No	No	No	Yes	No	Yes	Yes	Yes	No	No
8	2	681	2	114	No	No	No	Yes	No	No	Yes	Yes	No	No
9	2	671	2	112	No	No	No	Yes	No	No	Yes	Yes	No	No
10	2	661	2	111	No	No	No	No	No	No	Yes	Yes	No	No
11	2	574	2	96	No	No	No	No	No	No	No	Yes	No	No
12	2	535	2	90	No	No	No	No	No	No	No	Yes	No	No
13	2	525	2	88	No	No	No	No	No	No	No	Yes	No	No
14	2	389	2	65	No	No	No	No	No	No	No	No	No	No
15	2	389	2	65	No	No	No	No	No	No	No	No	No	No
16	2	272	2	46	No	No	No	No	No	No	No	No	No	No
17	2	156	2	26	No	No	No	No	No	No	No	No	No	No
18	2	156	2	26	No	No	No	No	No	No	No	No	No	No
19	2	88	2	15	No	No	No	No	No	No	No	No	No	No
20	2	49	2	8	No	No	No	No	No	No	No	No	No	No
21	2	29	2	5	No	No	No	No	No	No	No	No	No	No
22	2	10	2	2	No	No	No	No	No	No	No	No	No	No
23	2	10	2	2	No	No	No	No	No	No	No	No	No	No
24	2	10	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	1	4	9	3	7	10	13	0	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	60	15
Number of Lanes on Minor Street Approach	2	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2:43	0:07
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	163	29
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1164	1164
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 25: New Intersection

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	380	501	0
2	369	486	0
3	361	476	0
4	338	446	0
5	300	396	0
6	296	391	0
7	293	386	0
8	266	351	0
9	262	346	0
10	258	341	0
11	224	296	0
12	209	276	0
13	205	271	0
14	152	200	0
15	152	200	0
16	106	140	0
17	61	80	0
18	61	80	0
19	34	45	0
20	19	25	0
21	11	15	0
22	4	5	0
23	4	5	0
24	4	5	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	881	1	0	No	No	No	No	No	No	No	No	No	No
2	1	855	1	0	No	No	No	No	No	No	No	No	No	No
3	1	837	1	0	No	No	No	No	No	No	No	No	No	No
4	1	784	1	0	No	No	No	No	No	No	No	No	No	No
5	1	696	1	0	No	No	No	No	No	No	No	No	No	No
6	1	687	1	0	No	No	No	No	No	No	No	No	No	No
7	1	679	1	0	No	No	No	No	No	No	No	No	No	No
8	1	617	1	0	No	No	No	No	No	No	No	No	No	No
9	1	608	1	0	No	No	No	No	No	No	No	No	No	No
10	1	599	1	0	No	No	No	No	No	No	No	No	No	No
11	1	520	1	0	No	No	No	No	No	No	No	No	No	No
12	1	485	1	0	No	No	No	No	No	No	No	No	No	No
13	1	476	1	0	No	No	No	No	No	No	No	No	No	No
14	1	352	1	0	No	No	No	No	No	No	No	No	No	No
15	1	352	1	0	No	No	No	No	No	No	No	No	No	No
16	1	246	1	0	No	No	No	No	No	No	No	No	No	No
17	1	141	1	0	No	No	No	No	No	No	No	No	No	No
18	1	141	1	0	No	No	No	No	No	No	No	No	No	No
19	1	79	1	0	No	No	No	No	No	No	No	No	No	No
20	1	44	1	0	No	No	No	No	No	No	No	No	No	No
21	1	26	1	0	No	No	No	No	No	No	No	No	No	No
22	1	9	1	0	No	No	No	No	No	No	No	No	No	No
23	1	9	1	0	No	No	No	No	No	No	No	No	No	No
24	1	9	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	11.3
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	881
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 26: Latrobe/Wetsl-Oviatt

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	300	461	27
2	291	447	26
3	285	438	26
4	267	410	24
5	237	364	21
6	234	360	21
7	231	355	21
8	210	323	19
9	207	318	19
10	204	313	18
11	177	272	16
12	165	254	15
13	162	249	15
14	120	184	11
15	120	184	11
16	84	129	8
17	48	74	4
18	48	74	4
19	27	41	2
20	15	23	1
21	9	14	1
22	3	5	0
23	3	5	0
24	3	5	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	761	1	27	No	No	No	No	No	No	No	No	No	No
2	1	738	1	26	No	No	No	No	No	No	No	No	No	No
3	1	723	1	26	No	No	No	No	No	No	No	No	No	No
4	1	677	1	24	No	No	No	No	No	No	No	No	No	No
5	1	601	1	21	No	No	No	No	No	No	No	No	No	No
6	1	594	1	21	No	No	No	No	No	No	No	No	No	No
7	1	586	1	21	No	No	No	No	No	No	No	No	No	No
8	1	533	1	19	No	No	No	No	No	No	No	No	No	No
9	1	525	1	19	No	No	No	No	No	No	No	No	No	No
10	1	517	1	18	No	No	No	No	No	No	No	No	No	No
11	1	449	1	16	No	No	No	No	No	No	No	No	No	No
12	1	419	1	15	No	No	No	No	No	No	No	No	No	No
13	1	411	1	15	No	No	No	No	No	No	No	No	No	No
14	1	304	1	11	No	No	No	No	No	No	No	No	No	No
15	1	304	1	11	No	No	No	No	No	No	No	No	No	No
16	1	213	1	8	No	No	No	No	No	No	No	No	No	No
17	1	122	1	4	No	No	No	No	No	No	No	No	No	No
18	1	122	1	4	No	No	No	No	No	No	No	No	No	No
19	1	68	1	2	No	No	No	No	No	No	No	No	No	No
20	1	38	1	1	No	No	No	No	No	No	No	No	No	No
21	1	23	1	1	No	No	No	No	No	No	No	No	No	No
22	1	8	1	0	No	No	No	No	No	No	No	No	No	No
23	1	8	1	0	No	No	No	No	No	No	No	No	No	No
24	1	8	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	15.2
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:06
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	27
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	788
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 27: Latrobe/S. Shingle

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	56%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	251	362	136	44
2	243	351	132	43
3	238	344	129	42
4	223	322	121	39
5	198	286	107	35
6	196	282	106	34
7	193	279	105	34
8	176	253	95	31
9	173	250	94	30
10	171	246	92	30
11	148	214	80	26
12	138	199	75	24
13	136	195	73	24
14	100	145	54	18
15	100	145	54	18
16	70	101	38	12
17	40	58	22	7
18	40	58	22	7
19	23	33	12	4
20	13	18	7	2
21	8	11	4	1
22	3	4	1	0
23	3	4	1	0
24	3	4	1	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	613	1	136	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
2	1	594	1	132	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
3	1	582	1	129	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
4	1	545	1	121	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
5	1	484	1	107	No	No	Yes	Yes	No	No	No	Yes	No	No
6	1	478	1	106	No	No	Yes	Yes	No	No	No	Yes	No	No
7	1	472	1	105	No	No	Yes	Yes	No	No	No	Yes	No	No
8	1	429	1	95	No	No	No	Yes	No	No	No	Yes	No	No
9	1	423	1	94	No	No	No	Yes	No	No	No	Yes	No	No
10	1	417	1	92	No	No	No	Yes	No	No	No	No	No	No
11	1	362	1	80	No	No	No	No	No	No	No	No	No	No
12	1	337	1	75	No	No	No	No	No	No	No	No	No	No
13	1	331	1	73	No	No	No	No	No	No	No	No	No	No
14	1	245	1	54	No	No	No	No	No	No	No	No	No	No
15	1	245	1	54	No	No	No	No	No	No	No	No	No	No
16	1	171	1	38	No	No	No	No	No	No	No	No	No	No
17	1	98	1	22	No	No	No	No	No	No	No	No	No	No
18	1	98	1	22	No	No	No	No	No	No	No	No	No	No
19	1	56	1	12	No	No	No	No	No	No	No	No	No	No
20	1	31	1	7	No	No	No	No	No	No	No	No	No	No
21	1	19	1	4	No	No	No	No	No	No	No	No	No	No
22	1	7	1	1	No	No	No	No	No	No	No	No	No	No
23	1	7	1	1	No	No	No	No	No	No	No	No	No	No
24	1	7	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	10	0	1	4	9	4	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.4	16.4
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:32	0:12
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	136	44
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	793	793
Number of Approaches on Intersection	4	4
Total Volume Condition Met	No	No
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

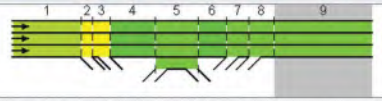
FREEVAL-2015e - Y:\Shared\Projects\P23160 Creekside Village II\Joint US50\FREEVAL\Eastbound\14 PM EB 2023 No-Proj.seed

Project Analyze Edit View Settings Toolbox Help

Edit Seed Facility: Global Input | Fill Data
Managed Lanes: Turn On
Reliability Analysis (RL): Generate | Delete | Summary
ATDM Analysis: Configure | Delete | Summary

Single Seed/Scenario I/O | Compare | Result Contours | Analysis Period Summary | Segment & Facility Summary

Table Display Options: In & Out | GP Only
Analysis Period (A.P.) Control: A.P. 1/1 7:00 - 7:15 | First | Last | Jump To



Segment	Seg. 1	Seg. 2	Seg. 3	Seg. 4	Seg. 5	Seg. 6	Seg. 7	Seg. 8	Seg. 9
General Purpose Segme...	*	*	*	*	*	*	*	*	*
General Purpose Segme...	EDC to...	Lat Slip	Lat Loop	between	Lat to SC	EB US ...	SV Loop	SV Slip	EB US ...
General Purpose Segme...	Basic	Off Ramp	Off Ramp	Basic	Weaving	Basic	On Ramp	On Ramp	Basic
Segment Length (ft)	3,000	500	800	2,000	1,900	1,260	1,000	1,100	4,300
Lane Width (ft)	12	12	12	12	12	12	12	12	12
Lateral Clearance (ft)	10	10	10	10	10	10	4	10	10
Terrain	Level	Level	Level	Level	Level	Level	Level	Level	Level
Truck-PC Equivalent (ET)	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
# of Lanes: Mainline	3	3	3	3	4	3	3	3	3
Mainline Dem. (vph)	3,990	3990	2793	1932	2929	2362	3185	3185	3185
Mainline Single Unit Truc...	2.00	2.00	2.00	2.00	1.66	1.58	1.69	1.69	1.69
Mainline Tractor Trailer (...	0.00	0.00	0.00	0.00	0.34	0.42	0.31	0.31	0.31
Seed Capacity Adj. Fac.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Entering Dem. Adj....	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Exit Dem. Adj. Fac.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Free Flow Speed ...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Driver Pop. Capac...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Driver Pop. Free F...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Acc/Dec Lane Length (ft)		0	0				500	1,100	
ONR Side					Right		Right	Right	
# Lanes: ONR					1		1	1	
ONR Queue Capacity (v...					50		50	50	
ONR Free Flow Speed (...					45		45	45	
ONR/Entering Dem. (vph)					997		823	0	
ONR Single Unit Truck a...					1.00		2.00	2.00	
ONR Tractor Trailer (%)					1.00		0.00	0.00	
ONR Metering Type					None		Fixed	Fixed	
ONR Metering Fixed Rat...							2,100	2,100	
OFR Side		Right	Right		Right				
# Lanes: OFR		1	1		2				
OFR Free Flow Speed (...		45	45		45				
OFR/Exit Dem. (vph)		1,197	861		567				
OFR Single Unit Truck a...		2.00	2.00		2.00				
OFR Tractor Trailer (%)		0.00	0.00		0.00				
Weave Segment Ls (ft)					1,500				
Weave Segment LCRF					1				
Weave Segment LCFR					0				
Weave Segment LCRR					0				
Weave Segment NW					2				
Ramp to Ramp Dem. (vph)					0				
Processed Segment Type	Basic	Off Ramp	Off Ramp	Basic	Weaving	Basic	On Ramp	On Ramp	Basic
Speed (mph)	73.6	66.1	67.2	74.2	63.5	74.1	67.0	68.8	74.9
Total Density (veh/mi/ln)	18.1	20.1	13.8	8.6	11.5	10.5	15.8	15.4	14.2
Total Density (pc/mi/ln)	18.4	20.5	14.1	8.8	11.8	10.7	16.2	15.7	14.5
Influence Area Density (...		29.6	28.8				19.6	14.0	
Adjusted Capacity (vph)	7,059	7,059	7,059	7,059	4,406	7,059	7,059	7,059	7,059
Adjusted Mainline Dem. ...	3,990	3,990	2,793	1,932	2,929	2,362	3,185	3,185	3,185
D/C	0.57	0.57	0.40	0.27	0.66	0.33	0.45	0.45	0.45
Mainline Volume Served ...	3,990	3,990	2,793	1,932	2,929	2,362	3,185	3,185	3,185
V/C	0.57	0.57	0.40	0.27	0.66	0.33	0.45	0.45	0.45
Adjusted ONR Dem. (vph)					997		823	0	
ONR Capacity (vph)					2,059		2,059	2,059	
ONR Volume Served (vph)					997		823	0	
ONR Avg RM Rate (vph)									
ONR Time RM Active (min)					0.00		0.00	0.00	
Adjusted OFR Dem. (vph)		1,197	861		567				
OFR Capacity (vph)		2,059	2,059		4,118				
OFR Volume Served (vph)		1,197	861		567				
Density Based LOS	C	D	D	A	B	A	B	B	B
Dem. Based LOS									
Mainline Queue Length (ft)									
Mainline Queue Length (...									
ONR Queue (veh)									
Actual Travel Time (min)	0.46	0.09	0.14	0.31	0.34	0.19	0.17	0.18	0.65
FFS Travel Time (min)	0.45	0.08	0.12	0.30	0.29	0.19	0.15	0.17	0.65
Mainline Delay (min)	0.01	0.01	0.01	0.00	0.05	0.00	0.02	0.02	0.00
VMTD (veh-miles / interval)	567	94	106	183	263	141	151	166	648
VMTV (veh-miles / interval)	567	94	106	183	263	141	151	166	648
PMTD (p-miles / interval)	567	94	106	183	263	141	151	166	648
PMTV (p-miles / interval)	567	94	106	183	263	141	151	166	648
VHT (travel / interval (hrs))	7.70	1.43	1.57	2.47	4.15	1.90	2.25	2.41	8.66
VHD-M (delay / interval (...	0.14	0.17	0.16	0.03	0.64	0.02	0.24	0.20	0.01
VHD-R (delay / interval (...					0.00		0.00	0.00	
VHD-Access (delay / int...									
VHD-MDE (delay / interv...	0.00								
VHD (delay / interval (hrs))	0.14	0.17	0.16	0.03	0.64	0.02	0.24	0.20	0.01
Space Mean Speed (mph)	73.6	66.1	67.2	74.2	63.5	74.1	67.0	68.8	74.9
Travel Time Index	1.02	1.14	1.12	1.01	1.18	1.01	1.12	1.09	1.00

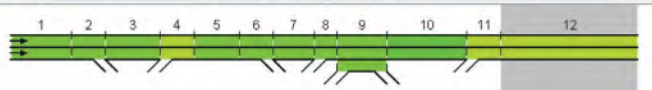
FREEVAL-2015e - Y:\Shared\Projects\P23160 Creekside Village II\Joint US50\FREEVAL\Existing 2023\2 PM WB 2023 No Proj 20240216.seed

Project Analyze Edit View Settings Toolbox Help

Edit Seed Facility: Global Input | Fill Data
Managed Lanes: Turn On
Reliability Analysis (RL): Generate | Delete | Summary
ATDM Analysis: Configure | Delete | Summary

Single Seed/Scenario I/O | Compare | Result Contours | Analysis Period Summary | Segment & Facility Summary

Table Display Options: In & Out | GP Only
Analysis Period (A.P.) Control: A.P. 1/1 7:45 - 8:00 | First | Last | Jump To



Segment	Seg. 1	Seg. 2	Seg. 3	Seg. 4	Seg. 5	Seg. 6	Seg. 7	Seg. 8	Seg. 9	Seg. 10	Seg. 11	Seg. 12
General Pur...	*	*	*	*	*	*	*	*	*	*	*	*
General Pur...	Cam to ...	BL Off	between	BL On	BL to SV	SV Off	between	SV Loop	SV-Lat	between	Lat On	Lat to E...
General Pur...	Basic	Off Ramp	Basic	On Ramp	Basic	Off Ramp	Basic	On Ramp	Weaving	Basic	On Ramp	Basic
Segment Le...	2,640	1,500	2,400	1,500	2,000	1,500	1,800	1,000	2,200	3,500	1,500	6,000
Lane Width ...	12	12	12	12	12	12	12	12	12	12	12	12
Lateral Clea...	10	10	10	10	10	10	10	10	10	10	10	10
Terrain	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
Truck-PC E...	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
# of Lanes: ...	2	2	2	2	2	2	2	2	3	2	2	2
Mainline De...	2,165	2165	2008	2454	2454	2454	1850	1850	2210	1582	3070	3070
Mainline Sin...	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Mainline Tra...	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Seed Capac...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Enteri...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Exit D...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Free F...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Driver ...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Driver ...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Acc/Dec La...		500		500		1,400		500			1,000	
ONR Side				Right				Right	Right		Right	
# Lanes: ONR				1				1	1		1	
ONR Queue ...				50				50	50		50	
ONR Free Fl...				45				45	45		45	
ONR/Enterin...				446				0	360		1,488	
ONR Single ...				2.00				2.00	2.00		2.00	
ONR Tractor...				0.00				0.00	0.00		0.00	
ONR Meteri...				Fixed				None	Fixed		Fixed	
ONR Meteri...				2,100					2,100		2,100	
OFR Side		Right				Right			Right			
# Lanes: OFR		1				2			2			
OFR Free Fl...		45				45			45			
OFR/Exit De...		157				604			628			
OFR Single ...		2.00				2.00			2.00			
OFR Tractor...		0.00				0.00			0.00			
Weave Seg...									1,500			
Weave Seg...									1			
Weave Seg...									0			
Weave Seg...									0			
Weave Seg...									0			
Ramp to Ra...									0			
Processed ...	Basic	Off Ramp	Basic	On Ramp	Basic	Off Ramp	Basic	On Ramp	Weaving	Basic	On Ramp	Basic
Speed (mph)	74.9	64.7	74.6	64.3	74.3	63.3	74.2	65.0	67.6	74.9	64.4	71.5
Total Densit...	14.5	18.4	13.4	21.2	16.5	12.9	12.3	16.7	10.9	10.5	22.5	21.5
Total Densit...	14.7	18.7	13.7	21.7	16.8	13.2	12.6	17.1	11.1	10.8	22.9	21.9
Influence Ar...		18.7		21.7		13.2		17.1			22.9	
Adjusted Ca...	4,706	4,706	4,706	4,706	4,706	4,706	4,706	4,706	5,068	4,706	4,706	4,706
Adjusted Ma...	2,165	2,165	2,008	2,454	2,454	2,454	1,850	1,850	2,210	1,582	3,070	3,070
D/C	0.46	0.46	0.43	0.52	0.52	0.52	0.39	0.39	0.44	0.34	0.65	0.65
Mainline Vol...	2,165	2,165	2,008	2,454	2,454	2,454	1,850	1,850	2,210	1,582	3,070	3,070
V/C	0.46	0.46	0.43	0.52	0.52	0.52	0.39	0.39	0.44	0.34	0.65	0.65
Adjusted ON...				446				0	360		1,488	
ONR Capaci...				2,059				2,059	2,059		2,059	
ONR Volum...				446				0	360		1,488	
ONR Avg R...												
ONR Time R...				0.00				0.00	0.00		0.00	
Adjusted OF...		157				604			628			
OFR Capaci...		2,059				4,118			4,118			
OFR Volume...		157				604			628			
Density Bas...	B	B	B	C	B	B	B	B	B	A	C	C
Dem. Based ...												
Mainline Qu...												
Mainline Qu...												
ONR Queue ...												
Actual Trave...	0.40	0.26	0.37	0.27	0.31	0.27	0.28	0.17	0.37	0.53	0.26	0.95
FFS Travel ...	0.40	0.23	0.36	0.23	0.30	0.23	0.27	0.15	0.33	0.53	0.23	0.91
Mainline Del...	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.02	0.04	0.00	0.04	0.05
VMTD (veh-...	271	154	228	174	232	174	158	88	230	262	218	872
VMTV (veh-...	271	154	228	174	232	174	158	88	230	262	218	872
PMTD (p-mil...	271	154	228	174	232	174	158	88	230	262	218	872
PMTV (p-mil...	271	154	228	174	232	174	158	88	230	262	218	872
VHT (travel /...	3.61	2.38	3.06	2.71	3.13	2.75	2.13	1.35	3.40	3.50	3.38	12.20
VHD-M (del...	0.01	0.33	0.02	0.39	0.03	0.43	0.02	0.18	0.33	0.00	0.48	0.58
VHD-R (dela...				0.00				0.00	0.00		0.00	
VHD-Acces...												
VHD-MDE (...	0.00											
VHD (delay ...	0.01	0.33	0.02	0.39	0.03	0.43	0.02	0.18	0.33	0.00	0.48	0.58
Space Mean ...	74.9	64.7	74.6	64.3	74.3	63.3	74.2	65.0	67.6	74.9	64.4	71.5
Travel Time ...	1.00	1.16	1.01	1.17	1.01	1.18	1.01	1.15	1.11	1.00	1.16	1.05

Existing AM plus Project

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Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	El Dorado Hills Blvd/Serrano Pkwy	Signalized	HCM 7th Edition	SB Right	1.052	114.8	F
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	EB Right	1.352	151.2	F
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	NB Left	1.173	101.4	F
4	Latrobe Rd/US 50 EB	Signalized	HCM 7th Edition	NB Thru	1.078	26.7	C
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	WB Right	0.814	21.9	C
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	NB Left	0.643	33.0	C
7	Latrobe Rd/Golden Foothill Pkwy N	Signalized	HCM 7th Edition	SB Left	0.878	24.9	C
8	Latrobe Rd/Suncast Ln	Signalized	HCM 7th Edition	EB Left	0.754	9.9	A
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	SB Left	0.817	30.9	C
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	NB Left	0.748	11.2	B
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	EB Left	0.122	35.7	E
12	Latrobe Rd/Royal Oaks Dr	Two-way stop	HCM 7th Edition	EB Left	1.033	144.0	F
13	Golden Foothill/Robert J Mathews	Two-way stop	HCM 7th Edition	NB Left	0.241	75.1	F
14	Investment Blvd/Robert J Mathews Pkwy	All-way stop	HCM 7th Edition	SB Thru	0.877	25.7	D
15	Golden Foothill Pkwy/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.054	11.2	B
16	Carson Crossing Rd/Calypso Cir.	Two-way stop	HCM 7th Edition	NB Left	0.079	11.5	B
17	Carson Crossing Rd/Four Seasons Dr	All-way stop	HCM 7th Edition	WB Left	0.097	8.0	A
	White Rock Rd/Carson		HCM 7th				

18	White Rock Rd/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.372	25.7	D
19	White Rock Rd/Windfield Way	Signalized	HCM 7th Edition	EB Left	0.398	25.8	C
20	White Rock Rd/Post St	Signalized	HCM 7th Edition	SB Left	0.458	38.6	D
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 7th Edition	WB Thru	0.999	81.2	F
22	White Rock Rd/Clarksville Crossing	Signalized	HCM 7th Edition	NB Right	0.738	23.7	C
23	White Rock Rd/US 50 EB	Signalized	HCM 7th Edition	EB Left	0.467	17.3	B
24	Silva Valley Pkwy/US 50 WB	Signalized	HCM 7th Edition	WB Left	0.853	35.1	D
25	New Intersection	Two-way stop	HCM 6th Edition	NB Thru	0.007	0.0	A
26	Latrobe/Wetsl-Oviatt	Two-way stop	HCM 7th Edition	EB Left	0.027	14.0	B
27	Latrobe/S. Shingle	Two-way stop	HCM 7th Edition	EB Left	0.156	21.2	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

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Intersection Level Of Service Report
Intersection 1: El Dorado Hills Blvd/Serrano Pkwy

Control Type:	Signalized	Delay (sec / veh):	114.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.052

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	260.0	100.0	100.0	100.0	110.00	100.00	100.00	100.00	100.00	100.00	430.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No			No		
Crosswalk	No				Yes			Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Base Volume Input [veh/h]	5	194	705	301	68	1419	40	18	11	260	467	57	108
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	20	0	0	12	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	12	0	0	78	0	0	32
Total Hourly Volume [veh/h]	5	194	725	301	68	1431	28	18	11	182	467	57	76
Peak Hour Factor	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	56	208	86	20	411	8	5	3	52	134	16	22
Total Analysis Volume [veh/h]	5	223	833	346	78	1645	32	21	13	209	537	66	87
Presence of On-Street Parking	No			No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	1	6	0	7	7	0	0	8	0
Auxiliary Signal Groups													
Maximum Green [s]	0	25	40	0	25	40	0	35	35	0	0	35	0
Amber [s]	0.0	3.0	4.7	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	12	0	0	12	0	0	0	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	100.0	245.0	0.0	100.0	100.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	29	46	0	29	46	0	39	39	0	0	39	0
Lead / Lag	-	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	3	6	0	3	3	0	3	3	0	0	3	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	4.0	0.0
Minimum Recall		No	No		No	No			No			No	
Maximum Recall		No	No		No	No			No			No	
Pedestrian Recall		No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C
C, Calculated Cycle Length [s]	122	122	122	122	122	122	122	122	122	122
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	18	51	51	7	40	40	19	19	28	28
g / C, Green / Cycle	0.14	0.42	0.42	0.06	0.33	0.33	0.16	0.16	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.13	0.23	0.22	0.04	0.45	0.45	0.01	0.14	0.20	0.20
s, saturation flow rate [veh/h]	1781	3560	1589	1781	1870	1857	1781	1604	1781	1744
c, Capacity [veh/h]	257	1481	661	100	613	609	277	250	404	396
d1, Uniform Delay [s]	51.21	27.16	26.59	56.79	40.98	40.98	43.99	50.45	45.30	45.34
k, delay calibration	0.11	0.04	0.14	0.04	0.50	0.50	0.04	0.04	0.25	0.26
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.29	0.13	0.83	4.79	176.22	178.86	0.04	4.28	11.80	12.31
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.56	0.52	0.78	1.37	1.37	0.08	0.89	0.86	0.86
d, Delay for Lane Group [s/veh]	61.50	27.28	27.42	61.58	217.20	219.84	44.03	54.73	57.10	57.65
Lane Group LOS	E	C	C	E	F	F	D	D	E	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	7.37	8.82	7.31	2.45	47.50	47.63	0.55	6.91	11.39	11.25
50th-Percentile Queue Length [ft/ln]	184.31	220.54	182.67	61.18	1187.45	1190.65	13.73	172.86	284.81	281.33
95th-Percentile Queue Length [veh/ln]	11.83	13.69	11.74	4.40	70.40	70.70	0.99	11.23	16.93	16.75
95th-Percentile Queue Length [ft/ln]	295.64	342.31	293.50	110.12	1759.91	1767.43	24.71	280.67	423.20	418.86

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	61.50	61.50	27.28	27.42	61.58	218.50	219.84	44.03	54.73	54.73	57.29	57.65	57.65
Movement LOS	E	E	C	C	E	F	F	D	D	D	E	E	E
d_A, Approach Delay [s/veh]	32.86				211.55			53.81			57.37		
Approach LOS	C				F			D			E		
d_I, Intersection Delay [s/veh]	114.81												
Intersection LOS	F												
Intersection V/C	1.052												

Emissions

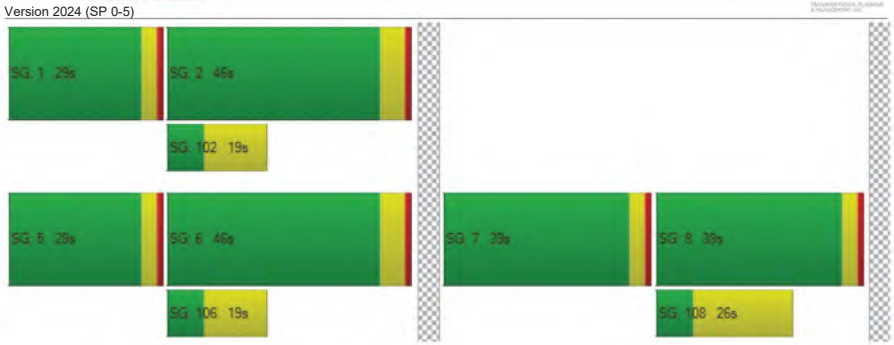
Vehicle Miles Traveled [mph]	54.44	198.89	82.61	11.47	123.50	123.20	0.90	9.51	18.17	17.85
Stops [stops/h]	217.96	521.59	216.02	72.34	1404.21	1408.00	16.23	204.42	336.80	332.68
Fuel consumption [US gal/h]	7.43	17.93	7.45	2.27	58.79	59.19	0.31	3.99	6.65	6.58
CO [g/h]	519.28	1253.14	520.64	158.68	4109.53	4137.36	22.01	279.12	464.98	460.21
NOx [g/h]	101.03	243.81	101.30	30.87	799.56	804.98	4.28	54.31	90.47	89.54
VOC [g/h]	120.35	290.43	120.66	36.78	952.42	958.87	5.10	64.69	107.76	106.66

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	50.38	50.38	50.38
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.133	2.278	2.377
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	662	662	575	575
d_b, Bicycle Delay [s]	27.25	27.25	30.92	30.92
l_b,int, Bicycle LOS Score for Intersection	2.716	3.017	2.089	2.751
Bicycle LOS	B	C	B	C

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	151.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.352

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	1	0	1	0	0	1
Entry Pocket Length [ft]	230.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	1	348	988	150	1	148	1611	391	132	61	682	11	13	84
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	10	20	0	0	0	12	0	0	0	6	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	45	0	0	0	117	0	0	206	0	0	25
Total Hourly Volume [veh/h]	1	358	1008	105	1	148	1623	274	132	61	482	11	13	59
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	96	271	28	0	40	436	74	35	16	130	3	3	16
Total Analysis Volume [veh/h]	1	385	1084	113	1	159	1745	295	142	66	518	12	14	63
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	0	3	8	0
Auxiliary Signal Groups														
Maximum Green [s]	0	20	50	0	0	20	50	0	20	20	0	0	20	0
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	18	0	0	0	16	0	0	0	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	0	24	56	0	24	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C
C, Calculated Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	58	58	12	50	50	20	20	20	7	7
g / C, Green / Cycle	0.17	0.50	0.50	0.11	0.44	0.44	0.17	0.17	0.17	0.06	0.06
(v / s)_i Volume / Saturation Flow Rate	0.22	0.22	0.22	0.09	0.55	0.57	0.06	0.06	0.33	0.01	0.05
s, saturation flow rate [veh/h]	1781	3560	1781	1781	1870	1779	1781	1836	1589	1781	1634
c, Capacity [veh/h]	310	1792	896	190	815	775	310	320	277	110	101
d1, Uniform Delay [s]	47.39	18.25	18.25	50.33	32.39	32.39	41.53	41.51	47.39	50.87	53.03
k, delay calibration	0.50	0.13	0.13	0.04	0.50	0.50	0.04	0.04	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	133.96	0.21	0.42	3.87	123.53	151.30	0.23	0.22	405.10	0.16	4.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.24	0.45	0.45	0.84	1.25	1.32	0.33	0.33	1.87	0.11	0.76
d, Delay for Lane Group [s/veh]	181.35	18.46	18.67	54.19	155.92	183.69	41.76	41.73	452.49	51.03	57.49
Lane Group LOS	F	B	B	D	F	F	D	D	F	D	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	20.10	6.35	6.40	4.58	48.76	52.37	2.58	2.63	39.03	0.33	2.31
50th-Percentile Queue Length [ft/ln]	502.41	158.68	160.12	114.60	1218.93	1309.20	64.39	65.85	975.63	8.29	57.73
95th-Percentile Queue Length [veh/ln]	30.39	10.48	10.56	8.10	70.13	76.84	4.64	4.74	61.49	0.60	4.16
95th-Percentile Queue Length [ft/ln]	759.81	261.97	263.89	202.38	1753.18	1920.96	115.90	118.54	1537.17	14.92	103.92

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	181.3	181.3	18.51	18.67	54.19	54.19	167.4	183.6	41.76	41.73	452.49	51.03	57.49	57.49
Movement LOS	F	F	B	B	D	D	F	F	D	D	F	D	E	E
d_A, Approach Delay [s/veh]	58.23				161.39				334.81			56.62		
Approach LOS	E				F				F			E		
d_I, Intersection Delay [s/veh]	151.23													
Intersection LOS	F													
Intersection V/C	1.352													

Emissions

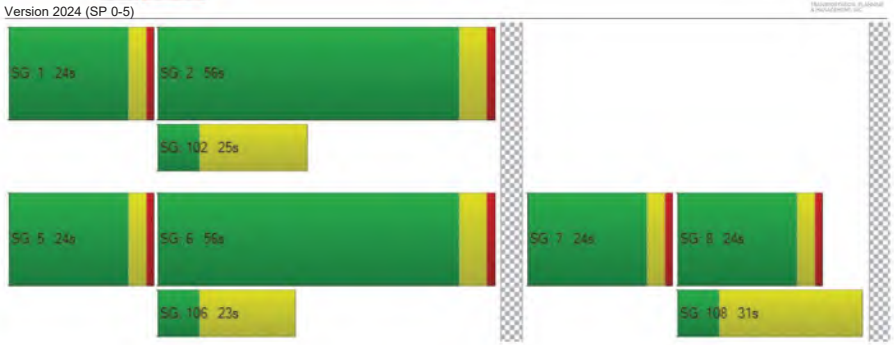
Vehicle Miles Traveled [mph]	72.64	150.14	75.13	38.20	243.54	243.54	6.41	6.56	32.30	0.59	3.75
Stops [stops/h]	630.62	398.35	200.99	143.84	1530.01	1643.32	80.82	82.66	1224.63	10.40	72.47
Fuel consumption [US gal/h]	24.57	13.10	6.59	4.86	59.73	66.90	1.58	1.62	55.78	0.21	1.46
CO [g/h]	1717.66	915.41	460.71	339.88	4175.07	4676.36	110.71	113.25	3899.24	14.41	101.75
NOx [g/h]	334.19	178.11	89.64	66.13	812.32	909.85	21.54	22.03	758.65	2.80	19.80
VOC [g/h]	398.08	212.15	106.77	78.77	967.61	1083.79	25.66	26.25	903.69	3.34	23.58

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	46.89	46.89	46.89
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.516	2.861	2.149
Crosswalk LOS	F	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	877	877	349	349
d_b, Bicycle Delay [s]	18.09	18.09	39.10	39.10
l_b,int, Bicycle LOS Score for Intersection	2.454	3.340	3.097	1.748
Bicycle LOS	B	C	C	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	101.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.173

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	500.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1181	1173	138	3	49	1285	968	256	92	816	146	92	55
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	40	30	6	0	0	18	0	0	0	7	4	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	43	0	0	0	290	0	0	247	0	0	17
Total Hourly Volume [veh/h]	1	1221	1203	101	3	49	1303	678	256	92	576	150	92	38
Peak Hour Factor	1.000	0.840	0.840	0.840	1.000	0.840	0.840	0.840	0.8400	0.8400	0.8400	0.8400	0.8400	0.8400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	363	358	30	1	15	388	202	76	27	171	45	27	11
Total Analysis Volume [veh/h]	1	1454	1432	120	3	58	1551	807	305	110	686	179	110	45
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	134
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	37	62	0	0	14	39	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	42	68	0	0	19	45	28	0	28	0	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Calculated Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	37	69	69	7	39	73	29	29	11	11	11
g / C, Green / Cycle	0.28	0.51	0.51	0.05	0.29	0.54	0.21	0.21	0.08	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.42	0.29	0.30	0.03	0.30	0.51	0.12	0.12	0.06	0.06	0.06
s, saturation flow rate [veh/h]	3459	3560	1799	1781	5094	1589	1781	1826	1781	1815	1744
c, Capacity [veh/h]	951	1819	919	95	1473	852	373	382	140	143	137
d1, Uniform Delay [s]	36.83	5.75	5.82	63.12	48.34	29.74	48.03	48.03	61.57	61.53	61.60
k, delay calibration	0.24	0.50	0.50	0.04	0.50	0.50	0.08	0.08	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	240.98	1.25	2.68	2.72	38.87	20.40	0.94	0.91	3.83	3.62	4.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.53	0.56	0.58	0.64	1.05	0.95	0.55	0.55	0.79	0.79	0.80
d, Delay for Lane Group [s/veh]	277.82	7.00	8.50	65.84	87.21	50.14	48.97	48.94	65.40	65.16	65.67
Lane Group LOS	F	A	A	E	F	D	D	D	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	45.58	2.96	3.48	2.11	21.39	27.71	6.34	6.50	3.94	3.98	3.90
50th-Percentile Queue Length [ft/ln]	1139.46	74.04	86.88	52.65	534.80	692.86	158.55	162.45	98.53	99.41	97.59
95th-Percentile Queue Length [veh/ln]	69.79	5.33	6.26	3.79	29.95	36.35	10.47	10.68	7.09	7.16	7.03
95th-Percentile Queue Length [ft/ln]	1744.79	133.26	156.38	94.76	748.66	908.70	261.80	266.96	177.36	178.94	175.66

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	277.8	277.8	7.44	8.50	65.84	65.84	87.21	50.14	48.96	48.94	0.00	65.31	65.46	65.67
Movement LOS	F	F	A	A	E	E	F	D	D	D		E	E	E
d_A, Approach Delay [s/veh]	138.31				74.30				20.50			65.41		
Approach LOS	F				E				C			E		
d_I, Intersection Delay [s/veh]	101.37													
Intersection LOS	F													
Intersection V/C	1.173													

Emissions

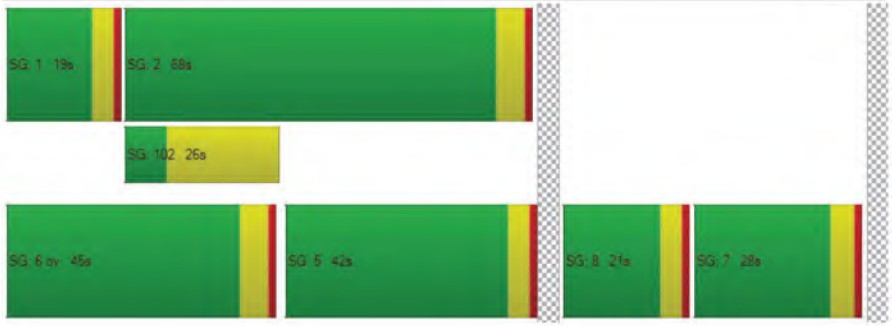
Vehicle Miles Traveled [mph]	249.20	174.28	91.53	11.48	291.89	151.87	9.48	9.72	3.54	3.58	3.50
Stops [stops/h]	2412.97	156.78	91.99	55.74	1698.79	733.61	167.88	172.00	104.33	105.26	103.33
Fuel consumption [US gal/h]	105.83	9.49	5.20	1.90	58.65	22.56	3.36	3.44	2.20	2.22	2.18
CO [g/h]	7397.54	663.39	363.54	133.08	4099.62	1576.95	234.84	240.61	154.06	155.31	152.72
NOx [g/h]	1439.29	129.07	70.73	25.89	797.64	306.82	45.69	46.81	29.97	30.22	29.71
VOC [g/h]	1714.45	153.75	84.25	30.84	950.13	365.47	54.43	55.76	35.71	36.00	35.40

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		57.44	
I_p,int, Pedestrian LOS Score for Intersectio	0.000		0.000		0.000		2.341	
Crosswalk LOS	F		F		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	915		576		337		241	
d_b, Bicycle Delay [s]	20.02		34.45		47.03		52.59	
I_b,int, Bicycle LOS Score for Intersection	3.237		3.018		2.244		1.849	
Bicycle LOS	C		C		B		A	

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 4: Latrobe Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	26.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.078

Intersection Setup

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	200.00	570.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No			No		
Crosswalk	No			No				No			Yes		

Volumes

Name	Latrobe Rd			El Dorado Hills Blvd			US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Base Volume Input [veh/h]	0	1965	463	0	520	1728	0	0	1058	0	0	528
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	76	12	0	0	29	0	0	0	24	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	143	0	0	0	0	0	0	325	0	0	158
Total Hourly Volume [veh/h]	0	2041	332	0	520	1757	0	0	0	757	0	0	370
Peak Hour Factor	1.0000	0.8400	0.8400	1.000	0.840	0.840	1.000	1.0000	1.0000	0.8400	1.0000	1.0000	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	607	99	0	155	523	0	0	0	225	0	0	110
Total Analysis Volume [veh/h]	0	2430	395	0	619	2092	0	0	0	901	0	0	440
Presence of On-Street Parking	No		No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	74.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	50	0	0	39	50	0	0	0	45	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No				No			
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
l2, Clearance Lost Time [s]	0.0	4.2	0.0	0.0	2.6	4.2	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	2.5	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Minimum Recall		No			No	No				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	R	
C, Calculated Cycle Length [s]	68	68	68	68	68	
L, Total Lost Time per Cycle [s]	6.20	6.20	4.60	6.20	4.60	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	4.20	4.20	2.60	4.20	2.60	
g_i, Effective Green Time [s]	32	32	25	35	22	
g / C, Green / Cycle	0.47	0.47	0.37	0.51	0.33	
(v / s)_i Volume / Saturation Flow Rate	0.48	0.25	0.35	0.31	0.32	
s, saturation flow rate [veh/h]	5094	1589	1781	6792	2813	
c, Capacity [veh/h]	2395	747	661	3476	927	
d1, Uniform Delay [s]	18.02	12.70	20.61	11.71	22.49	
k, delay calibration	0.50	0.50	0.14	0.50	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	22.16	2.67	8.51	0.78	4.09	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	1.01	0.53	0.94	0.60	0.97	
d, Delay for Lane Group [s/veh]	40.18	15.37	29.13	12.49	26.59	
Lane Group LOS	F	B	C	B	C	
Critical Lane Group	Yes	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	14.59	3.93	9.47	4.46	7.01	
50th-Percentile Queue Length [ft/ln]	364.77	98.27	236.75	111.60	175.26	
95th-Percentile Queue Length [veh/ln]	21.08	7.08	14.52	7.93	11.35	
95th-Percentile Queue Length [ft/ln]	526.99	176.89	362.92	198.22	283.81	

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	40.18	15.37	29.13	29.13	12.49	0.00	0.00	0.00	26.59	0.00	0.00	0.00
Movement LOS		F	B	C	C	B				C			
d_A, Approach Delay [s/veh]	36.71			16.29			26.59				0.00		
Approach LOS	D			B			C				A		
d_I, Intersection Delay [s/veh]	26.69												
Intersection LOS	C												
Intersection V/C	1.078												

Emissions

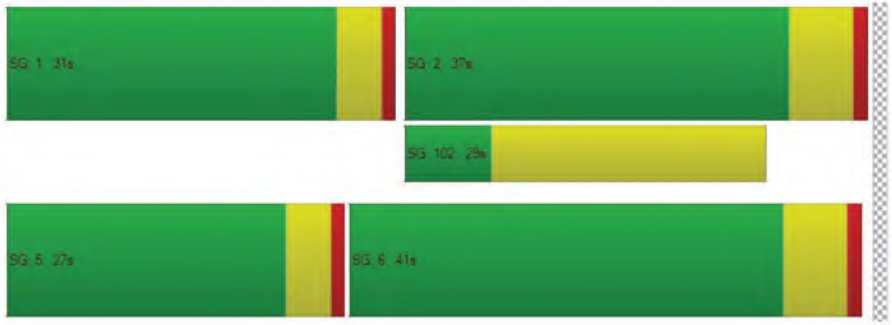
Vehicle Miles Traveled [mph]	351.61	57.16	106.02	358.29	64.48	
Stops [stops/h]	2317.33	208.11	501.35	945.28	742.27	
Fuel consumption [US gal/h]	60.73	5.78	13.54	29.35	11.63	
CO [g/h]	4245.17	404.20	946.20	2051.80	812.96	
NOx [g/h]	825.96	78.64	184.10	399.20	158.17	
VOC [g/h]	983.86	93.68	219.29	475.52	188.41	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	23.89
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.263
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	906	1024	659	0
d_b, Bicycle Delay [s]	10.18	8.10	15.29	34.00
I_b,int, Bicycle LOS Score for Intersection	3.192	2.423	1.560	1.560
Bicycle LOS	C	B	A	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	21.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.814

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	61	1808	235	4	440	1970	372	140	8	20	1	70	30	476
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	88	7	0	0	53	0	0	0	1	0	5	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	73	0	0	0	112	0	0	6	0	0	0	143
Total Hourly Volume [veh/h]	1	63	1896	169	4	440	2023	260	140	8	15	1	75	30	333
Peak Hour Factor	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.9800	0.9800	0.9800	0.980	0.980	0.980	0.980
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	16	484	43	1	112	516	66	36	2	4	0	19	8	85
Total Analysis Volume [veh/h]	1	64	1935	172	4	449	2064	265	143	8	15	1	77	31	340
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	123
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	5	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	50	0	15	15	50	0	15	20	0	0	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	3.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.5	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	1.5	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	245.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	19	19	56	0	19	24	0	0	19	19	0
Lead / Lag	-	Lead	-	-	Lead	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	4	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	No			No	No			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Calculated Cycle Length [s]	89	89	89	89	89	89	89	89	89	89	89	89
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	3	41	41	14	51	51	6	6	6	12	12	12
g / C, Green / Cycle	0.04	0.46	0.46	0.15	0.58	0.58	0.07	0.07	0.07	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.02	0.38	0.11	0.13	0.41	0.17	0.04	0.00	0.01	0.04	0.12	0.12
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	1870	1589	1781	1630	1589
c, Capacity [veh/h]	125	2352	734	529	2947	920	230	124	106	248	227	221
d1, Uniform Delay [s]	42.14	20.79	14.46	36.74	13.29	9.49	40.46	38.95	39.15	34.47	37.26	37.26
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.08	0.08	0.08	0.08	0.18	0.18
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.25	0.28	0.06	1.59	0.11	0.06	2.05	0.16	0.45	0.53	11.99	12.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.52	0.82	0.23	0.86	0.70	0.29	0.62	0.06	0.14	0.31	0.83	0.83
d, Delay for Lane Group [s/veh]	43.39	21.08	14.52	38.33	13.40	9.55	42.51	39.11	39.60	35.00	49.25	49.53
Lane Group LOS	D	C	B	D	B	A	D	D	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.71	10.89	2.02	4.82	8.74	2.41	1.57	0.17	0.32	1.53	4.65	4.56
50th-Percentile Queue Length [ft/ln]	17.86	272.16	50.49	120.42	218.40	60.24	39.23	4.19	7.96	38.37	116.37	113.94
95th-Percentile Queue Length [veh/ln]	1.29	16.30	3.64	8.42	13.58	4.34	2.82	0.30	0.57	2.76	8.19	8.06
95th-Percentile Queue Length [ft/ln]	32.15	407.44	90.88	210.40	339.58	108.43	70.61	7.54	14.34	69.07	204.83	201.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.39	43.39	21.08	14.52	38.33	38.33	13.40	9.55	42.51	39.11	39.60	35.00	35.00	49.25	49.40
Movement LOS	D	D	C	B	D	D	B	A	D	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	21.23				17.10				42.08			46.89			
Approach LOS	C				B				D			D			
d_I, Intersection Delay [s/veh]	21.85														
Intersection LOS	C														
Intersection V/C	0.814														

Emissions

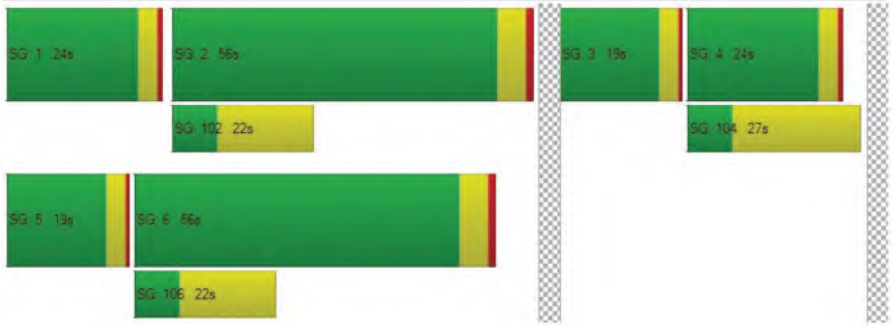
Vehicle Miles Traveled [mph]	14.51	431.85	38.39	65.55	298.65	38.34	18.24	1.02	1.91	27.38	65.92	64.29
Stops [stops/h]	57.88	1322.97	81.81	390.22	1061.62	97.60	127.13	6.79	12.91	62.18	188.56	184.61
Fuel consumption [US gal/h]	1.49	33.39	2.54	8.39	23.79	2.63	2.69	0.14	0.27	2.03	5.64	5.51
CO [g/h]	104.21	2333.75	177.58	586.32	1662.96	184.03	188.04	10.01	18.94	141.62	394.06	385.35
NOx [g/h]	20.28	454.06	34.55	114.08	323.55	35.81	36.59	1.95	3.68	27.55	76.67	74.97
VOC [g/h]	24.15	540.87	41.16	135.89	385.41	42.65	43.58	2.32	4.39	32.82	91.33	89.31

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.12	0.00	34.12	34.12
I_p,int, Pedestrian LOS Score for Intersectio	3.429	0.000	2.565	2.754
Crosswalk LOS	C	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1136	1136	461	349
d_b, Bicycle Delay [s]	8.28	8.28	26.30	30.29
I_b,int, Bicycle LOS Score for Intersection	2.794	2.904	1.702	2.409
Bicycle LOS	C	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	33.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.643

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	3	2	0	0	1	2	0	0	0	3	0	0
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	260.0	100.0	100.0	260.0	360.0	100.0	100.0	100.0	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	2	84	1607	388	1	92	1561	407	2	310	108	60	298	227	187
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	97	23	0	0	59	0	0	0	0	0	14	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	123	0	0	0	122	0	0	0	18	0	0	56
Total Hourly Volume [veh/h]	2	84	1704	288	1	92	1620	285	2	310	108	42	312	227	131
Peak Hour Factor	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	0.9400	0.9400	0.9400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	22	453	77	0	24	431	76	1	82	29	11	83	60	35
Total Analysis Volume [veh/h]	2	89	1813	306	1	98	1723	303	2	330	115	45	332	241	139
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	157
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups															
Maximum Green [s]	0	15	45	0	0	25	45	0	0	30	25	0	20	35	0
Amber [s]	0.0	4.0	4.7	0.0	0.0	4.0	4.7	0.0	0.0	4.5	4.7	0.0	4.5	4.7	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	39	0	0	0	37	0	0	0	48	0	0	50	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	3.0	3.7	0.0	0.0	3.0	3.7	0.0	0.0	4.0	3.7	0.0	4.0	3.7	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	19	51	0	0	29	51	0	0	36	31	0	26	41	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	7	0	0	10	7	0	0	10	10	0	10	10	0
Vehicle Extension [s]	0.0	1.5	3.0	0.0	0.0	1.5	3.0	0.0	0.0	1.5	2.0	0.0	1.5	2.0	0.0
Minimum Recall		No	Yes			No	Yes			No	No		No	No	
Maximum Recall		No	No			No	No			No	No		No	No	
Pedestrian Recall		No	No			No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Calculated Cycle Length [s]	157	157	157	157	157	157	157	157	157	157	157	157
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	6.00	5.70	5.70	6.00	5.70	5.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	4.00	3.70	3.70	4.00	3.70	3.70
g_i, Effective Green Time [s]	10	91	91	10	91	91	17	16	16	17	16	16
g / C, Green / Cycle	0.06	0.58	0.58	0.06	0.58	0.58	0.11	0.10	0.10	0.11	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.05	0.27	0.19	0.03	0.34	0.19	0.10	0.04	0.05	0.10	0.07	0.09
s, saturation flow rate [veh/h]	1767	6737	1577	3431	5053	1577	3431	1855	1682	3431	3532	1577
c, Capacity [veh/h]	111	3915	916	217	2939	917	379	193	175	374	362	162
d1, Uniform Delay [s]	72.72	18.85	17.09	70.94	20.85	17.01	68.78	65.99	66.06	68.98	67.85	69.33
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.63	0.40	0.98	0.56	0.86	0.97	2.58	0.57	0.65	2.85	0.79	5.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.46	0.33	0.46	0.59	0.33	0.88	0.43	0.44	0.89	0.67	0.86
d, Delay for Lane Group [s/veh]	78.35	19.24	18.07	71.50	21.71	17.97	71.35	66.55	66.71	71.83	68.63	74.37
Lane Group LOS	E	B	B	E	C	B	E	E	E	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.82	9.64	6.09	1.92	13.02	5.75	6.74	3.18	2.95	6.76	4.73	5.75
50th-Percentile Queue Length [ft/ln]	95.46	240.95	152.13	47.95	325.47	143.69	168.40	79.40	73.82	168.97	118.21	143.84
95th-Percentile Queue Length [veh/ln]	6.87	14.73	10.13	3.45	18.94	9.68	10.99	5.72	5.32	11.02	8.29	9.69
95th-Percentile Queue Length [ft/ln]	171.83	368.23	253.27	86.30	473.41	241.99	274.81	142.91	132.88	275.57	207.37	242.19

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	78.35	78.35	19.24	18.07	71.50	71.50	21.71	17.97	71.35	71.35	66.60	66.71	71.83	68.63	74.37
Movement LOS	E	E	B	B	E	E	C	B	E	E	E	E	E	E	E
d_A, Approach Delay [s/veh]	21.51				23.50				69.82				71.25		
Approach LOS	C				C				E				E		
d_I, Intersection Delay [s/veh]	32.96														
Intersection LOS	C														
Intersection V/C	0.643														

Emissions

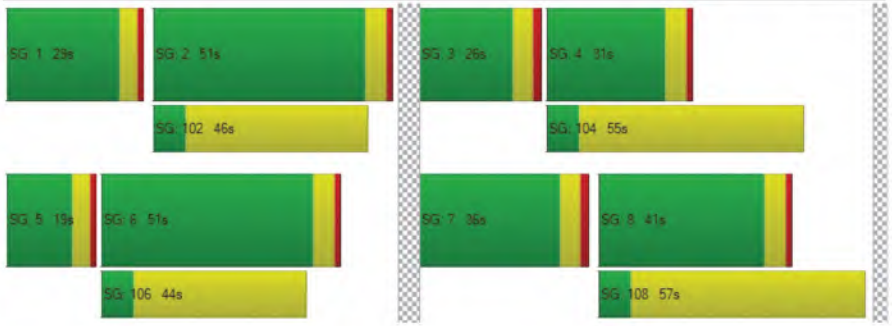
Vehicle Miles Traveled [mph]	36.23	721.81	121.83	22.09	384.54	67.62	82.74	20.68	19.19	34.81	25.27	14.57
Stops [stops/h]	87.56	883.99	139.53	87.95	895.57	131.80	308.91	72.82	67.71	309.97	216.85	131.93
Fuel consumption [US gal/h]	3.43	41.70	6.91	3.29	31.93	5.06	9.93	2.38	2.21	8.00	5.60	3.43
CO [g/h]	239.46	2914.65	483.12	230.05	2231.74	354.02	694.30	166.21	154.42	559.05	391.70	239.92
NOx [g/h]	46.59	567.08	94.00	44.76	434.22	68.88	135.09	32.34	30.04	108.77	76.21	46.68
VOC [g/h]	55.50	675.50	111.97	53.32	517.23	82.05	160.91	38.52	35.79	129.57	90.78	55.60

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	67.89	67.89	67.89	67.89
I_p,int, Pedestrian LOS Score for Intersectio	3.533	3.837	2.710	2.896
Crosswalk LOS	D	D	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	577	577	322	450
d_b, Bicycle Delay [s]	39.74	39.74	55.24	47.17
I_b,int, Bicycle LOS Score for Intersection	2.521	2.742	1.708	2.193
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	24.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.878

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	38	1287	2	2	8	1439	388	167	4	10	3	7	14
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	119	0	0	0	73	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	1	0	0	0	116	0	0	3	0	0	4
Total Hourly Volume [veh/h]	1	38	1406	1	2	8	1512	272	167	4	7	3	7	10
Peak Hour Factor	1.000	0.870	0.870	0.870	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	11	404	0	1	2	434	78	48	1	2	1	2	3
Total Analysis Volume [veh/h]	1	44	1616	1	2	9	1738	313	192	5	8	3	8	11
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	112
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	12	40	0	0	15	40	0	0	20	0	0	20	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	12	0	0	0	20	0	0	20	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	0	0	18	46	0	0	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	69	69	69	69	69	69	69	69	69
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	42	42	1	40	40	6	6	2
g / C, Green / Cycle	0.04	0.61	0.61	0.01	0.58	0.58	0.09	0.09	0.03
(v / s)_i Volume / Saturation Flow Rate	0.03	0.43	0.43	0.01	0.55	0.58	0.06	0.06	0.01
s, saturation flow rate [veh/h]	1781	1870	1870	1781	1870	1774	1781	1768	1708
c, Capacity [veh/h]	76	1146	1146	16	1083	1028	162	161	45
d1, Uniform Delay [s]	32.46	9.12	9.12	34.12	13.54	14.49	30.29	30.30	33.17
k, delay calibration	0.04	0.28	0.28	0.04	0.40	0.44	0.11	0.11	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.67	2.06	2.06	15.97	14.77	25.70	4.07	4.12	3.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.71	0.71	0.67	0.95	1.00	0.63	0.64	0.49
d, Delay for Lane Group [s/veh]	35.12	11.18	11.18	50.08	28.32	40.19	34.36	34.42	36.19
Lane Group LOS	D	B	B	D	C	D	C	C	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.77	7.07	7.07	0.24	13.56	17.09	1.77	1.76	0.39
50th-Percentile Queue Length [ft/ln]	19.24	176.76	176.77	5.96	338.92	427.14	44.20	44.04	9.73
95th-Percentile Queue Length [veh/ln]	1.39	11.43	11.43	0.43	19.60	23.86	3.18	3.17	0.70
95th-Percentile Queue Length [ft/ln]	34.64	285.78	285.79	10.74	489.88	596.61	79.55	79.27	17.52

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.12	35.12	11.18	11.18	50.08	50.08	33.18	40.19	34.39	34.42	34.42	36.19	36.19	36.19
Movement LOS	D	D	B	B	D	D	C	D	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	11.83				34.34				34.39			36.19		
Approach LOS	B				C				C			D		
d_I, Intersection Delay [s/veh]	24.88													
Intersection LOS	C													
Intersection V/C	0.878													

Emissions

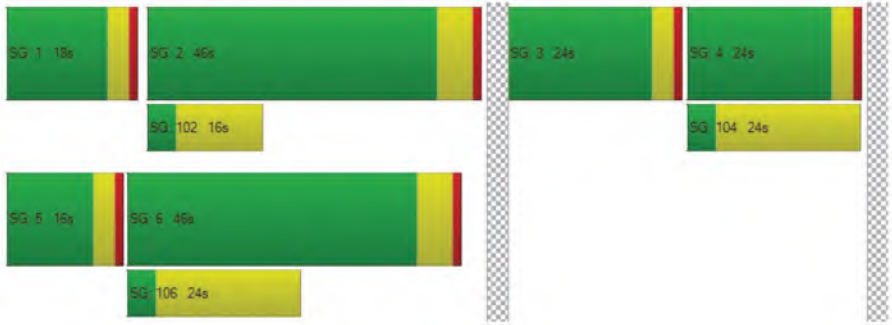
Vehicle Miles Traveled [mph]	15.92	286.11	286.08	4.38	408.28	408.28	24.74	24.63	0.42
Stops [stops/h]	40.21	369.29	369.30	12.46	708.07	892.38	92.33	92.01	20.33
Fuel consumption [US gal/h]	1.20	15.66	15.66	0.49	32.72	38.62	2.25	2.24	0.29
CO [g/h]	83.83	1094.48	1094.40	34.25	2287.07	2699.50	157.08	156.46	20.38
NOx [g/h]	16.31	212.95	212.93	6.66	444.98	525.23	30.56	30.44	3.97
VOC [g/h]	19.43	253.66	253.64	7.94	530.05	625.64	36.41	36.26	4.72

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.93	0.00	26.93	26.93
l_p,int, Pedestrian LOS Score for Intersectio	2.957	0.000	2.158	1.730
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1161	1161	580	580
d_b, Bicycle Delay [s]	6.07	6.07	17.36	17.36
l_b,int, Bicycle LOS Score for Intersection	2.931	3.349	1.903	1.603
Bicycle LOS	C	C	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 8: Latrobe Rd/Suncast Ln

Control Type:	Signalized	Delay (sec / veh):	9.9
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.754

Intersection Setup

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Approach	Northbound			Southbound		Eastbound	
Lane Configuration							
Turning Movement	U-turn	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			No		Yes	

Volumes

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Base Volume Input [veh/h]	1	60	1194	1152	301	134	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	119	73	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	90	0	2
Total Hourly Volume [veh/h]	1	64	1313	1225	211	134	5
Peak Hour Factor	1.0000	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	18	377	352	61	39	1
Total Analysis Volume [veh/h]	1	74	1509	1408	243	154	6
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permissive	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	5	2	6	0	3	0
Auxiliary Signal Groups							
Maximum Green [s]	0	12	40	40	0	20	0
Amber [s]	0.0	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No	No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	46	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-
Minimum Green [s]	0	5	5	5	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall		No	No	No		No	
Maximum Recall		No	No	No		No	
Pedestrian Recall		No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	L	R
C, Calculated Cycle Length [s]	56	56	56	56	56	56
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	3	40	32	32	6	6
g / C, Green / Cycle	0.06	0.71	0.57	0.57	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.04	0.42	0.44	0.46	0.09	0.00
s, saturation flow rate [veh/h]	1781	3560	1870	1778	1781	1589
c, Capacity [veh/h]	110	2516	1073	1020	206	184
d1, Uniform Delay [s]	25.88	4.20	9.15	9.55	24.11	22.11
k, delay calibration	0.04	0.15	0.20	0.22	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.75	0.33	2.18	3.16	5.33	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.68	0.60	0.77	0.81	0.75	0.03
d, Delay for Lane Group [s/veh]	28.64	4.53	11.33	12.71	29.44	22.18
Lane Group LOS	C	A	B	B	C	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.01	2.33	6.22	6.71	2.15	0.07
50th-Percentile Queue Length [ft/ln]	25.13	58.35	155.49	167.63	53.67	1.74
95th-Percentile Queue Length [veh/ln]	1.81	4.20	10.31	10.95	3.86	0.12
95th-Percentile Queue Length [ft/ln]	45.23	105.03	257.74	273.80	96.60	3.12

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.64	28.64	4.53	11.90	12.71	29.44	22.18
Movement LOS	C	C	A	B	B	C	C
d_A, Approach Delay [s/veh]	5.67			12.02		29.16	
Approach LOS	A			B		C	
d_I, Intersection Delay [s/veh]	9.87						
Intersection LOS	A						
Intersection V/C	0.754						

Emissions

Vehicle Miles Traveled [mph]	52.33	1052.84	292.11	292.11	51.96	2.02
Stops [stops/h]	64.39	299.05	398.44	429.56	137.52	4.45
Fuel consumption [US gal/h]	2.95	46.39	16.13	16.53	3.82	0.13
CO [g/h]	205.99	3242.40	1127.53	1155.72	267.11	9.44
NOx [g/h]	40.08	630.85	219.38	224.86	51.97	1.84
VOC [g/h]	47.74	751.46	261.32	267.85	61.90	2.19

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0		0.0		8.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	20.67		0.00		20.67	
I_p,int, Pedestrian LOS Score for Intersectio	2.864		0.000		2.107	
Crosswalk LOS	C		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	1424		1424		712	
d_b, Bicycle Delay [s]	2.33		2.33		11.66	
I_b,int, Bicycle LOS Score for Intersection	2.866		2.996		1.560	
Bicycle LOS	C		C		A	

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	30.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.817

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	41	605	21	209	386	563	314	41	5	136	94	335
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	34	123	14	0	75	0	0	0	21	9	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	11	0	0	169	0	0	8	0	0	101
Total Hourly Volume [veh/h]	75	728	24	209	461	394	314	41	18	145	94	234
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	204	7	59	129	111	88	12	5	41	26	66
Total Analysis Volume [veh/h]	84	818	27	235	518	443	353	46	20	163	106	263
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Calculated Cycle Length [s]	71	71	71	71	71	71	71	71	71	71
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	4	18	18	11	25	25	10	10	13	13
g / C, Green / Cycle	0.06	0.25	0.25	0.16	0.35	0.35	0.14	0.14	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.05	0.23	0.23	0.13	0.28	0.28	0.12	0.12	0.16	0.16
s, saturation flow rate [veh/h]	1781	1870	1849	1781	1870	1590	1781	1779	1803	1589
c, Capacity [veh/h]	109	472	467	278	650	553	257	257	331	292
d1, Uniform Delay [s]	33.05	25.82	25.82	29.31	21.03	21.09	29.64	29.64	28.23	28.24
k, delay calibration	0.04	0.11	0.11	0.20	0.22	0.23	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.29	6.43	6.50	12.05	4.59	5.67	2.39	2.40	2.44	2.77
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.90	0.90	0.85	0.80	0.80	0.81	0.81	0.85	0.85
d, Delay for Lane Group [s/veh]	37.34	32.25	32.32	41.36	25.62	26.77	32.04	32.04	30.67	31.00
Lane Group LOS	D	C	C	D	C	C	C	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.51	7.39	7.32	4.37	7.20	6.34	3.51	3.51	4.67	4.15
50th-Percentile Queue Length [ft/ln]	37.86	184.87	183.02	109.14	179.95	158.62	87.75	87.67	116.84	103.81
95th-Percentile Queue Length [veh/ln]	2.73	11.85	11.76	7.79	11.60	10.48	6.32	6.31	8.22	7.47
95th-Percentile Queue Length [ft/ln]	68.14	296.37	293.95	194.80	289.95	261.89	157.95	157.80	205.48	186.86

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.34	32.29	32.32	41.36	25.62	26.77	32.04	32.04	32.04	30.67	30.67	31.00
Movement LOS	D	C	C	D	C	C	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	32.74			29.14			32.04			30.82		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	30.91											
Intersection LOS	C											
Intersection V/C	0.817											

Emissions

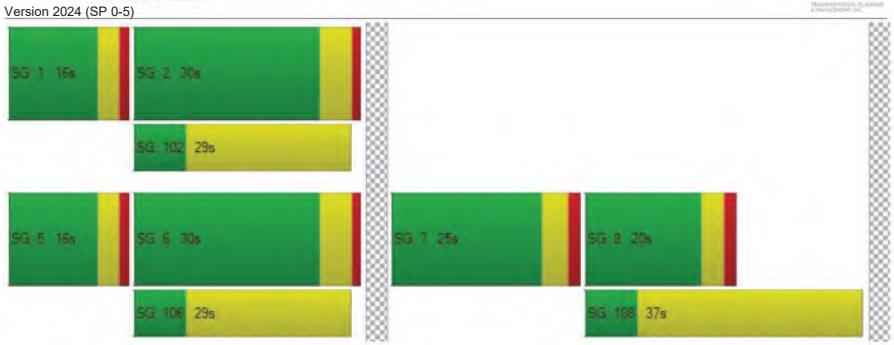
Vehicle Miles Traveled [mph]	48.51	245.38	242.63	163.96	361.09	309.41	15.77	15.75	31.25	27.58
Stops [stops/h]	76.49	373.56	369.81	220.52	363.61	320.51	177.31	177.14	236.10	209.77
Fuel consumption [US gal/h]	3.06	14.95	14.79	11.56	21.53	18.72	3.00	2.99	4.35	3.87
CO [g/h]	213.76	1045.28	1034.15	807.97	1505.03	1308.47	209.37	209.16	304.38	270.38
NOx [g/h]	41.59	203.37	201.21	157.20	292.82	254.58	40.73	40.70	59.22	52.61
VOC [g/h]	49.54	242.25	239.67	187.25	348.81	303.25	48.52	48.48	70.54	62.66

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	25.48	0.00	25.48	25.48
l_p,int, Pedestrian LOS Score for Intersectio	2.624	0.000	2.338	2.380
Crosswalk LOS	B	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	693	693	435	561
d_b, Bicycle Delay [s]	15.21	15.21	21.82	18.44
l_b,int, Bicycle LOS Score for Intersection	2.335	2.686	2.264	2.604
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	11.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.748

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	122	465	254	273	202	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	171	104	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	126	636	358	273	202	57
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	177	99	76	56	16
Total Analysis Volume [veh/h]	140	707	398	303	224	63
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	12	40	40	0	20	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	46	46	0	24	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Calculated Cycle Length [s]	37	37	37	37	37	37
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	4	20	12	12	7	7
g / C, Green / Cycle	0.10	0.55	0.33	0.33	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.08	0.38	0.21	0.19	0.13	0.04
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1589
c, Capacity [veh/h]	186	1022	624	531	325	290
d1, Uniform Delay [s]	16.06	6.09	10.40	10.11	14.11	12.85
k, delay calibration	0.04	0.15	0.15	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.31	1.20	1.55	1.38	2.62	0.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.69	0.64	0.57	0.69	0.22
d, Delay for Lane Group [s/veh]	18.37	7.30	11.95	11.49	16.74	13.22
Lane Group LOS	B	A	B	B	B	B
Critical Lane Group	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.90	1.04	1.68	1.25	1.64	0.39
50th-Percentile Queue Length [ft/ln]	22.47	25.95	41.94	31.18	40.98	9.73
95th-Percentile Queue Length [veh/ln]	1.62	1.87	3.02	2.24	2.95	0.70
95th-Percentile Queue Length [ft/ln]	40.44	46.71	75.50	56.12	73.76	17.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.37	7.30	11.95	11.49	16.74	13.22
Movement LOS	B	A	B	B	B	B
d_A, Approach Delay [s/veh]	9.13		11.75		15.96	
Approach LOS	A		B		B	
d_I, Intersection Delay [s/veh]	11.20					
Intersection LOS	B					
Intersection V/C	0.748					

Emissions

Vehicle Miles Traveled [mph]	17.27	87.23	229.85	174.99	52.61	14.80
Stops [stops/h]	87.99	101.62	164.25	122.09	160.48	38.10
Fuel consumption [US gal/h]	2.74	5.86	11.71	8.83	3.82	0.99
CO [g/h]	191.21	409.30	818.35	617.24	266.69	69.14
NOx [g/h]	37.20	79.64	159.22	120.09	51.89	13.45
VOC [g/h]	44.32	94.86	189.66	143.05	61.81	16.02

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	11.26	0.00	11.26
l_p,int, Pedestrian LOS Score for Intersectio	2.674	0.000	2.132
Crosswalk LOS	B	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	2176	2176	1088
d_b, Bicycle Delay [s]	0.14	0.14	3.83
l_b,int, Bicycle LOS Score for Intersection	2.957	2.716	1.560
Bicycle LOS	C	B	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	35.7
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.122

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	548	0	14	295	0	0	0	0	0	0	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	160	0	0	99	7	15	0	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	708	0	14	394	7	15	0	2	0	0	39
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	192	0	4	107	2	4	0	1	0	0	10
Total Analysis Volume [veh/h]	1	770	0	14	428	8	16	0	2	0	0	39
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			Yes	Yes
Storage Area [veh]	0	0	1	1
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.02	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.10
d_M, Delay for Movement [s/veh]	8.20	0.00	0.00	9.28	0.00	0.00	35.71	29.16	14.12	30.03	26.90	14.95
Movement LOS	A	A	A	A	A	A	E	D	B	D	D	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.02	0.02	0.02	0.41	0.41	0.41	0.32	0.32	0.32
95th-Percentile Queue Length [ft/ln]	0.04	0.04	0.04	0.59	0.59	0.59	10.14	10.14	10.14	8.03	8.03	8.03
d_A, Approach Delay [s/veh]	0.01			0.29			33.31			14.95		
Approach LOS	A			A			D			B		
d_I, Intersection Delay [s/veh]	1.03											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Two-way stop	Delay (sec / veh):	144.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.033

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	387	32	41	254	0	0	0	0	10	0	161
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	8	0	0	6	64	152	2	17	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	31	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	395	32	41	260	95	152	2	17	10	1	161
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	106	9	11	70	26	41	1	5	3	0	43
Total Analysis Volume [veh/h]	12	425	34	44	280	102	163	2	18	11	1	173
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.04	0.00	0.00	1.03	0.01	0.03	0.05	0.00	0.28
d_M, Delay for Movement [s/veh]	8.09	0.00	0.00	8.40	0.00	0.00	144.04	134.88	126.29	23.12	22.44	14.00
Movement LOS	A	A	A	A	A	A	F	F	F	C	C	B
95th-Percentile Queue Length [veh/ln]	0.03	0.00	0.00	0.12	0.00	0.00	9.02	9.02	9.02	1.44	1.44	1.44
95th-Percentile Queue Length [ft/ln]	0.77	0.00	0.00	3.12	0.00	0.00	225.55	225.55	225.55	35.97	35.97	35.97
d_A, Approach Delay [s/veh]	0.21			0.87			142.20			14.59		
Approach LOS	A			A			F			B		
d_I, Intersection Delay [s/veh]	23.07											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Two-way stop	Delay (sec / veh):	75.1
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.241

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	13	232	128	45	0	546	152
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	21	0	0	0	34
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	13	232	149	45	0	546	186
Peak Hour Factor	1.0000	0.9060	0.9060	0.9060	0.9060	1.0000	0.9060	0.9060
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	64	41	12	0	151	51
Total Analysis Volume [veh/h]	0	14	256	164	50	0	603	205
Pedestrian Volume [ped/h]	0			0		0		

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.24	0.30	0.00	0.00	0.00	0.44	0.00
d_M, Delay for Movement [s/veh]	75.11	75.11	17.40	0.00	0.00	12.14	8.66	0.00
Movement LOS	F	F	C	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	3.18	3.18	3.18	0.00	0.00	1.50	1.50	1.50
95th-Percentile Queue Length [ft/ln]	79.56	79.56	79.56	0.00	0.00	37.41	37.41	37.41
d_A, Approach Delay [s/veh]	20.39			0.00		6.46		
Approach LOS	C			A		A		
d_I, Intersection Delay [s/veh]	8.30							
Intersection LOS	F							

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Intersection Level Of Service Report
Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Control Type:	All-way stop	Delay (sec / veh):	25.7
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.877

Intersection Setup

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Base Volume Input [veh/h]	2	39	63	2	30	443	13	2	9	0	225	26	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	2	0	0	0	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	39	63	2	32	443	13	2	9	0	225	26	50
Peak Hour Factor	0.8300	0.8300	0.8300	1.000	0.830	0.830	0.830	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	12	19	1	10	133	4	1	3	0	68	8	15
Total Analysis Volume [veh/h]	2	47	76	2	39	534	16	2	11	0	271	31	60
Pedestrian Volume [ped/h]	0			0				0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	628	674	529	603
Degree of Utilization, x	0.20	0.88	0.02	0.60

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.74	10.58	0.08	3.98
95th-Percentile Queue Length [ft]	18.42	264.56	1.89	99.61
Approach Delay [s/veh]	10.15	34.28	9.97	17.55
Approach LOS	B	D	A	C
Intersection Delay [s/veh]	25.67			
Intersection LOS	D			

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Intersection Level Of Service Report
Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.054

Intersection Setup

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00			30.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	No		No			No		

Volumes

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Base Volume Input [veh/h]	31	108	1	65	13	0	49	91
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	21	0	0	0	0	34	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	129	1	65	13	0	83	91
Peak Hour Factor	0.9500	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	34	0	17	3	0	22	24
Total Analysis Volume [veh/h]	33	136	1	68	14	0	87	96
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.14	0.00	0.00	0.00	0.00	0.06	0.00
d_M, Delay for Movement [s/veh]	11.20	9.23	8.60	0.00	0.00	9.23	7.52	0.00
Movement LOS	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.17	0.48	0.00	0.00	0.00	0.18	0.18	0.00
95th-Percentile Queue Length [ft/ln]	4.25	11.94	0.04	0.04	0.04	4.56	4.56	0.00
d_A, Approach Delay [s/veh]	9.62		0.10			3.58		
Approach LOS	A		A			A		
d_I, Intersection Delay [s/veh]	5.26							
Intersection LOS	B							

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Intersection Level Of Service Report
Intersection 16: Carson Crossing Rd/Calypso Cir.

Control Type:	Two-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.079

Intersection Setup

Name			Carson Crossing Rd		Carson Crossing Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	190.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			Carson Crossing Rd		Carson Crossing Rd	
Base Volume Input [veh/h]	45	43	78	31	65	51
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	21	0	0	34
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	43	99	31	65	85
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	12	27	8	18	23
Total Analysis Volume [veh/h]	49	47	108	34	71	92
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.05	0.00	0.00	0.05	0.00
d_M, Delay for Movement [s/veh]	11.50	9.52	0.00	0.00	7.63	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.44	0.44	0.00	0.00	0.16	0.00
95th-Percentile Queue Length [ft/ln]	11.00	11.00	0.00	0.00	3.88	0.00
d_A, Approach Delay [s/veh]	10.53		0.00		3.32	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.87					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 17: Carson Crossing Rd/Four Seasons Dr

Control Type:	All-way stop	Delay (sec / veh):	8.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.097

Intersection Setup

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	500.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	500.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Base Volume Input [veh/h]	67	10	10	114	18	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	34	0	0	21	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	101	10	10	135	18	18
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	3	3	37	5	5
Total Analysis Volume [veh/h]	110	11	11	147	20	20
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	727	747	688	760	760	730
Degree of Utilization, x	0.08	0.08	0.02	0.10	0.10	0.05

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.27	0.26	0.05	0.32	0.32	0.17
95th-Percentile Queue Length [ft]	6.78	6.59	1.22	8.00	8.00	4.34
Approach Delay [s/veh]	8.02		7.95			8.22
Approach LOS	A		A			A
Intersection Delay [s/veh]	8.01					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	25.7
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.372

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	65	0	18	66	1	8	4	227	71	37	439	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	34	0	0	0	0	0	0	0	21	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	99	0	18	66	1	8	4	227	92	37	439	15
Peak Hour Factor	0.9700	1.0000	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	0	5	17	0	2	1	59	24	10	113	4
Total Analysis Volume [veh/h]	102	0	19	68	1	8	4	234	95	38	453	15
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.37	0.00	0.03	0.25	0.00	0.01	0.00	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	25.67	17.38	9.88	22.55	22.34	15.40	8.30	0.00	0.00	8.02	0.00	0.00
Movement LOS	D	C	A	C	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.65	0.08	0.08	1.04	1.04	1.04	0.01	0.00	0.00	0.10	0.00	0.00
95th-Percentile Queue Length [ft/ln]	41.21	1.93	1.93	26.03	26.03	26.03	0.28	0.00	0.00	2.39	0.00	0.00
d_A, Approach Delay [s/veh]	23.19			21.80			0.10			0.60		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	4.65											
Intersection LOS	D											

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Intersection Level Of Service Report
Intersection 19: White Rock Rd/Windfield Way

Control Type:	Signalized	Delay (sec / veh):	25.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.398

Intersection Setup

Name	Windfield Way				White Rock Rd				White Rock Rd			
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00			
Grade [%]	0.00			0.00			0.00			0.00			
Curb Present	No			No			No			No			
Crosswalk	Yes			Yes			Yes			No			

Volumes

Name	Windfield Way						White Rock Rd			White Rock Rd			
Base Volume Input [veh/h]	53	5	117	5	5	5	5	359	115	0	300	415	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	35	0	0	2	0	0	35	0	0	0	2
Total Hourly Volume [veh/h]	53	5	82	5	5	3	5	359	80	0	300	415	3
Peak Hour Factor	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000	1.0000	0.9700	0.9700	1.000	0.970	0.970	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	14	1	21	1	1	1	1	93	21	0	77	107	1
Total Analysis Volume [veh/h]	55	5	85	5	5	3	5	370	82	0	309	428	3
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	31.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi
Signal Group	3	8	0	7	4	0	5	2	0	0	1	6	0
Auxiliary Signal Groups													
Maximum Green [s]	25	25	0	10	10	0	9	19	0	0	44	54	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	2.0	1.0	0.0	0.0	2.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	26	0	0	13	0	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	245.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	15	15	0	15	25	0	0	50	60	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	3	3	0	5	3	0	5	7	0	0	3	7	0
Vehicle Extension [s]	1.0	1.0	0.0	3.0	1.0	0.0	3.0	3.6	0.0	0.0	1.0	3.6	0.0
Minimum Recall	No	No		No	No		No	Yes			No	Yes	
Maximum Recall	No	No		No	No		No	No			No	No	
Pedestrian Recall	No	No		No	No		No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	5	8	1	4	1	66	66	23	88	88
g / C, Green / Cycle	0.04	0.07	0.01	0.04	0.01	0.55	0.55	0.19	0.73	0.73
(v / s)_i Volume / Saturation Flow Rate	0.03	0.06	0.00	0.00	0.00	0.12	0.13	0.17	0.12	0.12
s, saturation flow rate [veh/h]	1781	1603	1781	1754	1781	1870	1755	1781	1870	1865
c, Capacity [veh/h]	72	111	12	62	12	1034	970	335	1373	1370
d1, Uniform Delay [s]	57.02	55.09	59.37	56.07	59.37	13.69	13.73	47.86	4.79	4.79
k, delay calibration	0.04	0.04	0.11	0.04	0.11	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.19	5.30	21.73	0.34	21.99	0.50	0.55	4.53	0.24	0.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.81	0.42	0.13	0.42	0.22	0.23	0.92	0.16	0.16
d, Delay for Lane Group [s/veh]	63.21	60.38	81.09	56.41	81.36	14.19	14.27	52.39	5.04	5.04
Lane Group LOS	E	E	F	E	F	B	B	D	A	A
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.78	2.85	0.22	0.24	0.22	3.31	3.18	9.46	1.55	1.54
50th-Percentile Queue Length [ft/ln]	44.40	71.18	5.59	6.03	5.60	82.81	79.51	236.57	38.67	38.59
95th-Percentile Queue Length [veh/ln]	3.20	5.13	0.40	0.43	0.40	5.96	5.72	14.51	2.78	2.78
95th-Percentile Queue Length [ft/ln]	79.91	128.13	10.06	10.85	10.08	149.05	143.12	362.69	69.61	69.46

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	63.21	60.38	60.38	81.09	56.41	56.41	81.36	14.22	14.27	52.39	52.39	5.04	5.04
Movement LOS	E	E	E	F	E	E	F	B	B	D	D	A	A
d_A, Approach Delay [s/veh]	61.45			65.91			14.97			24.81			
Approach LOS	E			E			B			C			
d_I, Intersection Delay [s/veh]	25.81												
Intersection LOS	C												
Intersection V/C	0.398												

Emissions

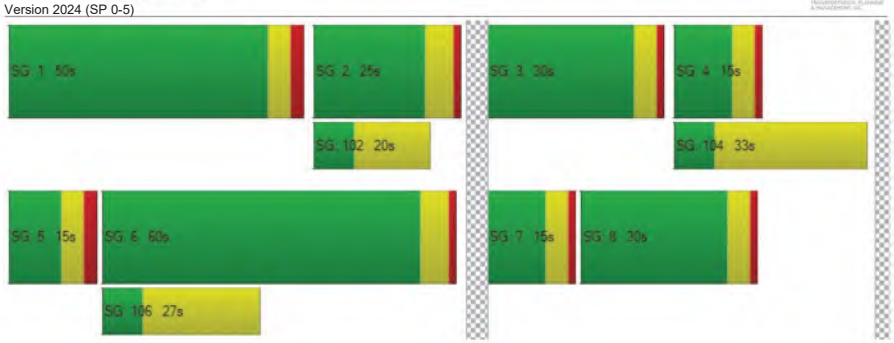
Vehicle Miles Traveled [mph]	21.19	34.68	0.17	0.28	4.21	194.56	185.81	77.01	53.77	53.64
Stops [stops/h]	53.28	85.42	6.71	7.23	6.72	99.37	95.42	283.88	46.41	46.31
Fuel consumption [US gal/h]	1.87	3.01	0.13	0.14	0.29	9.23	8.82	8.03	2.69	2.68
CO [g/h]	131.00	210.07	8.86	10.02	20.49	644.92	616.35	561.47	188.10	187.67
NOx [g/h]	25.49	40.87	1.72	1.95	3.99	125.48	119.92	109.24	36.60	36.51
VOC [g/h]	30.36	48.68	2.05	2.32	4.75	149.47	142.85	130.13	43.59	43.49

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.202	1.967	2.555	0.000
Crosswalk LOS	B	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	417	167	317	900
d_b, Bicycle Delay [s]	37.60	50.42	42.50	18.15
I_b,int, Bicycle LOS Score for Intersection	1.857	1.584	1.966	1.917
Bicycle LOS	A	A	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 20: White Rock Rd/Post St

Control Type:	Signalized	Delay (sec / veh):	38.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.458

Intersection Setup

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Approach	Northbound			Southbound			Eastbound				Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0	120.00	100.00	400.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00				30.00		
Grade [%]	0.00			0.00			0.00				0.00		
Curb Present	No			No			No				No		
Crosswalk	Yes			Yes			Yes				No		

Volumes

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	57	7	20	114	11	147	0	145	431	12	53	508	204
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	23	0	0	14	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	6	0	0	44	0	0	0	4	0	0	61
Total Hourly Volume [veh/h]	57	7	14	114	11	103	0	145	454	8	53	522	143
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	1.000	0.910	0.910	0.910	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	2	4	31	3	28	0	40	125	2	15	143	39
Total Analysis Volume [veh/h]	63	8	15	125	12	113	0	159	499	9	58	574	157
Presence of On-Street Parking	No		No	No		No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0				0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0				0		
v_co, Outbound Pedestrian Volume crossing	0			0			0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0				0		
Bicycle Volume [bicycles/h]	0			0			0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	71.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups													
Maximum Green [s]	21	62	0	8	48	0	0	14	31	0	16	34	0
Amber [s]	3.5	5.0	0.0	3.5	5.0	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.7	1.0	0.0	1.0	1.0	0.0	0.0	2.0	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	32	0	0	0	21	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.2	4.0	0.0	2.5	4.0	0.0	0.0	3.5	2.5	0.0	3.0	2.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	100.0	0.0	100.0	100.0	0.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	0	13	54	0	0	20	36	0	21	39	0
Lead / Lag	Lead	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	3	7	0	3	7	0	0	3	3	0	3	3	0
Vehicle Extension [s]	1.0	3.6	0.0	1.0	3.6	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No			No	Yes		No	Yes	
Maximum Recall	No	No		No	No			No	No		No	No	
Pedestrian Recall	No	No		No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Calculated Cycle Length [s]	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	5.20	6.00	4.50	6.00	5.50	4.50	4.50	5.00	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.20	4.00	2.50	4.00	3.50	2.50	2.50	3.00	2.50	2.50
g_i, Effective Green Time [s]	6	12	9	13	14	94	94	6	85	85
g / C, Green / Cycle	0.05	0.08	0.06	0.09	0.10	0.67	0.67	0.04	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.04	0.01	0.07	0.08	0.09	0.14	0.01	0.03	0.20	0.20
s, saturation flow rate [veh/h]	1781	1677	1781	1613	1781	3560	1589	1781	1870	1734
c, Capacity [veh/h]	81	140	108	152	182	2388	1066	75	1135	1052
d1, Uniform Delay [s]	66.12	59.59	65.75	62.29	61.92	8.83	7.63	66.41	13.58	13.59
k, delay calibration	0.04	0.13	0.40	0.13	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.91	0.68	125.62	12.93	4.94	0.20	0.01	6.26	0.79	0.86
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.16	1.16	0.82	0.87	0.21	0.01	0.78	0.33	0.33
d, Delay for Lane Group [s/veh]	72.03	60.26	191.37	75.22	66.86	9.03	7.65	72.66	14.37	14.45
Lane Group LOS	E	E	F	E	E	A	A	E	B	B
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.37	0.79	7.65	4.93	5.84	2.94	0.09	2.19	6.14	5.73
50th-Percentile Queue Length [ft/ln]	59.23	19.76	191.15	123.24	146.02	73.47	2.35	54.77	153.46	143.20
95th-Percentile Queue Length [veh/ln]	4.26	1.42	12.73	8.57	9.80	5.29	0.17	3.94	10.20	9.65
95th-Percentile Queue Length [ft/ln]	106.62	35.57	318.26	214.27	245.10	132.25	4.22	98.59	255.04	241.32

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	72.03	60.26	60.26	191.37	75.22	75.22	66.86	66.86	9.03	7.65	72.66	14.40	14.45
Movement LOS	E	E	E	F	E	E	E	E	A	A	E	B	B
d_A, Approach Delay [s/veh]	68.88			133.30			22.79				18.69		
Approach LOS	E			F			C				B		
d_I, Intersection Delay [s/veh]	38.61												
Intersection LOS	D												
Intersection V/C	0.458												

Emissions

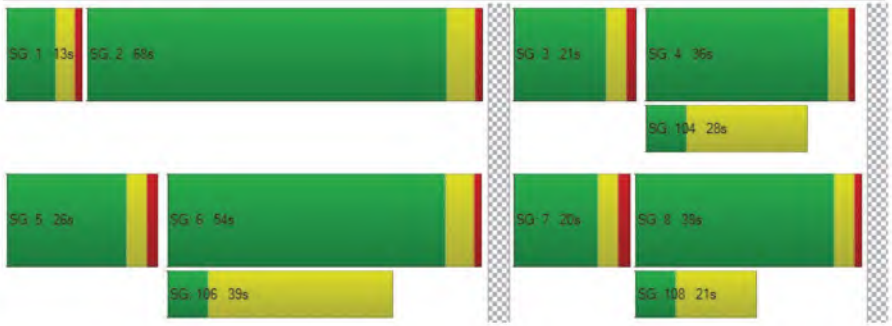
Vehicle Miles Traveled [mph]	3.15	1.15	5.81	5.81	16.67	52.31	0.94	20.31	132.66	123.31
Stops [stops/h]	60.92	20.33	196.61	126.76	150.19	151.14	2.41	56.34	157.85	147.29
Fuel consumption [US gal/h]	1.39	0.44	6.19	2.85	3.68	3.91	0.07	2.00	7.44	6.93
CO [g/h]	97.14	30.88	432.86	199.41	257.16	272.98	4.63	140.14	520.14	484.06
NOx [g/h]	18.90	6.01	84.22	38.80	50.03	53.11	0.90	27.27	101.20	94.18
VOC [g/h]	22.51	7.16	100.32	46.21	59.60	63.27	1.07	32.48	120.55	112.19

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	59.43	59.43	59.43	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.027	2.245	2.718	0.000
Crosswalk LOS	B	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	886	686	450	493
d_b, Bicycle Delay [s]	21.73	30.23	42.04	39.75
I_b,int, Bicycle LOS Score for Intersection	1.711	2.045	1.982	2.261
Bicycle LOS	A	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	81.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.999

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	95	50	256	155	36	46	68	194	30	162	653	238
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	12	0	0	5	7	16	0	7	9	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	80	0	0	15	0	0	9	0	0	71
Total Hourly Volume [veh/h]	95	50	188	155	36	36	75	210	21	169	662	167
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	14	54	45	10	10	22	60	6	49	190	48
Total Analysis Volume [veh/h]	109	57	216	178	41	41	86	241	24	194	761	192
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	0	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	35	0	0	40	0	25	45	0	25	45	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	18	0	0	17	0	0	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	0	0	44	0	29	50	0	29	51	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	0.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Calculated Cycle Length [s]	102	102	102	102	102	102	102	102
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	3.50	5.30	3.50	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	1.50	3.30	1.50	4.00
g_i, Effective Green Time [s]	20	20	13	13	6	39	13	45
g / C, Green / Cycle	0.20	0.20	0.13	0.13	0.06	0.38	0.13	0.44
(v / s)_i Volume / Saturation Flow Rate	0.06	0.17	0.10	0.05	0.05	0.14	0.11	0.53
s, saturation flow rate [veh/h]	1781	1641	1781	1718	1781	1841	1781	1806
c, Capacity [veh/h]	348	321	226	219	112	701	229	794
d1, Uniform Delay [s]	35.28	39.73	43.32	40.94	47.24	22.94	43.61	28.68
k, delay calibration	0.13	0.13	0.13	0.13	0.04	0.11	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.63	7.74	7.31	1.33	4.14	0.34	3.33	102.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.85	0.79	0.38	0.77	0.38	0.85	1.20
d, Delay for Lane Group [s/veh]	35.91	47.47	50.63	42.27	51.37	23.27	46.94	130.87
Lane Group LOS	D	D	D	D	D	C	D	F
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.38	7.23	4.79	1.97	2.27	4.61	4.97	40.95
50th-Percentile Queue Length [ft/ln]	59.47	180.65	119.77	49.15	56.80	115.15	124.26	1023.63
95th-Percentile Queue Length [veh/ln]	4.28	11.63	8.38	3.54	4.09	8.13	8.63	58.41
95th-Percentile Queue Length [ft/ln]	107.04	290.86	209.51	88.48	102.25	203.15	215.66	1460.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.91	47.47	47.47	50.63	42.27	42.27	51.37	23.27	23.27	46.94	130.87	130.87
Movement LOS	D	D	D	D	D	D	D	C	C	D	F	F
d_A, Approach Delay [s/veh]	44.17			48.00			30.16			116.67		
Approach LOS	D			D			C			F		
d_I, Intersection Delay [s/veh]	81.20											
Intersection LOS	F											
Intersection V/C	0.999											

Emissions

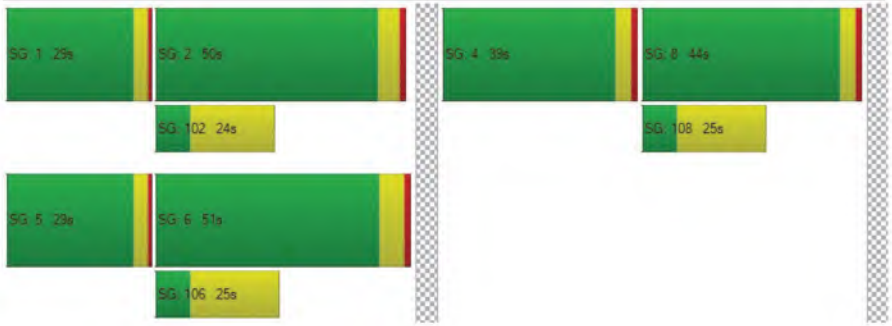
Vehicle Miles Traveled [mph]	187.55	469.74	36.09	16.62	30.11	92.79	87.54	430.02
Stops [stops/h]	83.82	254.62	168.80	69.28	80.06	162.30	175.13	1442.75
Fuel consumption [US gal/h]	8.98	23.38	4.25	1.77	2.58	5.97	6.42	51.05
CO [g/h]	627.73	1634.33	297.22	123.90	180.41	417.42	449.04	3568.31
NOx [g/h]	122.13	317.98	57.83	24.11	35.10	81.21	87.37	694.26
VOC [g/h]	145.48	378.77	68.88	28.71	41.81	96.74	104.07	826.99

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	40.68	40.68	40.68	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.297	2.189	2.377	0.000
Crosswalk LOS	B	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	681	779	875	881
d_b, Bicycle Delay [s]	22.21	19.04	16.16	15.99
l_b,int, Bicycle LOS Score for Intersection	2.322	2.013	2.154	3.569
Bicycle LOS	B	B	B	D

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 22: White Rock Rd/Clarksville Crossing

Control Type:	Signalized	Delay (sec / veh):	23.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.738

Intersection Setup

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	180.00	460.00	100.00	100.00	290.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	0	0	4	4	0	354	3	602	0	0	699	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	27	0	0	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	4	4	0	354	3	629	0	0	716	31
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	1	0	113	1	202	0	0	229	10
Total Analysis Volume [veh/h]	0	0	5	5	0	454	4	806	0	0	918	40
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	20	0	0	20	0	20	50	0	20	50	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	5.0	0.0	4.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	5.0	0.0	3.0	5.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	R
C, Calculated Cycle Length [s]	63	63	63	63	63	63	63	63	63	63
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	7.00	7.00	5.00	7.00	7.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	5.00	5.00	3.00	5.00	5.00
g_i, Effective Green Time [s]	0	0	19	19	0	21	21	0	20	20
g / C, Green / Cycle	0.01	0.01	0.31	0.31	0.01	0.33	0.33	0.00	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.00	0.29	0.00	0.22	0.22	0.00	0.26	0.03
s, saturation flow rate [veh/h]	1870	1589	1781	1589	1781	1870	1870	1781	3560	1589
c, Capacity [veh/h]	13	11	555	495	10	618	618	0	1157	516
d1, Uniform Delay [s]	0.00	31.02	14.89	20.79	31.07	17.92	17.92	0.00	19.25	14.66
k, delay calibration	0.11	0.11	0.11	0.33	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	26.80	0.01	17.67	24.01	1.17	1.17	0.00	1.27	0.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.46	0.01	0.92	0.40	0.65	0.65	0.00	0.79	0.08
d, Delay for Lane Group [s/veh]	0.00	57.82	14.90	38.46	55.08	19.09	19.09	0.00	20.53	14.72
Lane Group LOS	A	E	B	D	E	B	B	A	C	B
Critical Lane Group	No	Yes	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.00	0.15	0.05	8.20	0.12	4.70	4.70	0.00	5.68	0.37
50th-Percentile Queue Length [ft/ln]	0.00	3.84	1.16	205.04	3.10	117.48	117.48	0.00	141.95	9.31
95th-Percentile Queue Length [veh/ln]	0.00	0.28	0.08	12.90	0.22	8.25	8.25	0.00	9.59	0.67
95th-Percentile Queue Length [ft/ln]	0.00	6.92	2.09	322.45	5.59	206.35	206.35	0.00	239.65	16.75

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	57.82	14.90	14.90	38.46	55.08	19.09	19.09	0.00	20.53	14.72
Movement LOS	A	A	E	B	B	D	E	B	B	A	C	B
d_A, Approach Delay [s/veh]	57.82			38.21			19.27			20.28		
Approach LOS	E			D			B			C		
d_I, Intersection Delay [s/veh]	23.69											
Intersection LOS	C											
Intersection V/C	0.738											

Emissions

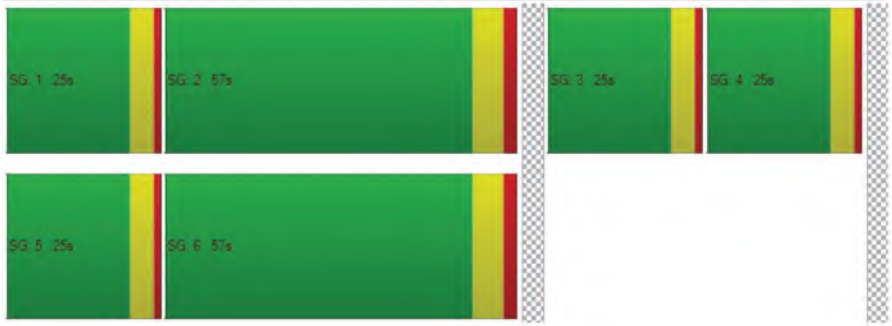
Vehicle Miles Traveled [mph]	0.00	0.25	2.37	215.36	1.80	181.84	181.84	0.00	160.14	6.98
Stops [stops/h]	0.00	8.85	2.68	472.12	7.15	270.50	270.50	0.00	653.71	21.43
Fuel consumption [US gal/h]	0.00	0.12	0.13	15.03	0.16	10.55	10.55	0.00	14.04	0.53
CO [g/h]	0.00	8.25	8.92	1050.44	11.09	737.19	737.19	0.00	981.31	36.73
NOx [g/h]	0.00	1.60	1.74	204.38	2.16	143.43	143.43	0.00	190.93	7.15
VOC [g/h]	0.00	1.91	2.07	243.45	2.57	170.85	170.85	0.00	227.43	8.51

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	640	640	1599	1599
d_b, Bicycle Delay [s]	14.47	14.47	1.26	1.26
l_b,int, Bicycle LOS Score for Intersection	1.568	2.317	2.228	2.350
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 23: White Rock Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	17.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.467

Intersection Setup

Name	White Rock Rd		White Rock Rd		US 50 EB	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	1	0	1
Entry Pocket Length [ft]	500.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	White Rock Rd		White Rock Rd		US 50 EB	
Base Volume Input [veh/h]	295	315	697	220	156	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	23	4	17	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	12
Total Hourly Volume [veh/h]	318	319	714	220	156	21
Peak Hour Factor	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	96	96	215	66	47	6
Total Analysis Volume [veh/h]	383	384	860	265	188	25
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	21	61	32	0	16	0
Amber [s]	3.7	4.8	4.8	0.0	4.8	0.0
All red [s]	0.5	2.0	2.0	0.0	1.0	0.0
Walk [s]	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.2	4.8	4.8	0.0	3.8	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	39	0	22	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	8	9	9	0	8	0
Vehicle Extension [s]	2.0	1.0	1.0	0.0	2.0	0.0
Minimum Recall	No	Yes	Yes		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	R
C, Calculated Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80
g_i, Effective Green Time [s]	12	69	53	53	8	8	8
g / C, Green / Cycle	0.14	0.77	0.59	0.59	0.09	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.11	0.11	0.24	0.17	0.05	0.05	0.02
s, saturation flow rate [veh/h]	3459	3560	3560	1589	1781	1781	1589
c, Capacity [veh/h]	470	2744	2094	935	159	159	142
d1, Uniform Delay [s]	37.78	2.65	10.06	9.16	39.41	39.41	37.93
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.33	0.11	0.60	0.76	1.31	1.31	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.14	0.41	0.28	0.59	0.59	0.18
d, Delay for Lane Group [s/veh]	39.10	2.76	10.66	9.92	40.72	40.72	38.15
Lane Group LOS	D	A	B	A	D	D	D
Critical Lane Group	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.12	0.65	4.37	2.55	2.03	2.03	0.51
50th-Percentile Queue Length [ft/ln]	102.95	16.28	109.20	63.75	50.80	50.80	12.85
95th-Percentile Queue Length [veh/ln]	7.41	1.17	7.80	4.59	3.66	3.66	0.93
95th-Percentile Queue Length [ft/ln]	185.31	29.30	194.89	114.75	91.45	91.45	23.13

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.10	2.76	10.66	9.92	40.72	38.15
Movement LOS	D	A	B	A	D	D
d_A, Approach Delay [s/veh]	20.90		10.49		40.42	
Approach LOS	C		B		D	
d_I, Intersection Delay [s/veh]	17.31					
Intersection LOS	B					
Intersection V/C	0.467					

Emissions

Vehicle Miles Traveled [mph]	66.81	66.99	152.40	46.96	5.69	5.69	1.51
Stops [stops/h]	329.44	52.08	349.45	102.00	81.29	81.29	20.56
Fuel consumption [US gal/h]	7.62	3.26	10.07	3.03	1.46	1.46	0.37
CO [g/h]	532.49	227.92	703.92	211.92	102.22	102.22	25.86
NOx [g/h]	103.60	44.35	136.96	41.23	19.89	19.89	5.03
VOC [g/h]	123.41	52.82	163.14	49.11	23.69	23.69	5.99

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00		
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00		
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		
l_p,int, Pedestrian LOS Score for Intersectio	0.000		0.000		0.000		
Crosswalk LOS	F		F		F		
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1360		716		360		
d_b, Bicycle Delay [s]	4.61		18.56		30.26		
l_b,int, Bicycle LOS Score for Intersection	2.192		2.488		1.931		
Bicycle LOS	B		B		A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 24: Silva Valley Pkwy/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	35.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.853

Intersection Setup

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Approach	Northbound				Southbound			Westbound			Northeastbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	550.0	100.0	100.0	100.0	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No					
Crosswalk	No				No			No			No		

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Volumes

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Base Volume Input [veh/h]	0	78	393	0	0	223	590	694	0	169	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	4	0	0	2	0	15	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	47	0	0	30	0	0	0
Total Hourly Volume [veh/h]	0	78	397	0	0	225	543	709	0	139	0	0	0
Peak Hour Factor	1.000	0.790	0.790	1.000	1.0000	0.7900	0.7900	0.7900	0.7900	0.7900	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	25	126	0	0	71	172	224	0	44	0	0	0
Total Analysis Volume [veh/h]	0	99	503	0	0	285	687	897	0	176	0	0	0
Presence of On-Street Parking	No			No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	6	0	0	8	0	0	0	0	0
Auxiliary Signal Groups														
Maximum Green [s]	0	20	54	0	0	26	0	0	23	0	0	0	0	0
Amber [s]	0.0	3.7	4.8	0.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	0.5	2.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No					
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
l2, Clearance Lost Time [s]	0.0	2.2	4.8	0.0	0.0	4.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	61	0	0	33	0	0	29	0	0	0	0	0
Lead / Lag	-	Lead	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	8	8	0	0	8	0	0	8	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No	Yes			Yes			No					
Maximum Recall		No	No			No			No					
Pedestrian Recall		No	No			No			No					

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	R	
C, Calculated Cycle Length [s]	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80	
g_i, Effective Green Time [s]	7	53	42	42	24	24	24	
g / C, Green / Cycle	0.08	0.59	0.46	0.46	0.27	0.27	0.27	
(v / s)_i Volume / Saturation Flow Rate	0.06	0.14	0.08	0.43	0.25	0.25	0.11	
s, saturation flow rate [veh/h]	1781	3560	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	147	2100	1640	732	481	481	429	
d1, Uniform Delay [s]	40.10	8.82	14.23	23.06	32.04	32.04	26.95	
k, delay calibration	0.04	0.50	0.50	0.50	0.28	0.28	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	2.00	0.27	0.23	21.22	17.83	17.83	0.23	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.67	0.24	0.17	0.94	0.93	0.93	0.41	
d, Delay for Lane Group [s/veh]	42.10	9.09	14.46	44.28	49.87	49.87	27.19	
Lane Group LOS	D	A	B	D	D	D	C	
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	2.18	2.24	1.69	17.13	11.59	11.59	3.07	
50th-Percentile Queue Length [ft/ln]	54.62	55.93	42.31	428.14	289.81	289.81	76.70	
95th-Percentile Queue Length [veh/ln]	3.93	4.03	3.05	23.91	17.18	17.18	5.52	
95th-Percentile Queue Length [ft/ln]	98.32	100.68	76.16	597.81	429.40	429.40	138.06	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.10	42.10	9.09	0.00	0.00	14.46	44.28	49.87	49.87	27.19	0.00	0.00	0.00
Movement LOS	D	D	A			B	D	D	D	C			
d_A, Approach Delay [s/veh]	14.52				35.54			46.15			0.00		
Approach LOS	B				D			D			A		
d_I, Intersection Delay [s/veh]	35.06												
Intersection LOS	D												
Intersection V/C	0.853												

Emissions

Vehicle Miles Traveled [mph]	17.54	89.14	38.97	93.94	15.54	15.54	6.10	
Stops [stops/h]	87.40	178.99	135.40	685.02	463.69	463.69	122.72	
Fuel consumption [US gal/h]	2.05	5.59	3.19	13.84	7.75	7.75	1.90	
CO [g/h]	143.52	390.64	223.07	967.60	541.92	541.92	132.99	
NOx [g/h]	27.92	76.00	43.40	188.26	105.44	105.44	25.88	
VOC [g/h]	33.26	90.53	51.70	224.25	125.59	125.59	30.82	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00			0.00			0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00			0.00			0.00	
d_p, Pedestrian Delay [s]	0.00			0.00			0.00	
I_p,int, Pedestrian LOS Score for Intersectio	0.000			0.000			0.000	
Crosswalk LOS	F			F			F	
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000	
c_b, Capacity of the bicycle lane [bicycles/h]	1204			582			516	
d_b, Bicycle Delay [s]	7.12			22.61			24.79	
I_b,int, Bicycle LOS Score for Intersection	2.056			2.400			3.380	
Bicycle LOS	B			B			C	

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 25: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Base Volume Input [veh/h]	0	548	295	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	161	70	31	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	31	-31	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	709	396	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	177	99	0	0	0
Total Analysis Volume [veh/h]	0	709	396	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	10.51
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.51	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 26: Latrobe/Wetsl-Oviatt

Control Type:	Two-way stop	Delay (sec / veh):	14.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.027

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Base Volume Input [veh/h]	0	415	226	38	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	19	4	7	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	427	245	42	11	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	107	61	11	3	0
Total Analysis Volume [veh/h]	0	427	245	42	11	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.03	0.00
d_M, Delay for Movement [s/veh]	7.82	0.00	0.00	0.00	14.02	9.88
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	2.07	2.07
d_A, Approach Delay [s/veh]	0.00		0.00		13.67	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.23					
Intersection LOS	B					

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Intersection Level Of Service Report
Intersection 27: Latrobe/S. Shingle

Control Type:	Two-way stop	Delay (sec / veh):	21.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.156

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Base Volume Input [veh/h]	6	238	41	52	127	9	44	72	0	37	72	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	0	8	4	8	5	0	0	0	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	240	41	60	131	17	49	72	0	37	72	43
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	60	10	15	33	4	12	18	0	9	18	11
Total Analysis Volume [veh/h]	6	240	41	60	131	17	49	72	0	37	72	43
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free			Free			Stop			Stop		
Flared Lane							No			No		
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance							No			No		
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.05	0.00	0.00	0.16	0.17	0.00	0.11	0.17	0.06
d_M, Delay for Movement [s/veh]	7.52	0.00	0.00	7.88	0.00	0.00	21.21	18.37	13.69	19.43	17.41	13.53
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.11	0.11	0.11	1.41	1.41	1.41	1.45	1.45	1.45
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.26	2.65	2.65	2.65	35.18	35.18	35.18	36.16	36.16	36.16
d_A, Approach Delay [s/veh]	0.16			2.27			19.52			16.80		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	7.08											
Intersection LOS	C											

Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	709	415	39	17
2	688	403	38	16
3	674	394	37	16
4	631	369	35	15
5	560	328	31	13
6	553	324	30	13
7	546	320	30	13
8	496	291	27	12
9	489	286	27	12
10	482	282	27	12
11	418	245	23	10
12	390	228	21	9
13	383	224	21	9
14	284	166	16	7
15	284	166	16	7
16	199	116	11	5
17	113	66	6	3
18	113	66	6	3
19	64	37	4	2
20	35	21	2	1
21	21	12	1	1
22	7	4	0	0
23	7	4	0	0
24	7	4	0	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1124	1	39	No	No	No	No	No	No	No	No	No	No
2	1	1091	1	38	No	No	No	No	No	No	No	No	No	No
3	1	1068	1	37	No	No	No	No	No	No	No	No	No	No
4	1	1000	1	35	No	No	No	No	No	No	No	No	No	No
5	1	888	1	31	No	No	No	No	No	No	No	No	No	No
6	1	877	1	30	No	No	No	No	No	No	No	No	No	No
7	1	866	1	30	No	No	No	No	No	No	No	No	No	No
8	1	787	1	27	No	No	No	No	No	No	No	No	No	No
9	1	775	1	27	No	No	No	No	No	No	No	No	No	No
10	1	764	1	27	No	No	No	No	No	No	No	No	No	No
11	1	663	1	23	No	No	No	No	No	No	No	No	No	No
12	1	618	1	21	No	No	No	No	No	No	No	No	No	No
13	1	607	1	21	No	No	No	No	No	No	No	No	No	No
14	1	450	1	16	No	No	No	No	No	No	No	No	No	No
15	1	450	1	16	No	No	No	No	No	No	No	No	No	No
16	1	315	1	11	No	No	No	No	No	No	No	No	No	No
17	1	179	1	6	No	No	No	No	No	No	No	No	No	No
18	1	179	1	6	No	No	No	No	No	No	No	No	No	No
19	1	101	1	4	No	No	No	No	No	No	No	No	No	No
20	1	56	1	2	No	No	No	No	No	No	No	No	No	No
21	1	33	1	1	No	No	No	No	No	No	No	No	No	No
22	1	11	1	0	No	No	No	No	No	No	No	No	No	No
23	1	11	1	0	No	No	No	No	No	No	No	No	No	No
24	1	11	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	15	33.3
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:09	0:09
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	39	17
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1180	1180
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 12: Latrobe Rd/Royal Oaks Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	438	396	172	171
2	425	384	167	166
3	416	376	163	162
4	390	352	153	152
5	346	313	136	135
6	342	309	134	133
7	337	305	132	132
8	307	277	120	120
9	302	273	119	118
10	298	269	117	116
11	258	234	101	101
12	241	218	95	94
13	237	214	93	92
14	175	158	69	68
15	175	158	69	68
16	123	111	48	48
17	70	63	28	27
18	70	63	28	27
19	39	36	15	15
20	22	20	9	9
21	13	12	5	5
22	4	4	2	2
23	4	4	2	2
24	4	4	2	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	834	1	172	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
2	2	809	1	167	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
3	2	792	1	163	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
4	2	742	1	153	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
5	2	659	1	136	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
6	2	651	1	134	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
7	2	642	1	132	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
8	2	584	1	120	No	Yes	Yes	Yes	No	No	No	Yes	No	No
9	2	575	1	119	No	No	Yes	Yes	No	No	No	Yes	No	No
10	2	567	1	117	No	No	Yes	Yes	No	No	No	Yes	No	No
11	2	492	1	101	No	No	No	Yes	No	No	No	No	No	No
12	2	459	1	95	No	No	No	Yes	No	No	No	No	No	No
13	2	451	1	93	No	No	No	Yes	No	No	No	No	No	No
14	2	333	1	69	No	No	No	No	No	No	No	No	No	No
15	2	333	1	69	No	No	No	No	No	No	No	No	No	No
16	2	234	1	48	No	No	No	No	No	No	No	No	No	No
17	2	133	1	28	No	No	No	No	No	No	No	No	No	No
18	2	133	1	28	No	No	No	No	No	No	No	No	No	No
19	2	75	1	15	No	No	No	No	No	No	No	No	No	No
20	2	42	1	9	No	No	No	No	No	No	No	No	No	No
21	2	25	1	5	No	No	No	No	No	No	No	No	No	No
22	2	8	1	2	No	No	No	No	No	No	No	No	No	No
23	2	8	1	2	No	No	No	No	No	No	No	No	No	No
24	2	8	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					4	8	10	13	0	4	7	10	7	2

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.6	142.2
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:41	6:45
Delay Condition Met	No	Yes
Volume on Minor Street Approach During Same Hour	172	171
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	1177	1177
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	Yes
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 13: Golden Foothill/Robert J Mathews

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	732	194	245
2	710	188	238
3	695	184	233
4	651	173	218
5	578	153	194
6	571	151	191
7	564	149	189
8	512	136	172
9	505	134	169
10	498	132	167
11	432	114	145
12	403	107	135
13	395	105	132
14	293	78	98
15	293	78	98
16	205	54	69
17	117	31	39
18	117	31	39
19	66	17	22
20	37	10	12
21	22	6	7
22	7	2	2
23	7	2	2
24	7	2	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	926	1	245	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
2	1	898	1	238	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
3	1	879	1	233	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
4	1	824	1	218	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
5	1	731	1	194	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
6	1	722	1	191	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
7	1	713	1	189	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
8	1	648	1	172	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
9	1	639	1	169	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
10	1	630	1	167	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
11	1	546	1	145	No	Yes	Yes	Yes	No	No	Yes	Yes	No	No
12	1	510	1	135	No	Yes	Yes	Yes	No	No	No	Yes	No	No
13	1	500	1	132	No	Yes	Yes	Yes	No	No	No	Yes	No	No
14	1	371	1	98	No	No	No	Yes	No	No	No	No	No	No
15	1	371	1	98	No	No	No	Yes	No	No	No	No	No	No
16	1	259	1	69	No	No	No	No	No	No	No	No	No	No
17	1	148	1	39	No	No	No	No	No	No	No	No	No	No
18	1	148	1	39	No	No	No	No	No	No	No	No	No	No
19	1	83	1	22	No	No	No	No	No	No	No	No	No	No
20	1	47	1	12	No	No	No	No	No	No	No	No	No	No
21	1	28	1	7	No	No	No	No	No	No	No	No	No	No
22	1	9	1	2	No	No	No	No	No	No	No	No	No	No
23	1	9	1	2	No	No	No	No	No	No	No	No	No	No
24	1	9	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					10	13	13	15	4	10	11	13	7	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	20.4
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:23
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	245
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1171
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	104	490	301	11
2	101	475	292	11
3	99	466	286	10
4	93	436	268	10
5	82	387	238	9
6	81	382	235	9
7	80	377	232	8
8	73	343	211	8
9	72	338	208	8
10	71	333	205	7
11	61	289	178	6
12	57	270	166	6
13	56	265	163	6
14	42	196	120	4
15	42	196	120	4
16	29	137	84	3
17	17	78	48	2
18	17	78	48	2
19	9	44	27	1
20	5	25	15	1
21	3	15	9	0
22	1	5	3	0
23	1	5	3	0
24	1	5	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	594	1	301	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
2	1	576	1	292	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
3	1	565	1	286	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
4	1	529	1	268	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
5	1	469	1	238	No	Yes	Yes	Yes	No	No	No	Yes	No	No
6	1	463	1	235	No	Yes	Yes	Yes	No	No	No	Yes	No	No
7	1	457	1	232	No	Yes	Yes	Yes	No	No	No	Yes	No	No
8	1	416	1	211	No	Yes	Yes	Yes	No	No	No	No	No	No
9	1	410	1	208	No	Yes	Yes	Yes	No	No	No	No	No	No
10	1	404	1	205	No	Yes	Yes	Yes	No	No	No	No	No	No
11	1	350	1	178	No	No	Yes	Yes	No	No	No	No	No	No
12	1	327	1	166	No	No	No	Yes	No	No	No	No	No	No
13	1	321	1	163	No	No	No	Yes	No	No	No	No	No	No
14	1	238	1	120	No	No	No	No	No	No	No	No	No	No
15	1	238	1	120	No	No	No	No	No	No	No	No	No	No
16	1	166	1	84	No	No	No	No	No	No	No	No	No	No
17	1	95	1	48	No	No	No	No	No	No	No	No	No	No
18	1	95	1	48	No	No	No	No	No	No	No	No	No	No
19	1	53	1	27	No	No	No	No	No	No	No	No	No	No
20	1	30	1	15	No	No	No	No	No	No	No	No	No	No
21	1	18	1	9	No	No	No	No	No	No	No	No	No	No
22	1	6	1	3	No	No	No	No	No	No	No	No	No	No
23	1	6	1	3	No	No	No	No	No	No	No	No	No	No
24	1	6	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					4	10	11	13	0	0	4	7	4	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	17.5	10
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:28	0:01
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	301	11
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	906	906
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

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Signal Warrants Report For Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	174	79	160
2	169	77	155
3	165	75	152
4	155	70	142
5	137	62	126
6	136	62	125
7	134	61	123
8	122	55	112
9	120	55	110
10	118	54	109
11	103	47	94
12	96	43	88
13	94	43	86
14	70	32	64
15	70	32	64
16	49	22	45
17	28	13	26
18	28	13	26
19	16	7	14
20	9	4	8
21	5	2	5
22	2	1	2
23	2	1	2
24	2	1	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	253	2	160	No	No	No	No	No	No	No	No	No	No
2	2	246	2	155	No	No	No	No	No	No	No	No	No	No
3	2	240	2	152	No	No	No	No	No	No	No	No	No	No
4	2	225	2	142	No	No	No	No	No	No	No	No	No	No
5	2	199	2	126	No	No	No	No	No	No	No	No	No	No
6	2	198	2	125	No	No	No	No	No	No	No	No	No	No
7	2	195	2	123	No	No	No	No	No	No	No	No	No	No
8	2	177	2	112	No	No	No	No	No	No	No	No	No	No
9	2	175	2	110	No	No	No	No	No	No	No	No	No	No
10	2	172	2	109	No	No	No	No	No	No	No	No	No	No
11	2	150	2	94	No	No	No	No	No	No	No	No	No	No
12	2	139	2	88	No	No	No	No	No	No	No	No	No	No
13	2	137	2	86	No	No	No	No	No	No	No	No	No	No
14	2	102	2	64	No	No	No	No	No	No	No	No	No	No
15	2	102	2	64	No	No	No	No	No	No	No	No	No	No
16	2	71	2	45	No	No	No	No	No	No	No	No	No	No
17	2	41	2	26	No	No	No	No	No	No	No	No	No	No
18	2	41	2	26	No	No	No	No	No	No	No	No	No	No
19	2	23	2	14	No	No	No	No	No	No	No	No	No	No
20	2	13	2	8	No	No	No	No	No	No	No	No	No	No
21	2	7	2	5	No	No	No	No	No	No	No	No	No	No
22	2	3	2	2	No	No	No	No	No	No	No	No	No	No
23	2	3	2	2	No	No	No	No	No	No	No	No	No	No
24	2	3	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	9.6
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:25
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	160
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	413
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 16: Carson Crossing Rd/Calypso Cir.

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	150	130	88
2	146	126	85
3	143	124	84
4	134	116	78
5	119	103	70
6	117	101	69
7	116	100	68
8	105	91	62
9	103	90	61
10	102	88	60
11	89	77	52
12	83	72	48
13	81	70	48
14	60	52	35
15	60	52	35
16	42	36	25
17	24	21	14
18	24	21	14
19	14	12	8
20	8	7	4
21	5	4	3
22	2	1	1
23	2	1	1
24	2	1	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	280	1	88	No	No	No	No	No	No	No	No	No	No
2	2	272	1	85	No	No	No	No	No	No	No	No	No	No
3	2	267	1	84	No	No	No	No	No	No	No	No	No	No
4	2	250	1	78	No	No	No	No	No	No	No	No	No	No
5	2	222	1	70	No	No	No	No	No	No	No	No	No	No
6	2	218	1	69	No	No	No	No	No	No	No	No	No	No
7	2	216	1	68	No	No	No	No	No	No	No	No	No	No
8	2	196	1	62	No	No	No	No	No	No	No	No	No	No
9	2	193	1	61	No	No	No	No	No	No	No	No	No	No
10	2	190	1	60	No	No	No	No	No	No	No	No	No	No
11	2	166	1	52	No	No	No	No	No	No	No	No	No	No
12	2	155	1	48	No	No	No	No	No	No	No	No	No	No
13	2	151	1	48	No	No	No	No	No	No	No	No	No	No
14	2	112	1	35	No	No	No	No	No	No	No	No	No	No
15	2	112	1	35	No	No	No	No	No	No	No	No	No	No
16	2	78	1	25	No	No	No	No	No	No	No	No	No	No
17	2	45	1	14	No	No	No	No	No	No	No	No	No	No
18	2	45	1	14	No	No	No	No	No	No	No	No	No	No
19	2	26	1	8	No	No	No	No	No	No	No	No	No	No
20	2	15	1	4	No	No	No	No	No	No	No	No	No	No
21	2	9	1	3	No	No	No	No	No	No	No	No	No	No
22	2	3	1	1	No	No	No	No	No	No	No	No	No	No
23	2	3	1	1	No	No	No	No	No	No	No	No	No	No
24	2	3	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	10.5
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:15
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	88
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	368
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 17: Carson Crossing Rd/Four Seasons Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	111	145	36
2	108	141	35
3	105	138	34
4	99	129	32
5	88	115	28
6	87	113	28
7	85	112	28
8	78	102	25
9	77	100	25
10	75	99	24
11	65	86	21
12	61	80	20
13	60	78	19
14	44	58	14
15	44	58	14
16	31	41	10
17	18	23	6
18	18	23	6
19	10	13	3
20	6	7	2
21	3	4	1
22	1	1	0
23	1	1	0
24	1	1	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	256	1	36	No	No	No	No	No	No	No	No	No	No
2	3	249	1	35	No	No	No	No	No	No	No	No	No	No
3	3	243	1	34	No	No	No	No	No	No	No	No	No	No
4	3	228	1	32	No	No	No	No	No	No	No	No	No	No
5	3	203	1	28	No	No	No	No	No	No	No	No	No	No
6	3	200	1	28	No	No	No	No	No	No	No	No	No	No
7	3	197	1	28	No	No	No	No	No	No	No	No	No	No
8	3	180	1	25	No	No	No	No	No	No	No	No	No	No
9	3	177	1	25	No	No	No	No	No	No	No	No	No	No
10	3	174	1	24	No	No	No	No	No	No	No	No	No	No
11	3	151	1	21	No	No	No	No	No	No	No	No	No	No
12	3	141	1	20	No	No	No	No	No	No	No	No	No	No
13	3	138	1	19	No	No	No	No	No	No	No	No	No	No
14	3	102	1	14	No	No	No	No	No	No	No	No	No	No
15	3	102	1	14	No	No	No	No	No	No	No	No	No	No
16	3	72	1	10	No	No	No	No	No	No	No	No	No	No
17	3	41	1	6	No	No	No	No	No	No	No	No	No	No
18	3	41	1	6	No	No	No	No	No	No	No	No	No	No
19	3	23	1	3	No	No	No	No	No	No	No	No	No	No
20	3	13	1	2	No	No	No	No	No	No	No	No	No	No
21	3	7	1	1	No	No	No	No	No	No	No	No	No	No
22	3	2	1	0	No	No	No	No	No	No	No	No	No	No
23	3	2	1	0	No	No	No	No	No	No	No	No	No	No
24	3	2	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	8.2
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:04
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	36
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	292
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 18: White Rock Rd/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	491	323	117	75
2	476	313	113	73
3	466	307	111	71
4	437	287	104	67
5	388	255	92	59
6	383	252	91	59
7	378	249	90	58
8	344	226	82	53
9	339	223	81	52
10	334	220	80	51
11	290	191	69	44
12	270	178	64	41
13	265	174	63	41
14	196	129	47	30
15	196	129	47	30
16	137	90	33	21
17	79	52	19	12
18	79	52	19	12
19	44	29	11	7
20	25	16	6	4
21	15	10	4	2
22	5	3	1	1
23	5	3	1	1
24	5	3	1	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	814	1	117	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No
2	2	789	1	113	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No
3	2	773	1	111	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No
4	2	724	1	104	No	No	No	Yes	No	Yes	Yes	Yes	No	No
5	2	643	1	92	No	No	No	Yes	No	No	Yes	Yes	No	No
6	2	635	1	91	No	No	No	Yes	No	No	Yes	Yes	No	No
7	2	627	1	90	No	No	No	Yes	No	No	No	Yes	No	No
8	2	570	1	82	No	No	No	No	No	No	No	Yes	No	No
9	2	562	1	81	No	No	No	No	No	No	No	Yes	No	No
10	2	554	1	80	No	No	No	No	No	No	No	Yes	No	No
11	2	481	1	69	No	No	No	No	No	No	No	No	No	No
12	2	448	1	64	No	No	No	No	No	No	No	No	No	No
13	2	439	1	63	No	No	No	No	No	No	No	No	No	No
14	2	325	1	47	No	No	No	No	No	No	No	No	No	No
15	2	325	1	47	No	No	No	No	No	No	No	No	No	No
16	2	227	1	33	No	No	No	No	No	No	No	No	No	No
17	2	131	1	19	No	No	No	No	No	No	No	No	No	No
18	2	131	1	19	No	No	No	No	No	No	No	No	No	No
19	2	73	1	11	No	No	No	No	No	No	No	No	No	No
20	2	41	1	6	No	No	No	No	No	No	No	No	No	No
21	2	25	1	4	No	No	No	No	No	No	No	No	No	No
22	2	8	1	1	No	No	No	No	No	No	No	No	No	No
23	2	8	1	1	No	No	No	No	No	No	No	No	No	No
24	2	8	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	3	7	0	4	6	10	0	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	23.2	21.8
Number of Lanes on Minor Street Approach	2	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:45	0:27
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	117	75
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1006	1006
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

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Signal Warrants Report For Intersection 25: New Intersection

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	709	396	0
2	688	384	0
3	674	376	0
4	631	352	0
5	560	313	0
6	553	309	0
7	546	305	0
8	496	277	0
9	489	273	0
10	482	269	0
11	418	234	0
12	390	218	0
13	383	214	0
14	284	158	0
15	284	158	0
16	199	111	0
17	113	63	0
18	113	63	0
19	64	36	0
20	35	20	0
21	21	12	0
22	7	4	0
23	7	4	0
24	7	4	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1105	1	0	No	No	No	No	No	No	No	No	No	No
2	1	1072	1	0	No	No	No	No	No	No	No	No	No	No
3	1	1050	1	0	No	No	No	No	No	No	No	No	No	No
4	1	983	1	0	No	No	No	No	No	No	No	No	No	No
5	1	873	1	0	No	No	No	No	No	No	No	No	No	No
6	1	862	1	0	No	No	No	No	No	No	No	No	No	No
7	1	851	1	0	No	No	No	No	No	No	No	No	No	No
8	1	773	1	0	No	No	No	No	No	No	No	No	No	No
9	1	762	1	0	No	No	No	No	No	No	No	No	No	No
10	1	751	1	0	No	No	No	No	No	No	No	No	No	No
11	1	652	1	0	No	No	No	No	No	No	No	No	No	No
12	1	608	1	0	No	No	No	No	No	No	No	No	No	No
13	1	597	1	0	No	No	No	No	No	No	No	No	No	No
14	1	442	1	0	No	No	No	No	No	No	No	No	No	No
15	1	442	1	0	No	No	No	No	No	No	No	No	No	No
16	1	310	1	0	No	No	No	No	No	No	No	No	No	No
17	1	176	1	0	No	No	No	No	No	No	No	No	No	No
18	1	176	1	0	No	No	No	No	No	No	No	No	No	No
19	1	100	1	0	No	No	No	No	No	No	No	No	No	No
20	1	55	1	0	No	No	No	No	No	No	No	No	No	No
21	1	33	1	0	No	No	No	No	No	No	No	No	No	No
22	1	11	1	0	No	No	No	No	No	No	No	No	No	No
23	1	11	1	0	No	No	No	No	No	No	No	No	No	No
24	1	11	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	10.5
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1105
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 26: Latrobe/Wetsl-Oviatt

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	427	287	12
2	414	278	12
3	406	273	11
4	380	255	11
5	337	227	9
6	333	224	9
7	329	221	9
8	299	201	8
9	295	198	8
10	290	195	8
11	252	169	7
12	235	158	7
13	231	155	6
14	171	115	5
15	171	115	5
16	120	80	3
17	68	46	2
18	68	46	2
19	38	26	1
20	21	14	1
21	13	9	0
22	4	3	0
23	4	3	0
24	4	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	714	1	12	No	No	No	No	No	No	No	No	No	No
2	1	692	1	12	No	No	No	No	No	No	No	No	No	No
3	1	679	1	11	No	No	No	No	No	No	No	No	No	No
4	1	635	1	11	No	No	No	No	No	No	No	No	No	No
5	1	564	1	9	No	No	No	No	No	No	No	No	No	No
6	1	557	1	9	No	No	No	No	No	No	No	No	No	No
7	1	550	1	9	No	No	No	No	No	No	No	No	No	No
8	1	500	1	8	No	No	No	No	No	No	No	No	No	No
9	1	493	1	8	No	No	No	No	No	No	No	No	No	No
10	1	485	1	8	No	No	No	No	No	No	No	No	No	No
11	1	421	1	7	No	No	No	No	No	No	No	No	No	No
12	1	393	1	7	No	No	No	No	No	No	No	No	No	No
13	1	386	1	6	No	No	No	No	No	No	No	No	No	No
14	1	286	1	5	No	No	No	No	No	No	No	No	No	No
15	1	286	1	5	No	No	No	No	No	No	No	No	No	No
16	1	200	1	3	No	No	No	No	No	No	No	No	No	No
17	1	114	1	2	No	No	No	No	No	No	No	No	No	No
18	1	114	1	2	No	No	No	No	No	No	No	No	No	No
19	1	64	1	1	No	No	No	No	No	No	No	No	No	No
20	1	35	1	1	No	No	No	No	No	No	No	No	No	No
21	1	22	1	0	No	No	No	No	No	No	No	No	No	No
22	1	7	1	0	No	No	No	No	No	No	No	No	No	No
23	1	7	1	0	No	No	No	No	No	No	No	No	No	No
24	1	7	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	13.7
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:02
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	12
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	726
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 27: Latrobe/S. Shingle

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	287	208	152	121
2	278	202	147	117
3	273	198	144	115
4	255	185	135	108
5	227	164	120	96
6	224	162	119	94
7	221	160	117	93
8	201	146	106	85
9	198	144	105	83
10	195	141	103	82
11	169	123	90	71
12	158	114	84	67
13	155	112	82	65
14	115	83	61	48
15	115	83	61	48
16	80	58	43	34
17	46	33	24	19
18	46	33	24	19
19	26	19	14	11
20	14	10	8	6
21	9	6	5	4
22	3	2	2	1
23	3	2	2	1
24	3	2	2	1

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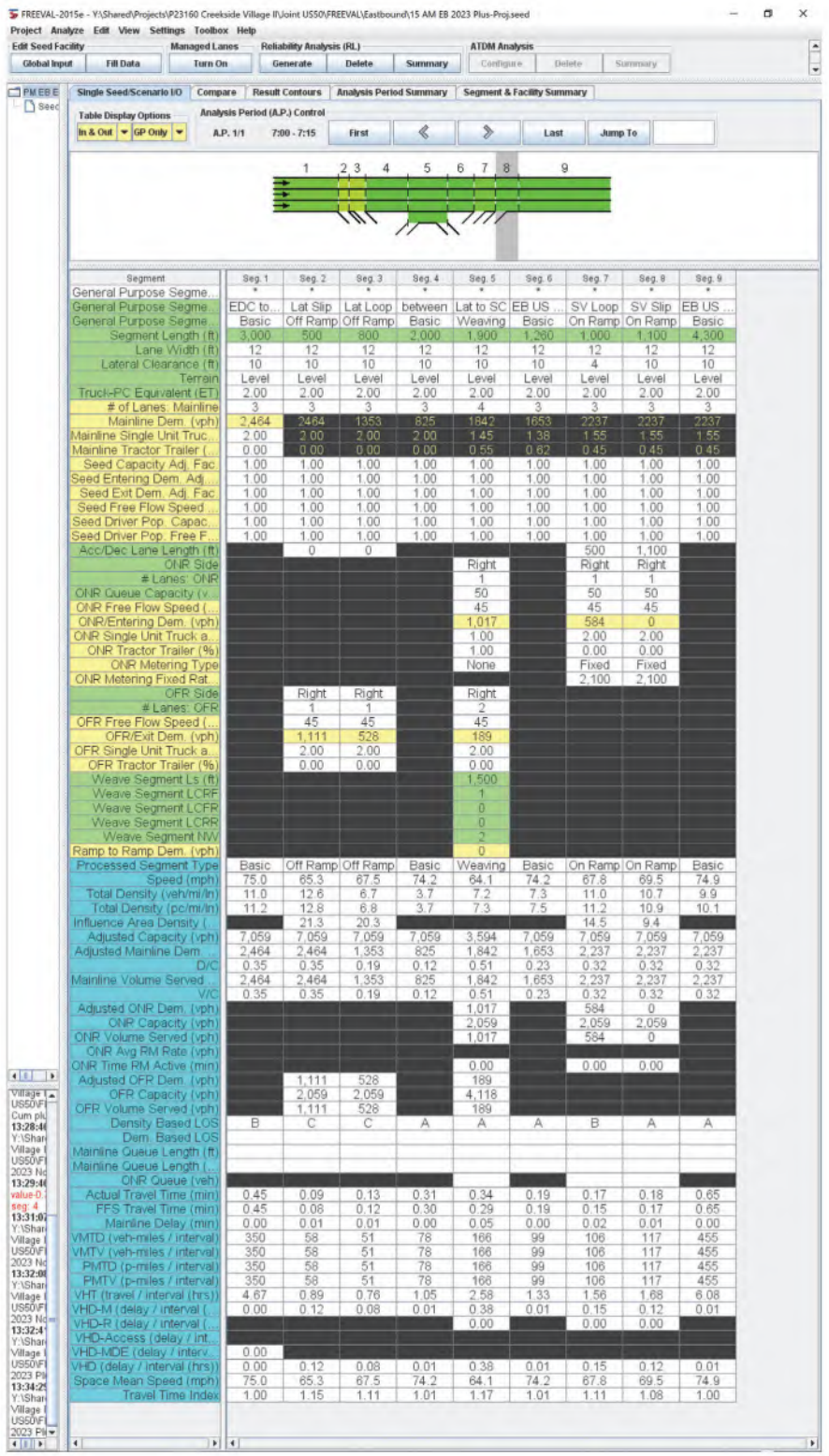
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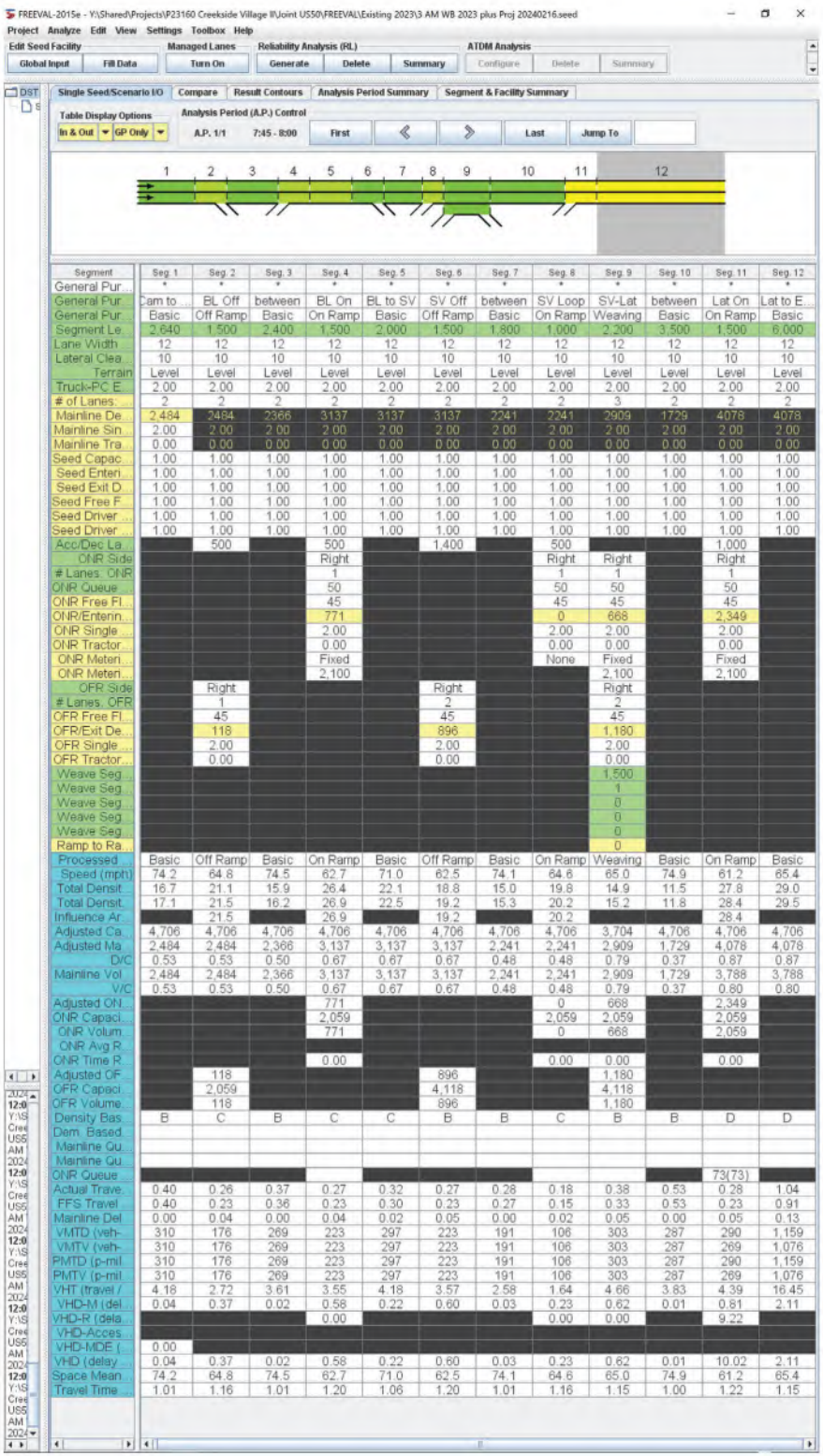
Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	495	1	152	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
2	1	480	1	147	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
3	1	471	1	144	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
4	1	440	1	135	No	Yes	Yes	Yes	No	No	No	Yes	No	No
5	1	391	1	120	No	No	Yes	Yes	No	No	No	No	No	No
6	1	386	1	119	No	No	Yes	Yes	No	No	No	No	No	No
7	1	381	1	117	No	No	Yes	Yes	No	No	No	No	No	No
8	1	347	1	106	No	No	No	Yes	No	No	No	No	No	No
9	1	342	1	105	No	No	No	Yes	No	No	No	No	No	No
10	1	336	1	103	No	No	No	Yes	No	No	No	No	No	No
11	1	292	1	90	No	No	No	Yes	No	No	No	No	No	No
12	1	272	1	84	No	No	No	No	No	No	No	No	No	No
13	1	267	1	82	No	No	No	No	No	No	No	No	No	No
14	1	198	1	61	No	No	No	No	No	No	No	No	No	No
15	1	198	1	61	No	No	No	No	No	No	No	No	No	No
16	1	138	1	43	No	No	No	No	No	No	No	No	No	No
17	1	79	1	24	No	No	No	No	No	No	No	No	No	No
18	1	79	1	24	No	No	No	No	No	No	No	No	No	No
19	1	45	1	14	No	No	No	No	No	No	No	No	No	No
20	1	24	1	8	No	No	No	No	No	No	No	No	No	No
21	1	15	1	5	No	No	No	No	No	No	No	No	No	No
22	1	5	1	2	No	No	No	No	No	No	No	No	No	No
23	1	5	1	2	No	No	No	No	No	No	No	No	No	No
24	1	5	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	11	0	0	0	4	3	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.8	19.5
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:42	0:39
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	152	121
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	768	768
Number of Approaches on Intersection	4	4
Total Volume Condition Met	No	No
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	





Existing PM Plus Project

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Scenario 3 2023 PM, Plus Project
9/30/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	El Dorado Hills Blvd/Serrano Pkwy	Signalized	HCM 7th Edition	NB Thru	0.963	49.0	D
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	NB Left	1.241	112.4	F
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	WB Right	1.007	51.2	D
4	Latrobe Rd/US 50 EB	Signalized	HCM 7th Edition	EB Right	0.927	26.3	C
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	SB Left	0.938	39.2	D
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	WB Left	0.664	54.1	D
7	Latrobe Rd/Golden Foothill Pkwy N	Signalized	HCM 7th Edition	SB Left	0.873	25.8	C
8	Latrobe Rd/Suncast Ln	Signalized	HCM 7th Edition	NB Left	0.765	12.1	B
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	EB Left	0.906	54.1	D
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	NB Left	0.853	24.6	C
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	EB Left	0.133	44.1	E
12	Latrobe Rd/Royal Oaks Dr	Two-way stop	HCM 7th Edition	EB Left	0.979	140.2	F
13	Golden Foothill/Robert J Mathews	Two-way stop	HCM 7th Edition	NB Left	6.837	3,202.7	F
14	Investment Blvd/Robert J Mathews Pkwy	All-way stop	HCM 7th Edition	SB Thru	0.750	20.2	C
15	Golden Foothill Pkwy/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.021	16.0	C
16	Carson Crossing Rd/Calypso Cir.	Two-way stop	HCM 7th Edition	NB Left	0.023	11.8	B
17	Carson Crossing Rd/Four Seasons Dr	All-way stop	HCM 7th Edition	NB Thru	0.148	8.2	A
18	White Rock Rd/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.950	107.4	F
19	White Rock Rd/Windfield Way	Signalized	HCM 7th Edition	SB Thru	0.452	29.1	C
20	White Rock Rd/Post St	Signalized	HCM 7th Edition	SB Left	0.531	69.3	E
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 6th Edition	EB Thru	0.936	59.8	E
22	White Rock Rd/Clarksville Crossing	Signalized	HCM 7th Edition	NB Right	0.760	23.7	C
23	White Rock Rd/US 50 EB	Signalized	HCM 7th Edition	EB Left	0.678	31.8	C
24	Silva Valley Pkwy/US 50 WB	Signalized	HCM 7th Edition	NB Left	0.540	19.7	B
25	New Intersection	Two-way stop	HCM 6th Edition	SB Thru	0.007	0.0	A
26	Latrobe/Wetsl-Oviatt	Two-way stop	HCM 7th Edition	EB Left	0.093	16.1	C
27	Latrobe/S. Shingle	Two-way stop	HCM 7th Edition	EB Left	0.070	19.7	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: El Dorado Hills Blvd/Serrano Pkwy

Control Type:	Signalized	Delay (sec / veh):	49.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.963

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	260.0	100.0	100.0	100.0	110.00	100.00	100.00	100.00	100.00	100.00	430.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No			No		
Crosswalk	No				Yes			Yes			Yes		

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Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Base Volume Input [veh/h]	3	91	1766	401	35	1038	55	36	17	54	339	52	22
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	16	0	0	23	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	17	0	0	16	0	0	7
Total Hourly Volume [veh/h]	3	91	1782	401	35	1061	38	36	17	38	339	52	15
Peak Hour Factor	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	26	512	115	10	305	11	10	5	11	97	15	4
Total Analysis Volume [veh/h]	3	105	2048	461	40	1220	44	41	20	44	390	60	17
Presence of On-Street Parking	No			No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	1	6	0	7	7	0	0	8	0
Auxiliary Signal Groups													
Maximum Green [s]	0	25	40	0	25	40	0	35	35	0	0	35	0
Amber [s]	0.0	3.0	4.7	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	12	0	0	12	0	0	0	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	100.0	245.0	0.0	100.0	100.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	29	46	0	29	46	0	39	39	0	0	39	0
Lead / Lag	-	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	3	6	0	3	3	0	3	3	0	0	3	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	4.0	0.0
Minimum Recall		No	No		No	No			No			No	
Maximum Recall		No	No		No	No			No			No	
Pedestrian Recall		No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C
C, Calculated Cycle Length [s]	79	79	79	79	79	79	79	79	79	79
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	40	40	2	36	36	5	5	14	14
g / C, Green / Cycle	0.08	0.51	0.51	0.03	0.46	0.46	0.06	0.06	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.06	0.58	0.29	0.02	0.34	0.34	0.02	0.04	0.13	0.13
s, saturation flow rate [veh/h]	1781	3560	1589	1781	1870	1847	1781	1668	1781	1787
c, Capacity [veh/h]	141	1810	808	51	856	846	105	99	318	320
d1, Uniform Delay [s]	35.52	19.36	13.40	37.98	17.53	17.54	35.67	36.24	30.55	30.55
k, delay calibration	0.04	0.06	0.06	0.04	0.14	0.14	0.04	0.04	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.22	60.14	0.36	9.08	1.71	1.75	0.87	2.65	4.58	4.56
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	1.13	0.57	0.78	0.74	0.74	0.39	0.65	0.73	0.73
d, Delay for Lane Group [s/veh]	38.74	79.50	13.76	47.06	19.24	19.29	36.54	38.89	35.12	35.11
Lane Group LOS	D	F	B	D	B	B	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.03	28.27	4.72	0.85	8.34	8.26	0.77	1.25	4.44	4.46
50th-Percentile Queue Length [ft/ln]	50.70	706.74	118.00	21.28	208.51	206.62	19.16	31.20	111.04	111.39
95th-Percentile Queue Length [veh/ln]	3.65	40.53	8.28	1.53	13.08	12.98	1.38	2.25	7.90	7.92
95th-Percentile Queue Length [ft/ln]	91.26	1013.13	207.08	38.30	326.92	324.49	34.49	56.16	197.45	197.94

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.74	38.74	79.50	13.76	47.06	19.26	19.29	36.54	38.89	38.89	35.12	35.11	35.11
Movement LOS	D	D	F	B	D	B	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	66.23				20.12			37.97			35.12		
Approach LOS	E				C			D			D		
d_I, Intersection Delay [s/veh]	48.95												
Intersection LOS	D												
Intersection V/C	0.963												

Emissions

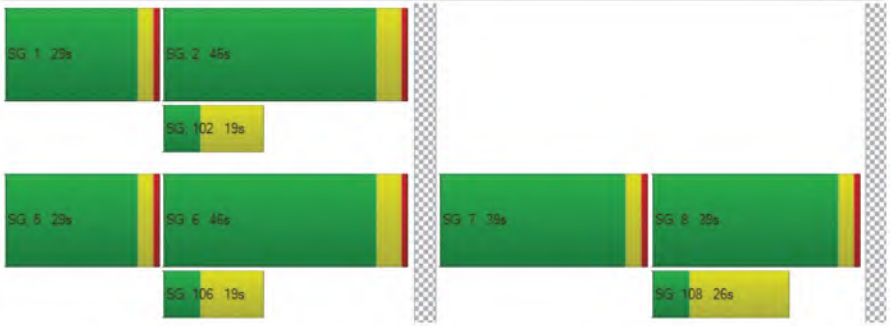
Vehicle Miles Traveled [mph]	25.79	489.13	110.10	5.88	93.42	92.41	1.75	2.73	12.20	12.24
Stops [stops/h]	92.92	2590.60	216.27	39.00	382.16	378.70	35.12	57.18	203.51	204.16
Fuel consumption [US gal/h]	2.89	82.10	7.75	1.07	10.44	10.34	0.57	0.93	3.29	3.30
CO [g/h]	202.08	5739.05	542.03	74.76	729.87	723.03	39.91	65.35	230.15	230.87
NOx [g/h]	39.32	1116.61	105.46	14.55	142.01	140.68	7.77	12.72	44.78	44.92
VOC [g/h]	46.83	1330.08	125.62	17.33	169.16	167.57	9.25	15.15	53.34	53.51

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00	
d_p, Pedestrian Delay [s]	0.00	29.05	29.05	29.05	
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.321	2.068	2.266	
Crosswalk LOS	F	C	B	B	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000	
c_b, Capacity of the bicycle lane [bicycles/h]	1026	1026	891	891	
d_b, Bicycle Delay [s]	9.32	9.32	12.08	12.08	
l_b,int, Bicycle LOS Score for Intersection	3.716	2.649	1.759	2.342	
Bicycle LOS	D	B	A	B	

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	112.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.241

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	1	0	1	0	0	1
Entry Pocket Length [ft]	230.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	5	442	1616	75	4	164	1068	198	365	41	525	59	107	276
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	9	16	0	0	0	23	0	0	0	11	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	23	0	0	0	59	0	0	161	0	0	83
Total Hourly Volume [veh/h]	5	451	1632	52	4	164	1091	139	365	41	375	59	107	193
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	121	439	14	1	44	293	37	98	11	101	16	29	52
Total Analysis Volume [veh/h]	5	485	1755	56	4	176	1173	149	392	44	403	63	115	208
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	0	3	8	0
Auxiliary Signal Groups														
Maximum Green [s]	0	20	50	0	0	20	50	0	20	20	0	0	20	0
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	18	0	0	0	16	0	0	0	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	0	24	56	0	24	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C
C, Calculated Cycle Length [s]	126	126	126	126	126	126	126	126	126	126	126
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	54	54	15	48	48	20	20	20	20	20
g / C, Green / Cycle	0.16	0.43	0.43	0.12	0.38	0.38	0.16	0.16	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.28	0.33	0.34	0.10	0.36	0.36	0.12	0.12	0.25	0.04	0.19
s, saturation flow rate [veh/h]	1781	3560	1841	1781	1870	1797	1781	1798	1589	1781	1679
c, Capacity [veh/h]	283	1515	783	208	717	689	283	285	252	283	266
d1, Uniform Delay [s]	53.01	31.27	31.35	54.69	37.33	37.58	50.80	50.77	53.01	46.23	53.01
k, delay calibration	0.50	0.13	0.34	0.11	0.38	0.39	0.22	0.22	0.50	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	344.59	1.13	5.65	10.70	17.31	19.64	8.77	8.42	286.82	0.15	124.93
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.73	0.79	0.79	0.87	0.93	0.95	0.77	0.77	1.60	0.22	1.21
d, Delay for Lane Group [s/veh]	397.60	32.40	37.00	65.39	54.65	57.21	59.57	59.19	339.83	46.38	177.95
Lane Group LOS	F	C	D	E	D	E	E	E	F	D	F
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	35.75	15.04	16.66	6.10	22.27	22.18	7.27	7.27	28.06	1.75	17.66
50th-Percentile Queue Length [ft/ln]	893.67	376.10	416.47	152.44	556.80	554.56	181.71	181.84	701.51	43.65	441.51
95th-Percentile Queue Length [veh/ln]	55.68	21.40	23.35	10.15	30.01	29.91	11.69	11.70	43.95	3.14	26.80
95th-Percentile Queue Length [ft/ln]	1391.92	535.12	583.81	253.68	750.29	747.67	292.25	292.42	1098.77	78.58	669.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	397.6	397.6	33.88	37.00	65.39	65.39	55.75	57.21	59.40	59.19	339.83	46.38	177.95	177.95
Movement LOS	F	F	C	D	E	E	E	E	E	E	F	D	F	F
d_A, Approach Delay [s/veh]	111.41				57.05				194.09			156.47		
Approach LOS	F				E				F			F		
d_I, Intersection Delay [s/veh]	112.43													
Intersection LOS	F													
Intersection V/C	1.241													

Emissions

Vehicle Miles Traveled [mph]	92.22	224.27	116.55	42.99	160.08	155.66	13.56	13.63	25.13	3.07	15.75
Stops [stops/h]	1021.36	859.67	475.97	174.22	636.35	633.80	207.68	207.82	801.74	49.89	504.60
Fuel consumption [US gal/h]	55.50	26.23	14.58	6.03	20.85	20.80	4.34	4.34	33.33	1.00	15.13
CO [g/h]	3879.27	1833.70	1018.87	421.82	1457.56	1454.15	303.51	303.42	2329.60	69.67	1057.62
NOx [g/h]	754.76	356.77	198.24	82.07	283.59	282.92	59.05	59.03	453.26	13.55	205.77
VOC [g/h]	899.06	424.98	236.13	97.76	337.80	337.01	70.34	70.32	539.91	16.15	245.11

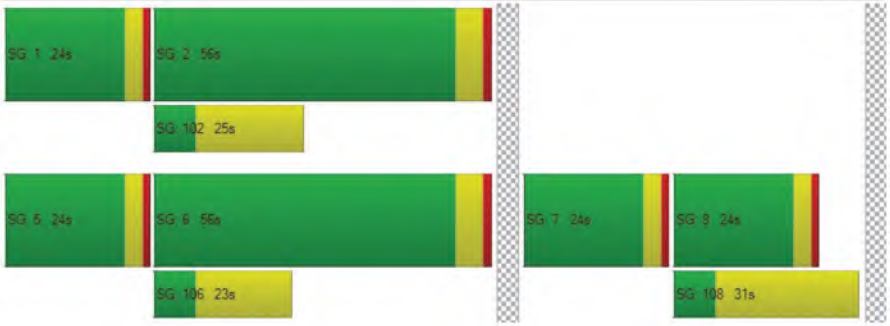
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	52.48	52.48	52.48
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.528	2.817	2.324
Crosswalk LOS	F	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	798	798	317	317
d_b, Bicycle Delay [s]	22.74	22.74	44.59	44.59
l_b,int, Bicycle LOS Score for Intersection	2.835	2.702	3.210	2.333
Bicycle LOS	C	B	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	51.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.007

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	500.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	980	1679	319	0	37	1192	428	208	130	290	236	80	251
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	28	25	4	0	0	34	0	0	0	13	7	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	97	0	0	0	128	0	0	91	0	0	75
Total Hourly Volume [veh/h]	1	1008	1704	226	0	37	1226	300	208	130	212	243	80	176
Peak Hour Factor	1.000	0.840	0.990	0.840	1.000	0.840	0.990	0.840	0.8400	0.8400	0.8400	0.8400	0.8400	0.8400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	300	430	67	0	11	310	89	62	39	63	72	24	52
Total Analysis Volume [veh/h]	1	1200	1721	269	0	44	1238	357	248	155	252	289	95	210
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	136
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	45	62	0	0	14	29	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	50	68	0	0	19	35	28	0	28	0	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Calculated Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	45	73	73	7	34	57	18	18	18	18	18
g / C, Green / Cycle	0.33	0.54	0.54	0.05	0.25	0.42	0.13	0.13	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.35	0.37	0.40	0.02	0.25	0.22	0.11	0.11	0.11	0.11	0.13
s, saturation flow rate [veh/h]	3459	3532	1735	1781	5053	1589	1781	1847	1781	1823	1589
c, Capacity [veh/h]	1155	1901	934	86	1275	668	232	241	241	247	216
d1, Uniform Delay [s]	45.29	22.99	23.97	63.17	50.34	29.48	57.87	57.86	56.88	56.86	58.54
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.15	0.15	0.22	0.21	0.37
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	20.76	2.04	5.10	1.76	19.09	3.05	11.47	11.02	10.68	10.21	46.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.04	0.69	0.73	0.51	0.97	0.53	0.85	0.85	0.79	0.78	0.97
d, Delay for Lane Group [s/veh]	66.05	25.04	29.07	64.94	69.43	32.54	69.34	68.88	67.55	67.07	104.89
Lane Group LOS	F	C	C	E	E	C	E	E	E	E	F
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	22.65	15.59	17.80	1.50	15.74	9.01	7.41	7.65	7.05	7.16	9.98
50th-Percentile Queue Length [ft/ln]	566.18	389.65	444.92	37.60	393.43	225.17	185.34	191.29	176.29	179.07	249.49
95th-Percentile Queue Length [veh/ln]	31.27	22.06	24.72	2.71	22.24	13.93	11.88	12.19	11.41	11.55	15.16
95th-Percentile Queue Length [ft/ln]	781.71	551.52	617.88	67.67	556.07	348.21	296.97	304.71	285.17	288.81	379.01

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	66.05	66.05	26.01	29.07	64.94	64.94	69.43	32.54	69.25	68.88	0.00	67.39	67.07	104.89
Movement LOS	E	F	C	C	E	E	E	C	E	E		E	E	F
d_A, Approach Delay [s/veh]	41.34				61.27				45.28			80.59		
Approach LOS	D				E				D			F		
d_I, Intersection Delay [s/veh]	51.22													
Intersection LOS	D													
Intersection V/C	1.007													

Emissions

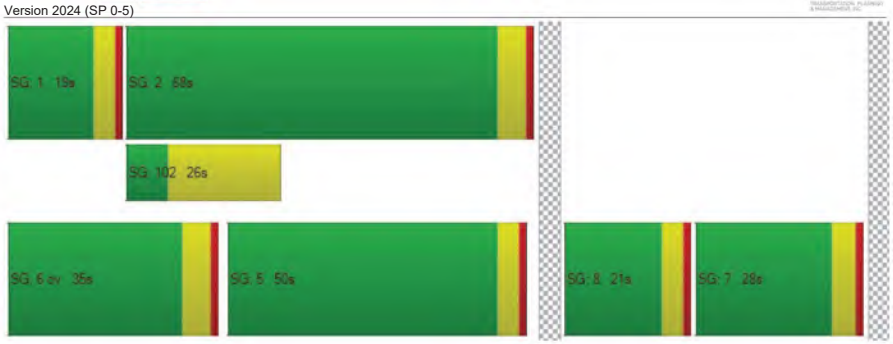
Vehicle Miles Traveled [mph]	205.69	223.46	117.36	8.28	232.99	67.19	9.15	9.49	6.04	6.17	6.68
Stops [stops/h]	1198.97	825.15	471.09	39.81	1249.71	238.41	196.24	202.55	186.66	189.61	264.17
Fuel consumption [US gal/h]	31.23	20.41	11.49	1.36	41.01	7.63	4.25	4.38	3.89	3.95	6.22
CO [g/h]	2183.21	1426.33	802.96	95.08	2866.79	533.39	297.32	306.43	272.09	275.95	434.50
NOx [g/h]	424.77	277.51	156.23	18.50	557.77	103.78	57.85	59.62	52.94	53.69	84.54
VOC [g/h]	505.98	330.57	186.09	22.03	664.41	123.62	68.91	71.02	63.06	63.95	100.70

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	57.44
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.558
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	915	429	337	241
d_b, Bicycle Delay [s]	20.02	41.93	47.03	52.59
l_b,int, Bicycle LOS Score for Intersection	3.367	2.507	2.225	2.112
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Latrobe Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	26.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.927

Intersection Setup

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	200.00	570.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No			No		
Crosswalk	No			No				No			Yes		

Volumes

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Base Volume Input [veh/h]	0	2117	609	1	388	1330	0	0	0	1197	0	0	861
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	57	9	0	0	54	0	0	0	44	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	185	0	0	0	0	0	0	372	0	0	258
Total Hourly Volume [veh/h]	0	2174	433	1	388	1384	0	0	0	869	0	0	603
Peak Hour Factor	1.0000	0.9500	0.8400	1.000	0.840	0.950	1.000	1.0000	1.0000	0.8400	1.0000	1.0000	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	572	129	0	115	364	0	0	0	259	0	0	179
Total Analysis Volume [veh/h]	0	2288	515	1	462	1457	0	0	0	1035	0	0	718
Presence of On-Street Parking	No		No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0				0			0	
v_co, Outbound Pedestrian Volume crossing		0			0				0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0	
Bicycle Volume [bicycles/h]		0			0				0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	26.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	30	0	0	26	34	0	0	0	22	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No				No			
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	4.2	0.0	0.0	2.6	4.2	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	2.5	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Minimum Recall		Yes			No	Yes				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	R	L	C	R	
C, Calculated Cycle Length [s]	68	68	68	68	68	
L, Total Lost Time per Cycle [s]	6.20	6.20	4.60	6.20	4.60	
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	4.20	4.20	2.60	4.20	2.60	
g_i, Effective Green Time [s]	38	38	20	35	22	
g / C, Green / Cycle	0.55	0.55	0.29	0.51	0.33	
(v / s)_i Volume / Saturation Flow Rate	0.45	0.32	0.26	0.21	0.37	
s, saturation flow rate [veh/h]	5094	1589	1781	6792	2813	
c, Capacity [veh/h]	2809	876	516	3476	927	
d1, Uniform Delay [s]	12.42	10.12	23.17	10.32	22.80	
k, delay calibration	0.50	0.50	0.17	0.50	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	2.73	2.88	8.80	0.37	54.01	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.81	0.59	0.90	0.42	1.12	
d, Delay for Lane Group [s/veh]	15.15	13.00	31.97	10.69	76.81	
Lane Group LOS	B	B	C	B	F	
Critical Lane Group	Yes	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	7.48	4.43	7.43	2.71	13.71	
50th-Percentile Queue Length [ft/ln]	187.12	110.75	185.84	67.84	342.80	
95th-Percentile Queue Length [veh/ln]	11.97	7.88	11.90	4.88	21.12	
95th-Percentile Queue Length [ft/ln]	299.30	197.04	297.62	122.11	528.07	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	15.15	13.00	31.97	31.97	10.69	0.00	0.00	0.00	76.81	0.00	0.00	0.00
Movement LOS		B	B	C	C	B				F			
d_A, Approach Delay [s/veh]		14.76			15.82			76.81			0.00		
Approach LOS		B			B			E			A		
d_I, Intersection Delay [s/veh]	26.27												
Intersection LOS	C												
Intersection V/C	0.927												

Emissions

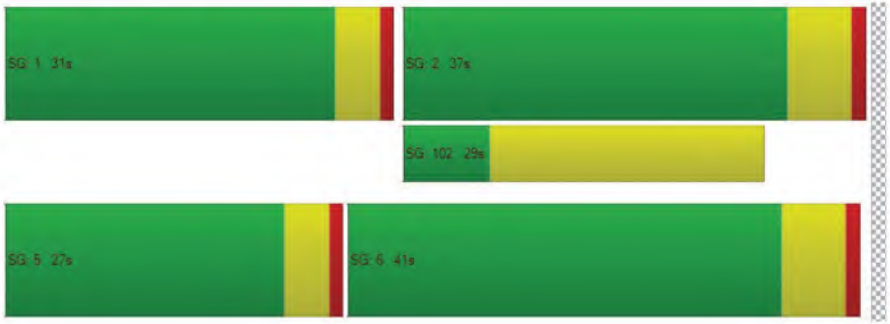
Vehicle Miles Traveled [mph]	331.07	74.52	79.30	249.54	74.07	
Stops [stops/h]	1188.79	234.52	393.53	574.62	1451.87	
Fuel consumption [US gal/h]	33.18	6.83	10.62	18.87	27.25	
CO [g/h]	2319.55	477.65	742.59	1318.91	1904.59	
NOx [g/h]	451.30	92.93	144.48	256.61	370.56	
VOC [g/h]	537.58	110.70	172.10	305.67	441.41	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	23.89
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.266
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	906	1024	659	0
d_b, Bicycle Delay [s]	10.18	8.10	15.29	34.00
l_b,int, Bicycle LOS Score for Intersection	3.203	2.161	1.560	1.560
Bicycle LOS	C	B	A	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	39.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.938

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	24	1820	215	3	532	1803	189	299	33	67	1	91	6	604
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	66	5	0	0	98	0	0	0	2	0	8	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	66	0	0	0	57	0	0	21	0	0	0	181
Total Hourly Volume [veh/h]	1	25	1886	154	3	532	1901	132	299	33	48	1	99	6	423
Peak Hour Factor	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.9600	0.9600	0.9600	0.960	0.960	0.960	0.960
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	7	491	40	1	139	495	34	78	9	13	0	26	2	110
Total Analysis Volume [veh/h]	1	26	1965	160	3	554	1980	138	311	34	50	1	103	6	441
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	138
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	0	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	40	0	0	12	65	0	15	20	0	0	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	0.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.0	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	0.0	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	46	0	0	16	71	0	19	24	0	0	19	19	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	0	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	Yes			No	Yes			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Calculated Cycle Length [s]	93	93	93	93	93	93	93	93	93	93	93	93
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	2	39	39	12	49	49	11	11	11	15	15	15
g / C, Green / Cycle	0.02	0.42	0.42	0.13	0.53	0.53	0.12	0.12	0.12	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.01	0.39	0.10	0.16	0.39	0.09	0.09	0.02	0.03	0.06	0.14	0.14
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	1870	1589	1781	1596	1589
c, Capacity [veh/h]	78	2150	671	444	2689	839	408	221	188	285	255	254
d1, Uniform Delay [s]	44.95	25.39	17.34	40.69	17.02	11.39	39.90	36.99	37.49	34.98	38.32	38.32
k, delay calibration	0.04	0.04	0.04	0.09	0.04	0.04	0.08	0.08	0.08	0.08	0.33	0.33
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.97	0.70	0.07	117.53	0.15	0.03	2.21	0.24	0.56	0.58	23.15	23.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.34	0.91	0.24	1.25	0.74	0.16	0.76	0.15	0.27	0.36	0.88	0.88
d, Delay for Lane Group [s/veh]	45.92	26.09	17.41	158.22	17.17	11.43	42.12	37.23	38.05	35.56	61.46	61.55
Lane Group LOS	D	C	B	F	B	B	D	D	D	D	E	E
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.32	13.01	2.16	12.26	10.09	1.41	3.53	0.70	1.06	2.13	6.55	6.53
50th-Percentile Queue Length [ft/ln]	7.88	325.22	53.99	306.59	252.18	35.36	88.30	17.62	26.46	53.16	163.73	163.23
95th-Percentile Queue Length [veh/ln]	0.57	18.92	3.89	19.68	15.30	2.55	6.36	1.27	1.90	3.83	10.75	10.72
95th-Percentile Queue Length [ft/ln]	14.19	473.10	97.18	492.04	382.40	63.66	158.93	31.72	47.62	95.69	268.66	267.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.92	45.92	26.09	17.41	158.2	158.2	17.17	11.43	42.12	37.23	38.05	35.56	35.56	61.46	61.51
Movement LOS	D	D	C	B	F	F	B	B	D	D	D	D	D	E	E
d_A, Approach Delay [s/veh]	25.70				46.25				41.18			56.61			
Approach LOS	C				D				D			E			
d_I, Intersection Delay [s/veh]	39.23														
Intersection LOS	D														
Intersection V/C	0.938														

Emissions

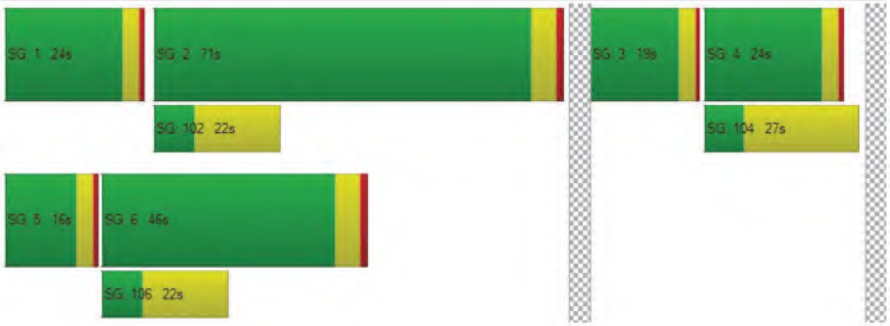
Vehicle Miles Traveled [mph]	6.03	438.66	35.72	80.60	286.50	19.97	39.67	4.34	6.38	36.50	78.60	78.29
Stops [stops/h]	24.39	1509.25	83.52	948.55	1170.30	54.70	273.17	27.26	40.92	82.24	253.28	252.50
Fuel consumption [US gal/h]	0.64	36.83	2.50	26.49	25.18	1.45	5.81	0.59	0.88	2.71	7.44	7.41
CO [g/h]	44.40	2574.45	174.66	1851.61	1760.05	101.02	405.94	41.01	61.22	189.40	519.76	518.04
NOx [g/h]	8.64	500.90	33.98	360.26	342.44	19.66	78.98	7.98	11.91	36.85	101.13	100.79
VOC [g/h]	10.29	596.65	40.48	429.13	407.91	23.41	94.08	9.50	14.19	43.90	120.46	120.06

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.19	0.00	36.19	36.19
l_p,int, Pedestrian LOS Score for Intersectio	3.418	0.000	2.588	2.860
Crosswalk LOS	C	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	870	1407	440	333
d_b, Bicycle Delay [s]	14.85	4.09	28.30	32.33
l_b,int, Bicycle LOS Score for Intersection	2.779	2.758	1.903	2.597
Bicycle LOS	C	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	54.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.664

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	3	2	0	0	1	2	0	0	0	3	0	0
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	260.0	100.0	100.0	260.0	360.0	100.0	100.0	100.0	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	6	73	1515	362	2	243	1325	392	2	349	336	86	393	164	194
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	73	19	0	0	108	0	0	0	0	0	26	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	114	0	0	0	118	0	0	0	26	0	0	58
Total Hourly Volume [veh/h]	6	73	1588	267	2	243	1433	274	2	349	336	60	419	164	136
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	20	427	72	1	65	385	74	1	94	90	16	113	44	37
Total Analysis Volume [veh/h]	6	78	1708	287	2	261	1541	295	2	375	361	65	451	176	146
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	158
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups															
Maximum Green [s]	0	25	50	0	0	35	50	0	0	25	15	0	15	25	0
Amber [s]	0.0	4.0	4.7	0.0	0.0	4.0	4.7	0.0	0.0	4.5	4.7	0.0	4.5	4.7	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	39	0	0	0	37	0	0	0	48	0	0	50	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	3.7	0.0	0.0	3.0	3.7	0.0	0.0	4.0	3.7	0.0	4.0	3.7	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	30	56	0	0	40	56	0	0	31	21	0	21	31	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	7	0	0	10	7	0	0	10	10	0	10	10	0
Vehicle Extension [s]	0.0	1.5	3.0	0.0	0.0	1.5	3.0	0.0	0.0	1.5	2.0	0.0	1.5	2.0	0.0
Minimum Recall		No	Yes			No	Yes			No	No		No	No	
Maximum Recall		No	No			No	No			No	No		No	No	
Pedestrian Recall		No	No			No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Calculated Cycle Length [s]	158	158	158	158	158	158	158	158	158	158	158	158
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	6.00	5.70	5.70	6.00	5.70	5.70
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	4.00	3.70	3.70	4.00	3.70	3.70
g_i, Effective Green Time [s]	10	85	85	14	90	90	19	21	21	15	17	17
g / C, Green / Cycle	0.06	0.54	0.54	0.09	0.57	0.57	0.12	0.13	0.13	0.09	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.05	0.25	0.18	0.08	0.30	0.19	0.11	0.12	0.12	0.13	0.05	0.09
s, saturation flow rate [veh/h]	1781	6792	1589	3459	5094	1589	3459	1870	1772	3459	3560	1589
c, Capacity [veh/h]	111	3672	859	309	2893	903	424	249	236	328	376	168
d1, Uniform Delay [s]	72.94	22.27	20.34	70.89	21.14	18.10	68.27	67.21	67.22	71.50	66.47	69.58
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.47	0.48	0.08	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.97	0.43	1.05	2.55	0.71	0.96	2.61	31.29	32.83	171.22	0.34	5.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.47	0.33	0.85	0.53	0.33	0.89	0.88	0.88	1.37	0.47	0.87
d, Delay for Lane Group [s/veh]	76.91	22.69	21.39	73.44	21.84	19.07	70.88	98.50	100.06	242.72	66.81	74.84
Lane Group LOS	E	C	C	E	C	B	E	F	F	F	E	E
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.50	9.96	6.30	5.29	11.52	5.81	7.69	10.87	10.41	14.49	3.38	6.09
50th-Percentile Queue Length [ft/ln]	87.44	248.96	157.43	132.27	287.96	145.35	192.28	271.68	260.34	362.26	84.62	152.31
95th-Percentile Queue Length [veh/ln]	6.30	15.13	10.41	9.06	17.08	9.77	12.24	16.27	15.71	23.10	6.09	10.14
95th-Percentile Queue Length [ft/ln]	157.38	378.34	260.32	226.58	427.11	244.22	305.99	406.84	392.65	577.55	152.31	253.50

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	76.91	76.91	22.69	21.39	73.44	73.44	21.84	19.07	70.88	70.88	99.12	100.0	242.72	66.81	74.84
Movement LOS	E	E	C	C	E	E	C	B	E	E	F	F	F	E	E
d_A, Approach Delay [s/veh]	24.70				27.92				85.94				170.96		
Approach LOS	C				C				F				F		
d_I, Intersection Delay [s/veh]	54.07														
Intersection LOS	D														
Intersection V/C	0.664														

Emissions

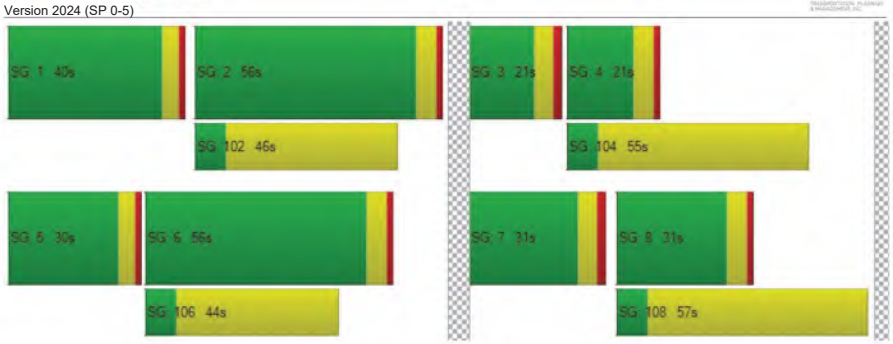
Vehicle Miles Traveled [mph]	33.44	679.93	114.25	58.71	344.01	65.85	94.09	54.55	51.77	47.12	18.39	15.25
Stops [stops/h]	79.69	907.59	143.48	241.10	787.34	132.47	350.49	247.61	237.28	660.32	154.24	138.81
Fuel consumption [US gal/h]	3.13	40.89	6.75	8.94	28.43	5.05	11.25	7.99	7.67	27.86	4.00	3.62
CO [g/h]	218.88	2858.39	471.49	624.92	1987.35	352.93	786.16	558.77	535.80	1947.37	279.72	252.90
NOx [g/h]	42.59	556.14	91.73	121.59	386.67	68.67	152.96	108.72	104.25	378.89	54.42	49.20
VOC [g/h]	50.73	662.46	109.27	144.83	460.59	81.80	182.20	129.50	124.18	451.32	64.83	58.61

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	68.38	68.38	68.38	68.38
l_p,int, Pedestrian LOS Score for Intersectio	3.501	3.820	2.760	2.961
Crosswalk LOS	D	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	637	637	194	320
d_b, Bicycle Delay [s]	36.71	36.71	64.44	55.73
l_b,int, Bicycle LOS Score for Intersection	2.462	2.635	1.934	2.245
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	25.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.873

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	6	1300	21	0	21	1371	285	408	7	15	1	4	9
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	92	0	0	0	135	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	6	0	0	0	86	0	0	5	0	0	3
Total Hourly Volume [veh/h]	1	6	1392	15	0	21	1506	199	408	7	10	1	4	6
Peak Hour Factor	1.000	0.890	0.890	0.870	1.000	0.870	0.890	0.890	0.8900	0.8700	0.8900	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	391	4	0	6	423	56	115	2	3	0	1	2
Total Analysis Volume [veh/h]	1	7	1564	17	0	24	1692	224	458	8	11	1	5	7
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	112
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	12	40	0	0	15	40	0	0	20	0	0	20	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	12	0	0	0	20	0	0	20	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	0	0	18	46	0	0	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	72	72	72	72	72	72	72	72	72
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	40	40	1	40	40	12	12	1
g / C, Green / Cycle	0.01	0.55	0.55	0.02	0.55	0.55	0.17	0.17	0.02
(v / s)_i Volume / Saturation Flow Rate	0.00	0.42	0.42	0.01	0.51	0.53	0.13	0.13	0.01
s, saturation flow rate [veh/h]	1781	1870	1863	1781	1870	1796	1781	1774	1702
c, Capacity [veh/h]	20	1021	1017	30	1032	991	306	305	29
d1, Uniform Delay [s]	35.60	12.96	12.98	35.51	14.94	15.61	28.72	28.72	35.28
k, delay calibration	0.04	0.29	0.29	0.04	0.39	0.42	0.11	0.11	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.90	3.42	3.46	15.93	12.78	19.24	4.35	4.37	3.87
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.41	0.78	0.78	0.80	0.93	0.97	0.78	0.78	0.44
d, Delay for Lane Group [s/veh]	40.50	16.39	16.44	51.43	27.73	34.85	33.07	33.08	39.15
Lane Group LOS	D	B	B	D	C	C	C	C	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.16	9.49	9.49	0.52	13.41	15.47	4.17	4.15	0.25
50th-Percentile Queue Length [ft/ln]	4.08	237.33	237.29	12.90	335.26	386.83	104.17	103.79	6.31
95th-Percentile Queue Length [veh/ln]	0.29	14.55	14.54	0.93	19.42	21.92	7.50	7.47	0.45
95th-Percentile Queue Length [ft/ln]	7.35	363.65	363.61	23.22	485.41	548.11	187.51	186.83	11.36

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.50	40.50	16.41	16.44	51.43	51.43	30.82	34.85	33.07	33.08	33.08	39.15	39.15	39.15
Movement LOS	D	D	B	B	D	D	C	C	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	16.54				31.54				33.08			39.15		
Approach LOS	B				C				C			D		
d_I, Intersection Delay [s/veh]	25.81													
Intersection LOS	C													
Intersection V/C	0.873													

Emissions

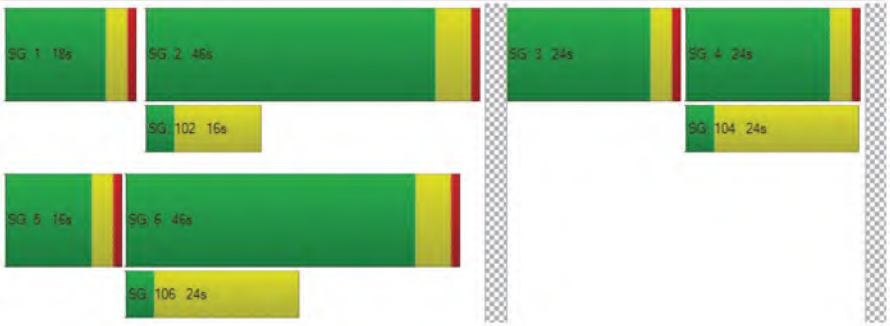
Vehicle Miles Traveled [mph]	2.83	280.05	279.41	9.55	381.46	381.27	57.55	57.32	0.25
Stops [stops/h]	8.13	472.89	472.82	25.70	668.04	770.79	207.57	206.82	12.57
Fuel consumption [US gal/h]	0.23	16.78	16.76	1.05	30.58	33.86	5.12	5.10	0.18
CO [g/h]	15.90	1172.93	1171.31	73.27	2137.23	2367.07	358.17	356.84	12.81
NOx [g/h]	3.09	228.21	227.89	14.26	415.83	460.55	69.69	69.43	2.49
VOC [g/h]	3.68	271.84	271.46	16.98	495.32	548.59	83.01	82.70	2.97

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	28.58	0.00	28.58	28.58
l_p,int, Pedestrian LOS Score for Intersectio	2.944	0.000	2.200	1.745
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1107	1107	553	553
d_b, Bicycle Delay [s]	7.20	7.20	18.90	18.90
l_b,int, Bicycle LOS Score for Intersection	2.875	3.211	2.355	1.586
Bicycle LOS	C	C	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Latrobe Rd/Suncast Ln

Control Type:	Signalized	Delay (sec / veh):	12.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.765

Intersection Setup

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Approach	Northbound			Southbound		Eastbound	
Lane Configuration							
Turning Movement	U-turn	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			No		Yes	

Volumes

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Base Volume Input [veh/h]	0	48	1131	1259	129	197	61
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	92	135	0	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	39	0	20
Total Hourly Volume [veh/h]	0	52	1223	1394	90	197	46
Peak Hour Factor	1.0000	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	15	344	392	25	55	13
Total Analysis Volume [veh/h]	0	58	1374	1566	101	221	52
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permissive	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	5	2	6	0	3	0
Auxiliary Signal Groups							
Maximum Green [s]	0	12	40	40	0	20	0
Amber [s]	0.0	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No	No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	46	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-
Minimum Green [s]	0	5	5	5	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall		No	No	No		No	
Maximum Recall		No	No	No		No	
Pedestrian Recall		No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	C	L	R
C, Calculated Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	3	40	33	33	10	10
g / C, Green / Cycle	0.05	0.67	0.55	0.55	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.03	0.39	0.45	0.46	0.12	0.03
s, saturation flow rate [veh/h]	1781	3560	1870	1831	1781	1589
c, Capacity [veh/h]	93	2396	1037	1015	287	256
d1, Uniform Delay [s]	27.96	5.24	10.78	10.96	24.19	21.91
k, delay calibration	0.04	0.15	0.23	0.24	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.58	0.31	3.16	3.72	4.38	0.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.63	0.57	0.80	0.82	0.77	0.20
d, Delay for Lane Group [s/veh]	30.54	5.55	13.93	14.68	28.58	22.29
Lane Group LOS	C	A	B	B	C	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.84	2.98	7.75	8.01	3.16	0.63
50th-Percentile Queue Length [ft/ln]	21.05	74.58	193.84	200.28	78.88	15.64
95th-Percentile Queue Length [veh/ln]	1.52	5.37	12.32	12.65	5.68	1.13
95th-Percentile Queue Length [ft/ln]	37.89	134.25	308.00	316.33	141.98	28.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.54	30.54	5.55	14.28	14.68	28.58	22.29
Movement LOS	C	C	A	B	B	C	C
d_A, Approach Delay [s/veh]	6.57			14.31		27.38	
Approach LOS	A			B		C	
d_I, Intersection Delay [s/veh]	12.08						
Intersection LOS	B						
Intersection V/C	0.765						

Emissions

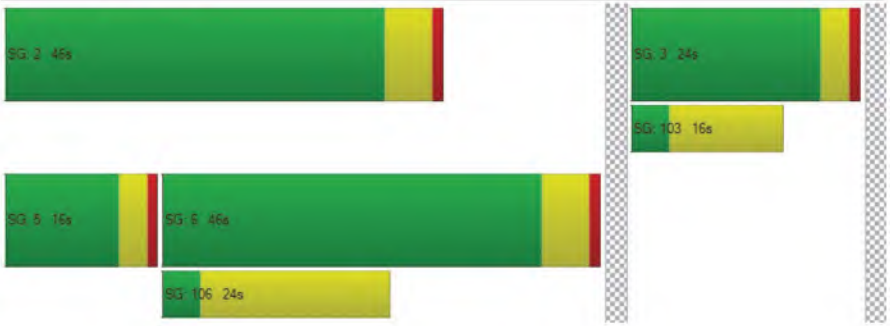
Vehicle Miles Traveled [mph]	40.47	958.65	294.94	294.94	74.56	17.54
Stops [stops/h]	50.45	357.57	464.64	480.10	189.08	37.48
Fuel consumption [US gal/h]	2.31	42.99	17.07	17.28	5.40	1.17
CO [g/h]	161.13	3005.20	1193.38	1208.19	377.42	81.45
NOx [g/h]	31.35	584.70	232.19	235.07	73.43	15.85
VOC [g/h]	37.34	696.48	276.58	280.01	87.47	18.88

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.57	0.00	22.57
l_p,int, Pedestrian LOS Score for Intersectio	2.881	0.000	2.111
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1332	1332	666
d_b, Bicycle Delay [s]	3.35	3.35	13.37
l_b,int, Bicycle LOS Score for Intersection	2.741	2.967	1.560
Bicycle LOS	B	C	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	54.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.906

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	98	575	21	249	446	625	494	119	26	13	155	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	27	96	13	0	140	0	0	0	39	16	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	10	0	0	188	0	0	20	0	0	33
Total Hourly Volume [veh/h]	125	671	24	249	586	437	494	119	45	29	155	77
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	184	7	68	161	120	136	33	12	8	43	21
Total Analysis Volume [veh/h]	137	737	26	274	644	480	543	131	49	32	170	85
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Calculated Cycle Length [s]	76	76	76	76	76	76	76	76	76	76
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	7	20	20	12	25	25	15	15	10	10
g / C, Green / Cycle	0.10	0.27	0.27	0.16	0.33	0.33	0.20	0.20	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.08	0.21	0.21	0.15	0.32	0.33	0.20	0.20	0.11	0.05
s, saturation flow rate [veh/h]	1781	1870	1848	1781	1870	1611	1781	1783	1855	1589
c, Capacity [veh/h]	173	500	494	279	611	526	349	349	249	213
d1, Uniform Delay [s]	33.77	25.85	25.85	32.14	25.46	25.76	30.76	30.76	32.18	30.30
k, delay calibration	0.04	0.09	0.09	0.35	0.37	0.39	0.40	0.40	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.04	2.12	2.14	40.79	26.13	35.43	52.22	52.13	2.41	0.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.77	0.77	0.98	0.98	1.00	1.04	1.03	0.81	0.40
d, Delay for Lane Group [s/veh]	36.82	27.97	28.00	72.93	51.59	61.19	82.98	82.89	34.59	30.74
Lane Group LOS	D	C	C	E	D	F	F	F	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.56	6.41	6.34	7.66	13.42	13.20	11.22	11.22	3.68	1.42
50th-Percentile Queue Length [ft/ln]	64.09	160.36	158.55	191.40	335.40	330.11	280.49	280.53	92.03	35.47
95th-Percentile Queue Length [veh/ln]	4.61	10.57	10.47	12.19	19.42	19.19	17.01	17.01	6.63	2.55
95th-Percentile Queue Length [ft/ln]	115.36	264.20	261.80	304.85	485.57	479.83	425.32	425.33	165.66	63.84

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.82	27.98	28.00	72.93	52.30	61.19	82.95	82.89	82.89	34.59	34.59	30.74
Movement LOS	D	C	C	E	D	E	F	F	F	C	C	C
d_A, Approach Delay [s/veh]	29.33			59.40			82.93			33.45		
Approach LOS	C			E			F			C		
d_I, Intersection Delay [s/veh]	54.11											
Intersection LOS	D											
Intersection V/C	0.906											

Emissions

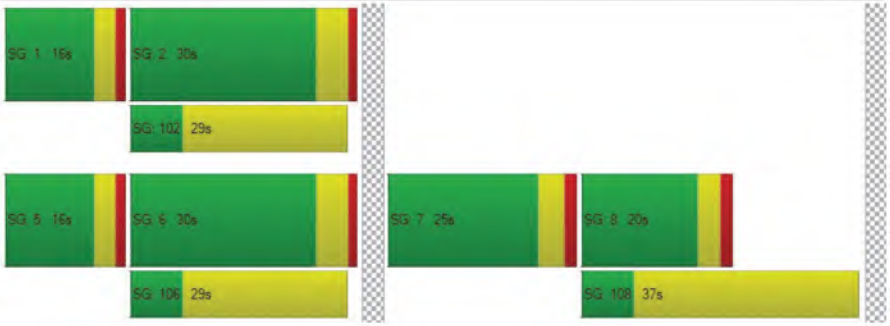
Vehicle Miles Traveled [mph]	79.12	221.64	219.01	191.17	416.02	368.20	27.19	27.20	22.34	9.40
Stops [stops/h]	120.78	302.21	298.79	360.71	632.08	622.12	528.60	528.67	173.44	66.84
Fuel consumption [US gal/h]	4.95	12.98	12.83	17.16	31.92	30.44	10.14	10.14	3.30	1.29
CO [g/h]	346.06	907.18	896.61	1199.57	2230.98	2127.99	708.86	708.78	230.66	90.03
NOx [g/h]	67.33	176.50	174.45	233.39	434.07	414.03	137.92	137.90	44.88	17.52
VOC [g/h]	80.20	210.25	207.80	278.01	517.05	493.18	164.29	164.27	53.46	20.87

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	28.00	0.00	28.00	28.00
l_p,int, Pedestrian LOS Score for Intersectio	2.628	0.000	2.518	2.225
Crosswalk LOS	B	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	647	647	406	523
d_b, Bicycle Delay [s]	17.50	17.50	24.28	20.82
l_b,int, Bicycle LOS Score for Intersection	2.310	2.868	2.786	2.088
Bicycle LOS	B	C	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	24.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.853

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	115	314	447	38	380	79
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	136	195	0	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	11	0	25
Total Hourly Volume [veh/h]	119	450	642	27	380	59
Peak Hour Factor	0.9000	0.9000	0.9000	0.7900	0.7900	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	125	178	9	120	16
Total Analysis Volume [veh/h]	132	500	713	34	481	66
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	164
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	50	50	50	0	50	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	54	56	56	0	54	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Calculated Cycle Length [s]	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	8	46	34	34	24	24
g / C, Green / Cycle	0.09	0.57	0.43	0.43	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.07	0.27	0.38	0.02	0.27	0.04
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1589
c, Capacity [veh/h]	168	1068	798	678	542	484
d1, Uniform Delay [s]	35.57	10.09	21.32	13.48	26.62	20.27
k, delay calibration	0.04	0.15	0.20	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.04	0.46	6.65	0.04	5.12	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.47	0.89	0.05	0.89	0.14
d, Delay for Lane Group [s/veh]	38.61	10.54	27.97	13.52	31.74	20.40
Lane Group LOS	D	B	C	B	C	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.44	3.91	11.55	0.31	9.08	0.89
50th-Percentile Queue Length [ft/ln]	61.10	97.80	288.79	7.80	227.00	22.13
95th-Percentile Queue Length [veh/ln]	4.40	7.04	17.13	0.56	14.02	1.59
95th-Percentile Queue Length [ft/ln]	109.99	176.03	428.14	14.04	350.55	39.84

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.61	10.54	27.97	13.52	31.74	20.40
Movement LOS	D	B	C	B	C	C
d_A, Approach Delay [s/veh]	16.40		27.31		30.37	
Approach LOS	B		C		C	
d_I, Intersection Delay [s/veh]	24.60					
Intersection LOS	C					
Intersection V/C	0.853					

Emissions

Vehicle Miles Traveled [mph]	16.29	61.69	411.77	19.64	112.97	15.50
Stops [stops/h]	109.76	175.66	518.73	14.01	407.74	39.75
Fuel consumption [US gal/h]	3.62	6.40	27.47	1.01	10.01	1.13
CO [g/h]	253.08	447.31	1919.99	70.64	699.71	79.11
NOx [g/h]	49.24	87.03	373.56	13.74	136.14	15.39
VOC [g/h]	58.65	103.67	444.98	16.37	162.16	18.33

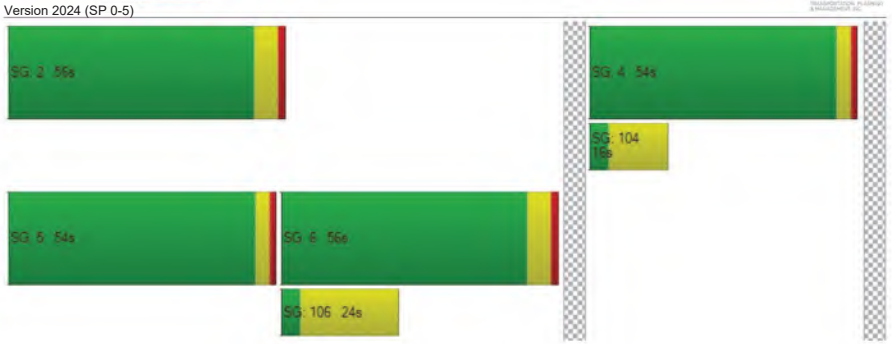
Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0		0.0		8.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	32.48		0.00		32.48	
l_p,int, Pedestrian LOS Score for Intersectio	2.793		0.000		2.216	
Crosswalk LOS	C		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	1247		1247		1247	
d_b, Bicycle Delay [s]	5.68		5.68		5.68	
l_b,int, Bicycle LOS Score for Intersection	2.602		2.810		1.560	
Bicycle LOS	B		C		A	

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	44.1
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.133

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	380	0	25	501	0	0	0	0	0	0	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	127	0	0	181	19	13	0	1	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	507	0	25	682	19	13	0	1	0	0	49
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	138	0	6	185	5	4	0	0	0	0	12
Total Analysis Volume [veh/h]	2	551	0	25	741	21	14	0	1	0	0	49
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Free		Free		Stop		Stop	
Flared Lane					Yes		Yes	
Storage Area [veh]	0		0		1		1	
Two-Stage Gap Acceptance					No		No	
Number of Storage Spaces in Median	0		0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.02	0.01	0.00	0.13	0.00	0.00	0.00	0.00	0.09
d_M, Delay for Movement [s/veh]	9.24	0.00	0.00	8.56	0.00	0.00	44.05	35.16	18.61	35.66	31.37	12.42
Movement LOS	A	A	A	A	A	A	E	E	C	E	D	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.04	0.04	0.04	0.44	0.44	0.44	0.30	0.30	0.30
95th-Percentile Queue Length [ft/ln]	0.08	0.08	0.08	1.06	1.06	1.06	11.11	11.11	11.11	7.54	7.54	7.54
d_A, Approach Delay [s/veh]	0.03			0.27			42.35			12.42		
Approach LOS	A			A			E			B		
d_I, Intersection Delay [s/veh]	1.05											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Two-way stop	Delay (sec / veh):	140.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.979

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	311	16	94	407	0	0	0	0	54	0	69
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	20	8	0	0	11	161	121	0	14	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	10	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	319	16	94	418	171	121	0	14	54	2	69
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	86	4	25	112	46	33	0	4	15	1	19
Total Analysis Volume [veh/h]	22	343	17	101	449	184	130	0	15	58	2	74
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free			Free			Stop			Stop		
Flared Lane							No			No		
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance							No			No		
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.08	0.00	0.00	0.98	0.00	0.03	0.38	0.01	0.11
d_M, Delay for Movement [s/veh]	8.88	0.00	0.00	8.28	0.00	0.00	140.17	133.27	119.70	41.02	40.23	22.75
Movement LOS	A	A	A	A	A	A	F	F	F	E	E	C
95th-Percentile Queue Length [veh/ln]	0.07	0.00	0.00	0.28	0.00	0.00	7.44	7.44	7.44	2.58	2.58	2.58
95th-Percentile Queue Length [ft/ln]	1.78	0.00	0.00	6.89	0.00	0.00	185.94	185.94	185.94	64.47	64.47	64.47
d_A, Approach Delay [s/veh]	0.51			1.14			138.05			30.92		
Approach LOS	A			A			F			D		
d_I, Intersection Delay [s/veh]	18.06											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Two-way stop	Delay (sec / veh):	3,202.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	6.837

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	101	470	168	48	1	692	185
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	39	0	0	0	27
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	101	470	207	48	1	692	212
Peak Hour Factor	1.0000	0.8800	0.8800	0.8800	0.8800	1.0000	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	29	134	59	14	0	197	60
Total Analysis Volume [veh/h]	0	115	534	235	55	1	786	241
Pedestrian Volume [ped/h]	0			0		0		

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	6.84	0.69	0.00	0.00	0.00	0.62	0.00
d_M, Delay for Movement [s/veh]	3202.74	3202.74	2993.35	0.00	0.00	22.24	9.63	0.00
Movement LOS	F	F	F	A	A	C	A	A
95th-Percentile Queue Length [veh/ln]	73.65	73.65	73.65	0.00	0.00	2.52	2.52	2.52
95th-Percentile Queue Length [ft/ln]	1841.23	1841.23	1841.23	0.00	0.00	63.07	63.07	63.07
d_A, Approach Delay [s/veh]	3030.45			0.00		7.39		
Approach LOS	F			A		A		
d_I, Intersection Delay [s/veh]	1003.74							
Intersection LOS	F							

Intersection Level Of Service Report
Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Control Type:	All-way stop	Delay (sec / veh):	20.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.750

Intersection Setup

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Base Volume Input [veh/h]	30	195	59	0	25	319	22	16	23	19	211	16	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	5	0	0	0	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	195	59	0	30	319	22	16	23	19	211	16	49
Peak Hour Factor	0.8300	0.8300	0.8300	1.000	0.790	0.830	0.830	0.8300	0.8300	0.8300	0.8300	0.8300	0.7900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	59	18	0	9	96	7	5	7	6	64	5	16
Total Analysis Volume [veh/h]	36	235	71	0	38	384	27	19	28	23	254	19	62
Pedestrian Volume [ped/h]	0			0				0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	588	599	502	553
Degree of Utilization, x	0.58	0.75	0.14	0.61

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.73	6.63	0.48	4.02
95th-Percentile Queue Length [ft]	93.25	165.84	12.05	100.41
Approach Delay [s/veh]	17.32	24.79	11.33	19.00
Approach LOS	C	C	B	C
Intersection Delay [s/veh]	20.25			
Intersection LOS	C			

Intersection Level Of Service Report
Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	16.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.021

Intersection Setup

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00			30.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	No		No			No		

Volumes

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Base Volume Input [veh/h]	6	80	0	143	48	2	109	190
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	39	0	0	0	0	27	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	119	0	143	48	2	136	190
Peak Hour Factor	0.8400	0.8400	1.0000	0.8400	0.8400	1.0000	0.8400	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	35	0	43	14	1	40	57
Total Analysis Volume [veh/h]	7	142	0	170	57	2	162	226
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Priority Scheme	Stop		Free			Free		
Flared Lane								
Storage Area [veh]	0		0			0		
Two-Stage Gap Acceptance	No							
Number of Storage Spaces in Median	0		0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.17	0.00	0.00	0.00	0.00	0.12	0.00
d_M, Delay for Movement [s/veh]	16.05	10.14	9.37	0.00	0.00	10.65	8.07	0.00
Movement LOS	C	B	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.60	0.00	0.00	0.00	0.42	0.42	0.00
95th-Percentile Queue Length [ft/ln]	1.61	15.10	0.00	0.00	0.00	10.56	10.56	0.00
d_A, Approach Delay [s/veh]	10.41		0.00			3.41		
Approach LOS	B		A			A		
d_I, Intersection Delay [s/veh]	3.76							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 16: Carson Crossing Rd/Calypso Cir.

Control Type:	Two-way stop	Delay (sec / veh):	11.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.023

Intersection Setup

Name			Carson Crossing Rd		Carson Crossing Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	190.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			Carson Crossing Rd		Carson Crossing Rd	
Base Volume Input [veh/h]	12	43	87	36	37	174
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	39	0	0	27
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	43	126	36	37	201
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	12	34	10	10	55
Total Analysis Volume [veh/h]	13	47	137	39	40	218
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.05	0.00	0.00	0.03	0.00
d_M, Delay for Movement [s/veh]	11.77	9.31	0.00	0.00	7.65	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.24	0.24	0.00	0.00	0.09	0.00
95th-Percentile Queue Length [ft/ln]	6.04	6.04	0.00	0.00	2.20	0.00
d_A, Approach Delay [s/veh]	9.84		0.00		1.19	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.81					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 17: Carson Crossing Rd/Four Seasons Dr

Control Type:	All-way stop	Delay (sec / veh):	8.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.148

Intersection Setup

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	500.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	500.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Base Volume Input [veh/h]	174	0	19	125	0	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	27	0	0	39	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	201	0	19	164	0	3
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	55	0	5	45	0	1
Total Analysis Volume [veh/h]	218	0	21	178	0	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	735	735	692	765	765	748
Degree of Utilization, x	0.15	0.15	0.03	0.12	0.12	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.52	0.52	0.09	0.39	0.39	0.01
95th-Percentile Queue Length [ft]	12.98	12.98	2.35	9.82	9.82	0.30
Approach Delay [s/veh]	8.45		8.03			7.83
Approach LOS	A		A			A
Intersection Delay [s/veh]	8.25					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	107.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.950

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	138	0	25	7	1	21	5	408	85	66	397	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	27	0	0	0	0	0	0	0	39	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	165	0	25	7	1	21	5	408	124	66	397	11
Peak Hour Factor	0.9700	1.0000	0.9300	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9300	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	0	7	2	0	5	1	105	32	18	102	3
Total Analysis Volume [veh/h]	170	0	27	7	1	22	5	421	128	71	409	11
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.95	0.00	0.05	0.04	0.01	0.03	0.00	0.00	0.00	0.07	0.00	0.00
d_M, Delay for Movement [s/veh]	107.37	22.57	11.49	25.71	24.50	11.44	8.17	0.00	0.00	8.79	0.00	0.00
Movement LOS	F	C	B	D	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	7.45	0.15	0.15	0.25	0.25	0.25	0.01	0.00	0.00	0.22	0.00	0.00
95th-Percentile Queue Length [ft/ln]	186.19	3.64	3.64	6.34	6.34	6.34	0.33	0.00	0.00	5.60	0.00	0.00
d_A, Approach Delay [s/veh]	94.23			15.21			0.07			1.27		
Approach LOS	F			C			A			A		
d_I, Intersection Delay [s/veh]	15.47											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 19: White Rock Rd/Windfield Way

Control Type:	Signalized	Delay (sec / veh):	29.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.452

Intersection Setup

Name	Windfield Way						White Rock Rd			White Rock Rd			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00			
Grade [%]	0.00			0.00			0.00			0.00			
Curb Present	No			No			No			No			
Crosswalk	Yes			Yes			Yes			No			

Volumes

Name	Windfield Way						White Rock Rd			White Rock Rd			
Base Volume Input [veh/h]	238	5	239	5	5	5	5	520	71	14	144	468	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	72	0	0	0	0	0	21	0	0	0	0
Total Hourly Volume [veh/h]	238	5	167	5	5	5	5	520	50	14	144	468	5
Peak Hour Factor	0.9400	1.0000	0.9400	1.0000	1.0000	1.0000	1.0000	0.9400	0.9400	1.000	0.940	0.940	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	63	1	44	1	1	1	1	138	13	4	38	124	1
Total Analysis Volume [veh/h]	253	5	178	5	5	5	5	553	53	14	153	498	5
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	73.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi
Signal Group	3	8	0	7	4	0	5	2	0	0	1	6	0
Auxiliary Signal Groups													
Maximum Green [s]	25	25	0	10	10	0	9	19	0	0	44	54	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	2.0	1.0	0.0	0.0	2.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	26	0	0	13	0	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	245.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	15	15	0	15	25	0	0	50	60	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	3	3	0	5	3	0	5	7	0	0	3	7	0
Vehicle Extension [s]	1.0	1.0	0.0	3.0	1.0	0.0	3.0	3.6	0.0	0.0	1.0	3.6	0.0
Minimum Recall	No	No		No	No		No	Yes			No	Yes	
Maximum Recall	No	No		No	No		No	No			No	No	
Pedestrian Recall	No	No		No	No		No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	19	19	1	1	1	65	65	13	78	78
g / C, Green / Cycle	0.16	0.16	0.01	0.01	0.01	0.54	0.54	0.11	0.65	0.65
(v / s)_i Volume / Saturation Flow Rate	0.14	0.11	0.00	0.01	0.00	0.16	0.16	0.09	0.13	0.13
s, saturation flow rate [veh/h]	1781	1596	1781	1718	1781	1870	1813	1781	1870	1863
c, Capacity [veh/h]	279	251	12	13	12	1016	985	195	1208	1203
d1, Uniform Delay [s]	49.73	48.11	59.37	59.46	59.37	14.98	14.99	52.52	8.70	8.70
k, delay calibration	0.14	0.04	0.11	0.04	0.11	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.27	1.52	21.73	31.68	21.99	0.77	0.79	4.19	0.39	0.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.73	0.42	0.79	0.42	0.30	0.30	0.86	0.21	0.21
d, Delay for Lane Group [s/veh]	62.99	49.62	81.09	91.14	81.36	15.75	15.79	56.71	9.09	9.09
Lane Group LOS	E	D	F	F	F	B	B	E	A	A
Critical Lane Group	Yes	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	8.47	5.31	0.22	0.42	0.22	4.75	4.63	5.17	2.73	2.72
50th-Percentile Queue Length [ft/ln]	211.69	132.87	5.59	10.39	5.60	118.63	115.78	129.19	68.14	67.94
95th-Percentile Queue Length [veh/ln]	13.24	9.10	0.40	0.75	0.40	8.32	8.16	8.90	4.91	4.89
95th-Percentile Queue Length [ft/ln]	330.99	227.39	10.06	18.70	10.08	207.94	204.02	222.39	122.66	122.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	62.99	49.62	49.62	81.09	91.14	91.14	81.36	15.76	15.79	56.71	56.71	9.09	9.09
Movement LOS	E	D	D	F	F	F	F	B	B	E	E	A	A
d_A, Approach Delay [s/veh]	57.38			87.79			16.30			20.96			
Approach LOS	E			F			B			C			
d_I, Intersection Delay [s/veh]	29.06												
Intersection LOS	C												
Intersection V/C	0.452												

Emissions

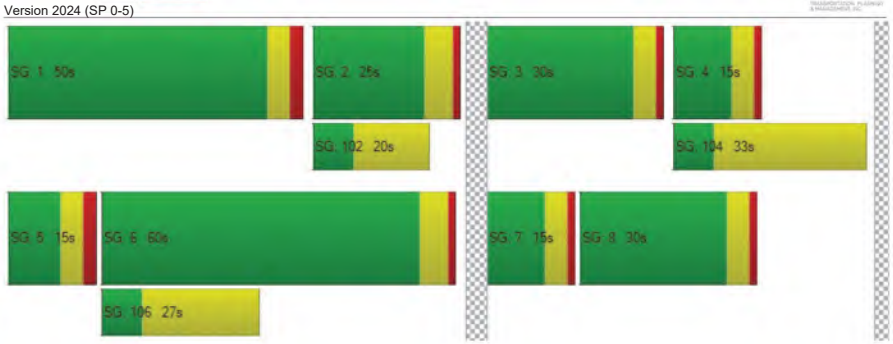
Vehicle Miles Traveled [mph]	97.48	70.51	0.23	0.46	4.21	258.37	251.59	41.68	62.87	62.67
Stops [stops/h]	254.03	159.45	6.71	12.47	6.72	142.36	138.94	155.02	81.77	81.53
Fuel consumption [US gal/h]	8.66	5.63	0.13	0.27	0.29	12.41	12.09	4.50	3.51	3.49
CO [g/h]	605.29	393.64	9.01	19.09	20.49	867.22	844.76	314.50	245.05	244.29
NOx [g/h]	117.77	76.59	1.75	3.71	3.99	168.73	164.36	61.19	47.68	47.53
VOC [g/h]	140.28	91.23	2.09	4.42	4.75	200.99	195.78	72.89	56.79	56.62

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.297	1.964	2.614	0.000
Crosswalk LOS	B	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	417	167	317	900
d_b, Bicycle Delay [s]	37.60	50.42	42.50	18.15
l_b,int, Bicycle LOS Score for Intersection	2.398	1.584	2.081	1.986
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 20: White Rock Rd/Post St

Control Type:	Signalized	Delay (sec / veh):	69.3
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.531

Intersection Setup

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Approach	Northbound			Southbound			Eastbound				Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0	120.00	100.00	400.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00				30.00		
Grade [%]	0.00			0.00			0.00				0.00		
Curb Present	No			No			No				No		
Crosswalk	Yes			Yes			Yes				No		

Volumes

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	50	16	29	186	15	177	3	205	712	21	86	521	178
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	19	0	0	26	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	9	0	0	53	0	0	0	6	0	0	53
Total Hourly Volume [veh/h]	50	16	20	186	15	124	3	205	731	15	86	547	125
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	1.000	0.910	0.860	0.910	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	4	5	51	4	34	1	56	213	4	24	150	34
Total Analysis Volume [veh/h]	55	18	22	204	16	136	3	225	850	16	95	601	137
Presence of On-Street Parking	No		No	No		No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0				0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0				0		
v_co, Outbound Pedestrian Volume crossing	0			0			0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0				0		
Bicycle Volume [bicycles/h]	0			0			0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	55.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups													
Maximum Green [s]	21	62	0	8	48	0	0	14	31	0	16	34	0
Amber [s]	3.5	5.0	0.0	3.5	5.0	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.7	1.0	0.0	1.0	1.0	0.0	0.0	2.0	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	32	0	0	0	21	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.2	4.0	0.0	2.5	4.0	0.0	0.0	3.5	2.5	0.0	3.0	2.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	100.0	0.0	100.0	100.0	0.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	0	13	54	0	0	20	36	0	21	39	0
Lead / Lag	Lead	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	3	7	0	3	7	0	0	3	3	0	3	3	0
Vehicle Extension [s]	1.0	3.6	0.0	1.0	3.6	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No			No	Yes		No	Yes	
Maximum Recall	No	No		No	No			No	No		No	No	
Pedestrian Recall	No	No		No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Calculated Cycle Length [s]	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	5.20	6.00	4.50	6.00	5.50	4.50	4.50	5.00	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.20	4.00	2.50	4.00	3.50	2.50	2.50	3.00	2.50	2.50
g_i, Effective Green Time [s]	6	13	9	16	20	89	89	9	78	78
g / C, Green / Cycle	0.04	0.10	0.06	0.11	0.14	0.64	0.64	0.07	0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.03	0.02	0.11	0.09	0.13	0.24	0.01	0.05	0.20	0.20
s, saturation flow rate [veh/h]	1781	1705	1781	1615	1781	3560	1589	1781	1870	1751
c, Capacity [veh/h]	71	163	108	180	250	2261	1010	117	1041	975
d1, Uniform Delay [s]	66.57	58.62	65.75	61.02	59.30	12.24	9.41	64.56	17.28	17.28
k, delay calibration	0.04	0.13	0.50	0.13	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.44	0.96	431.73	12.47	5.21	0.48	0.03	5.05	0.99	1.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.25	1.89	0.84	0.91	0.38	0.02	0.81	0.37	0.37
d, Delay for Lane Group [s/veh]	73.00	59.59	497.48	73.49	64.51	12.72	9.44	69.61	18.27	18.35
Lane Group LOS	E	E	F	E	E	B	A	E	B	B
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.08	1.37	16.84	5.94	8.35	6.45	0.19	3.52	7.15	6.73
50th-Percentile Queue Length [ft/ln]	52.07	34.17	421.00	148.48	208.63	161.30	4.76	88.04	178.77	168.17
95th-Percentile Queue Length [veh/ln]	3.75	2.46	27.32	9.94	13.08	10.62	0.34	6.34	11.54	10.98
95th-Percentile Queue Length [ft/ln]	93.73	61.50	682.94	248.40	327.07	265.44	8.57	158.46	288.41	274.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	73.00	59.59	59.59	497.48	73.49	73.49	64.51	64.51	12.72	9.44	69.61	18.30	18.35
Movement LOS	E	E	E	F	E	E	E	E	B	A	E	B	B
d_A, Approach Delay [s/veh]	67.35			316.45			23.46				24.16		
Approach LOS	E			F			C				C		
d_I, Intersection Delay [s/veh]	69.32												
Intersection LOS	E												
Intersection V/C	0.531												

Emissions

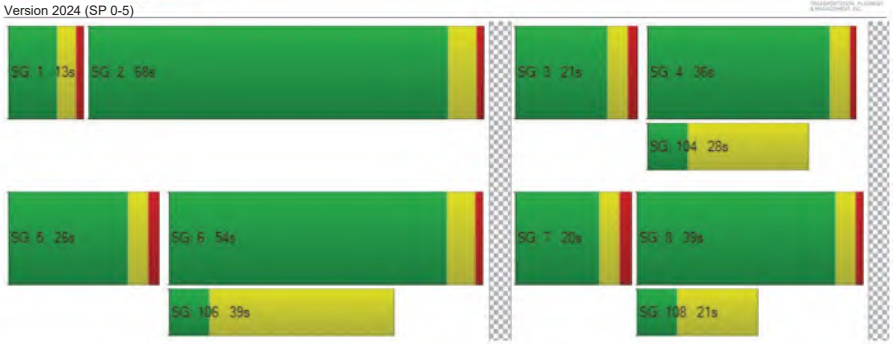
Vehicle Miles Traveled [mph]	2.75	2.00	9.48	7.07	23.82	88.81	1.67	33.26	133.35	125.06
Stops [stops/h]	53.56	35.14	433.03	152.72	214.59	331.81	4.90	90.55	183.88	172.97
Fuel consumption [US gal/h]	1.23	0.76	23.43	3.41	5.16	7.69	0.13	3.22	7.92	7.44
CO [g/h]	85.71	53.23	1637.77	238.19	360.60	537.49	8.85	224.75	553.73	519.89
NOx [g/h]	16.68	10.36	318.65	46.34	70.16	104.58	1.72	43.73	107.74	101.15
VOC [g/h]	19.86	12.34	379.57	55.20	83.57	124.57	2.05	52.09	128.33	120.49

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	59.43	59.43	59.43	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.051	2.310	2.799	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	886	686	450	493
d_b, Bicycle Delay [s]	21.73	30.23	42.04	39.75
l_b,int, Bicycle LOS Score for Intersection	1.731	2.234	2.281	2.291
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	59.8
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.936

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	57	61	268	230	100	36	33	574	121	234	562	158
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	9	0	0	8	6	13	0	13	18	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	83	0	0	13	0	0	36	0	0	47
Total Hourly Volume [veh/h]	57	61	194	230	100	31	39	587	85	247	580	111
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	16	50	59	26	8	10	151	22	64	149	29
Total Analysis Volume [veh/h]	59	63	200	237	103	32	40	605	88	255	598	114
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	0	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	35	0	0	40	0	25	45	0	25	45	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	18	0	0	17	0	0	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	0	0	44	0	29	50	0	29	51	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	0.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Calculated Cycle Length [s]	124	124	124	124	124	124	124	124
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	3.50	5.30	3.50	6.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	1.50	3.30	1.50	4.00
g_i, Effective Green Time [s]	22	22	19	19	4	45	20	60
g / C, Green / Cycle	0.18	0.18	0.16	0.16	0.03	0.36	0.16	0.49
(v / s)_i Volume / Saturation Flow Rate	0.03	0.16	0.13	0.08	0.02	0.38	0.14	0.39
s, saturation flow rate [veh/h]	1781	1649	1781	1795	1781	1829	1781	1819
c, Capacity [veh/h]	323	299	281	283	54	664	284	884
d1, Uniform Delay [s]	42.96	49.42	50.75	47.57	59.63	39.51	51.16	26.92
k, delay calibration	0.13	0.16	0.13	0.13	0.04	0.48	0.20	0.49
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	11.40	8.35	1.55	7.05	46.25	16.37	7.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.18	0.88	0.84	0.48	0.74	1.04	0.90	0.81
d, Delay for Lane Group [s/veh]	43.30	60.82	59.10	49.12	66.68	85.76	67.53	34.58
Lane Group LOS	D	E	E	D	E	F	E	C
Critical Lane Group	No	Yes	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.57	8.85	7.78	3.93	1.35	28.32	9.04	19.17
50th-Percentile Queue Length [ft/ln]	39.30	221.36	194.59	98.26	33.81	707.98	225.95	479.21
95th-Percentile Queue Length [veh/ln]	2.83	13.73	12.36	7.07	2.43	38.21	13.97	26.35
95th-Percentile Queue Length [ft/ln]	70.74	343.37	308.97	176.87	60.86	955.13	349.21	658.71

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.30	60.82	60.82	59.10	49.12	49.12	66.68	85.76	85.76	67.53	34.58	34.58
Movement LOS	D	E	E	E	D	D	E	F	F	E	C	C
d_A, Approach Delay [s/veh]	57.61			55.48			84.72			43.27		
Approach LOS	E			E			F			D		
d_I, Intersection Delay [s/veh]	59.79											
Intersection LOS	E											
Intersection V/C	0.936											

Emissions

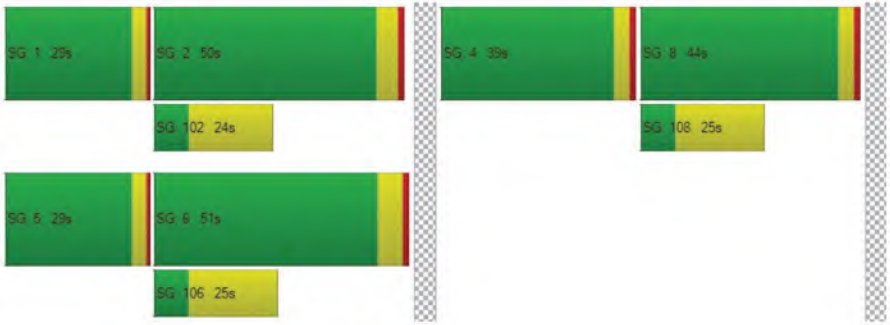
Vehicle Miles Traveled [mph]	101.52	452.53	48.05	27.37	14.01	242.66	115.06	321.27
Stops [stops/h]	45.72	257.52	226.37	114.31	39.33	823.61	262.85	557.47
Fuel consumption [US gal/h]	4.95	23.31	6.08	3.11	1.34	26.63	9.69	21.32
CO [g/h]	346.11	1629.11	424.89	217.23	93.43	1861.59	677.52	1490.00
NOx [g/h]	67.34	316.97	82.67	42.26	18.18	362.20	131.82	289.90
VOC [g/h]	80.21	377.56	98.47	50.34	21.65	431.44	157.02	345.32

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.38	51.38	51.38	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.362	2.185	2.485	0.000
Crosswalk LOS	B	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	562	643	722	727
d_b, Bicycle Delay [s]	31.98	28.49	25.26	25.07
l_b,int, Bicycle LOS Score for Intersection	2.228	2.195	2.828	3.233
Bicycle LOS	B	B	C	C

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 22: White Rock Rd/Clarksville Crossing

Control Type:	Signalized	Delay (sec / veh):	23.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.760

Intersection Setup

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	180.00	460.00	100.00	100.00	290.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	0	0	2	80	0	334	8	1064	0	0	620	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	23	0	0	32	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	2	80	0	334	8	1087	0	0	652	2
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.9600	0.7800	0.7800	0.9600	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	26	0	107	3	283	0	0	170	1
Total Analysis Volume [veh/h]	0	0	3	103	0	428	10	1132	0	0	679	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	20	0	0	20	0	20	50	0	20	50	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	5.0	0.0	4.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	5.0	0.0	3.0	5.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	R
C, Calculated Cycle Length [s]	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	7.00	7.00	5.00	7.00	7.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	5.00	5.00	3.00	5.00	5.00
g_i, Effective Green Time [s]	0	0	19	19	1	24	24	0	23	23
g / C, Green / Cycle	0.00	0.00	0.30	0.30	0.01	0.36	0.36	0.00	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.06	0.27	0.01	0.30	0.30	0.00	0.19	0.00
s, saturation flow rate [veh/h]	1870	1589	1781	1589	1781	1870	1870	1781	3560	1589
c, Capacity [veh/h]	8	7	526	470	23	680	680	0	1250	558
d1, Uniform Delay [s]	0.00	32.49	17.22	22.21	32.04	18.98	18.98	0.00	17.02	13.80
k, delay calibration	0.11	0.11	0.11	0.32	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	41.47	0.18	17.35	12.44	2.73	2.73	0.00	0.37	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.45	0.20	0.91	0.44	0.83	0.83	0.00	0.54	0.01
d, Delay for Lane Group [s/veh]	0.00	73.95	17.40	39.56	44.48	21.71	21.71	0.00	17.39	13.80
Lane Group LOS	A	E	B	D	D	C	C	A	B	B
Critical Lane Group	No	Yes	No	Yes	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.00	0.12	1.11	8.06	0.23	7.54	7.54	0.00	3.79	0.03
50th-Percentile Queue Length [ft/ln]	0.00	3.05	27.69	201.44	5.76	188.51	188.51	0.00	94.79	0.68
95th-Percentile Queue Length [veh/ln]	0.00	0.22	1.99	12.71	0.41	12.04	12.04	0.00	6.83	0.05
95th-Percentile Queue Length [ft/ln]	0.00	5.49	49.84	317.82	10.37	301.09	301.09	0.00	170.63	1.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	73.95	17.40	17.40	39.56	44.48	21.71	21.71	0.00	17.39	13.80
Movement LOS	A	A	E	B	B	D	D	C	C	A	B	B
d_A, Approach Delay [s/veh]		73.95			35.26			21.91			17.37	
Approach LOS		E			D			C			B	
d_I, Intersection Delay [s/veh]	23.67											
Intersection LOS	C											
Intersection V/C	0.760											

Emissions

Vehicle Miles Traveled [mph]	0.00	0.15	48.86	203.03	4.51	255.39	255.39	0.00	118.45	0.52
Stops [stops/h]	0.00	6.73	61.10	444.50	12.71	415.95	415.95	0.00	418.34	1.51
Fuel consumption [US gal/h]	0.00	0.09	2.71	14.26	0.35	15.31	15.31	0.00	9.59	0.04
CO [g/h]	0.00	6.18	189.70	996.74	24.22	1070.31	1070.31	0.00	670.33	2.68
NOx [g/h]	0.00	1.20	36.91	193.93	4.71	208.24	208.24	0.00	130.42	0.52
VOC [g/h]	0.00	1.43	43.96	231.00	5.61	248.05	248.05	0.00	155.36	0.62

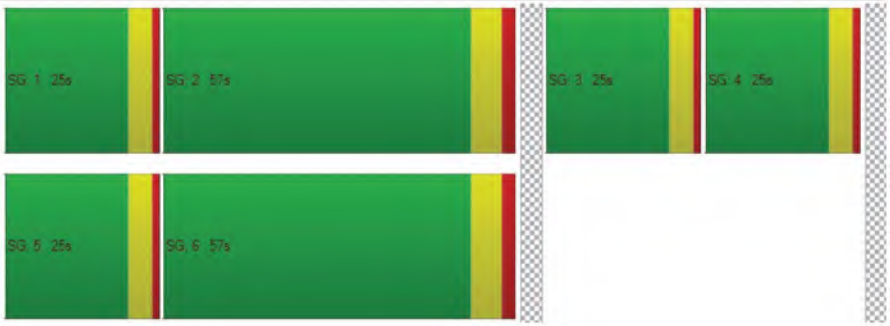
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	613	613	1532	1532
d_b, Bicycle Delay [s]	15.69	15.69	1.78	1.78
l_b,int, Bicycle LOS Score for Intersection	1.565	2.436	2.502	2.122
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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TKEAR



Intersection Level Of Service Report
Intersection 23: White Rock Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	31.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.678

Intersection Setup

Name	White Rock Rd		White Rock Rd		US 50 EB	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	1	0	1
Entry Pocket Length [ft]	500.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	White Rock Rd		White Rock Rd		US 50 EB	
Base Volume Input [veh/h]	623	523	587	200	511	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	19	4	32	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	12
Total Hourly Volume [veh/h]	642	527	619	200	511	44
Peak Hour Factor	0.8300	0.9100	0.9100	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	193	145	170	60	154	13
Total Analysis Volume [veh/h]	773	579	680	241	616	53
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	21	61	32	0	16	0
Amber [s]	3.7	4.8	4.8	0.0	4.8	0.0
All red [s]	0.5	2.0	2.0	0.0	1.0	0.0
Walk [s]	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.2	4.8	4.8	0.0	3.8	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	39	0	22	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	8	9	9	0	8	0
Vehicle Extension [s]	2.0	1.0	1.0	0.0	2.0	0.0
Minimum Recall	No	Yes	Yes		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	R
C, Calculated Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80
g_i, Effective Green Time [s]	22	61	35	35	16	16	16
g / C, Green / Cycle	0.24	0.68	0.39	0.39	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.22	0.16	0.19	0.15	0.17	0.17	0.03
s, saturation flow rate [veh/h]	3459	3560	3560	1589	1781	1781	1589
c, Capacity [veh/h]	834	2421	1397	623	321	321	286
d1, Uniform Delay [s]	33.38	5.50	20.55	19.59	36.59	36.59	31.30
k, delay calibration	0.04	0.50	0.50	0.50	0.30	0.30	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.07	0.23	1.22	1.81	30.10	30.10	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.93	0.24	0.49	0.39	0.96	0.96	0.19
d, Delay for Lane Group [s/veh]	35.45	5.74	21.76	21.40	66.69	66.69	31.42
Lane Group LOS	D	A	C	C	E	E	C
Critical Lane Group	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	8.25	1.85	5.41	3.81	9.24	9.24	0.97
50th-Percentile Queue Length [ft/ln]	206.19	46.18	135.23	95.25	231.02	231.02	24.37
95th-Percentile Queue Length [veh/ln]	12.96	3.32	9.22	6.86	14.23	14.23	1.75
95th-Percentile Queue Length [ft/ln]	323.94	83.12	230.59	171.44	355.66	355.66	43.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.45	5.74	21.76	21.40	66.69	31.42
Movement LOS	D	A	C	C	E	C
d_A, Approach Delay [s/veh]	22.72		21.67		63.90	
Approach LOS	C		C		E	
d_I, Intersection Delay [s/veh]	31.75					
Intersection LOS	C					
Intersection V/C	0.678					

Emissions

Vehicle Miles Traveled [mph]	134.84	101.00	120.50	42.71	18.65	18.65	3.21
Stops [stops/h]	659.82	147.77	432.75	152.39	369.64	369.64	39.00
Fuel consumption [US gal/h]	14.77	5.65	10.36	3.65	6.99	6.99	0.69
CO [g/h]	1032.56	394.96	724.38	255.11	488.57	488.57	47.98
NOx [g/h]	200.90	76.84	140.94	49.64	95.06	95.06	9.34
VOC [g/h]	239.31	91.54	167.88	59.12	113.23	113.23	11.12

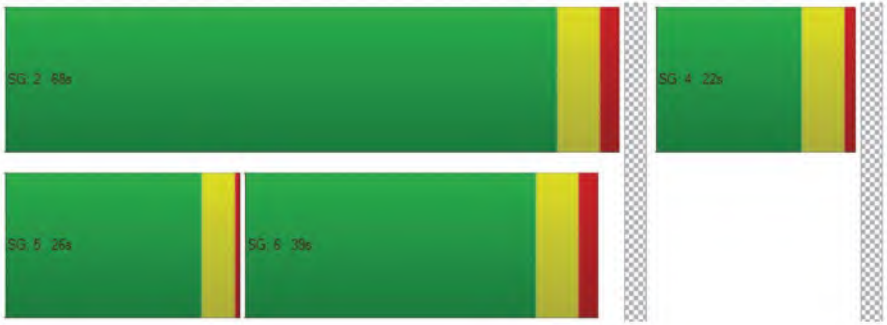
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1360	716	360
d_b, Bicycle Delay [s]	4.61	18.56	30.26
l_b,int, Bicycle LOS Score for Intersection	2.675	2.319	2.683
Bicycle LOS	B	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 24: Silva Valley Pkwy/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	19.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.540

Intersection Setup

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Approach	Northbound				Southbound			Westbound			Northeastbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	550.0	100.0	100.0	100.0	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No					
Crosswalk	No				No			No			No		

Volumes

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Base Volume Input [veh/h]	1	152	881	0	0	381	207	405	1	198	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	4	0	0	5	0	27	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	47	0	0	30	0	0	0
Total Hourly Volume [veh/h]	1	152	885	0	0	386	160	432	1	168	0	0	0
Peak Hour Factor	1.000	0.790	0.790	1.000	1.0000	0.7900	0.7900	0.7900	0.7900	0.7900	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	48	280	0	0	122	51	137	0	53	0	0	0
Total Analysis Volume [veh/h]	1	192	1120	0	0	489	203	547	1	213	0	0	0
Presence of On-Street Parking	No			No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	6	0	0	8	0	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	20	54	0	0	26	0	0	23	0	0	0	0
Amber [s]	0.0	3.7	4.8	0.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0
All red [s]	0.0	0.5	2.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	4.8	0.0	0.0	4.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	61	0	0	33	0	0	29	0	0	0	0
Lead / Lag	-	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	8	8	0	0	8	0	0	8	0	0	0	0
Vehicle Extension [s]	0.0	2.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No	Yes			Yes			No				
Maximum Recall		No	No			No			No				
Pedestrian Recall		No	No			No			No				

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	R	L	C	R	
C, Calculated Cycle Length [s]	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80	
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80	
g_i, Effective Green Time [s]	12	62	46	46	16	16	16	
g / C, Green / Cycle	0.13	0.68	0.51	0.51	0.18	0.18	0.18	
(v / s)_i Volume / Saturation Flow Rate	0.11	0.31	0.14	0.13	0.15	0.15	0.13	
s, saturation flow rate [veh/h]	1781	3560	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	231	2437	1809	808	313	313	279	
d1, Uniform Delay [s]	38.24	6.54	12.62	12.48	36.14	36.14	35.32	
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	3.07	0.63	0.37	0.75	3.08	3.08	1.64	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.84	0.46	0.27	0.25	0.88	0.88	0.76	
d, Delay for Lane Group [s/veh]	41.30	7.17	12.99	13.23	39.23	39.22	36.95	
Lane Group LOS	D	A	B	B	D	D	D	
Critical Lane Group	No	Yes	No	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	4.28	4.30	2.76	2.35	6.01	6.01	4.49	
50th-Percentile Queue Length [ft/ln]	107.12	107.43	68.89	58.86	150.23	150.24	112.20	
95th-Percentile Queue Length [veh/ln]	7.68	7.70	4.96	4.24	10.03	10.03	7.96	
95th-Percentile Queue Length [ft/ln]	191.99	192.43	124.01	105.94	250.74	250.75	199.06	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.30	41.30	7.17	0.00	0.00	12.99	13.23	39.23	39.22	36.95	0.00	0.00	0.00
Movement LOS	D	D	A			B	B	D	D	D			
d_A, Approach Delay [s/veh]	12.18				13.06			38.59			0.00		
Approach LOS	B				B			D			A		
d_I, Intersection Delay [s/veh]	19.67												
Intersection LOS	B												
Intersection V/C	0.540												

Emissions

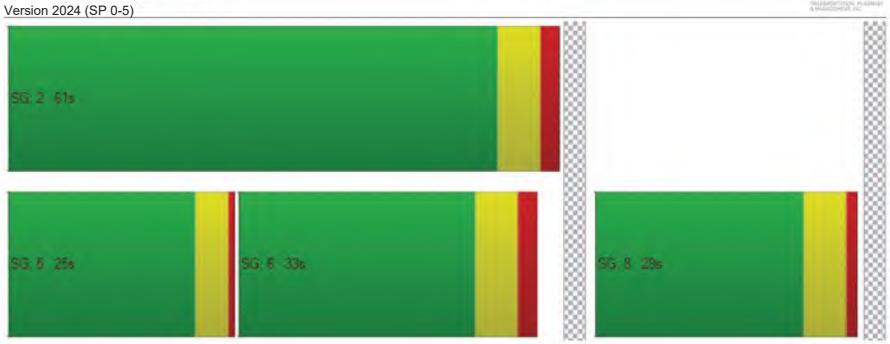
Vehicle Miles Traveled [mph]	34.20	198.47	66.87	27.76	9.49	9.49	7.38
Stops [stops/h]	171.39	343.79	220.46	94.17	240.37	240.39	179.52
Fuel consumption [US gal/h]	3.98	11.70	5.26	2.21	3.91	3.91	2.90
CO [g/h]	277.99	818.07	367.90	154.44	273.01	273.03	202.51
NOx [g/h]	54.09	159.17	71.58	30.05	53.12	53.12	39.40
VOC [g/h]	64.43	189.60	85.26	35.79	63.27	63.28	46.93

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1204	582	516	0
d_b, Bicycle Delay [s]	7.12	22.61	24.79	45.00
l_b,int, Bicycle LOS Score for Intersection	2.642	2.169	2.865	4.132
Bicycle LOS	B	B	C	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 25: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Base Volume Input [veh/h]	0	380	501	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	129	172	10	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	10	-10	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	509	683	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	127	171	0	0	0
Total Analysis Volume [veh/h]	0	509	683	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.01
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		13.01	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 26: Latrobe/Wetsl-Oviatt

Control Type:	Two-way stop	Delay (sec / veh):	16.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.093

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Base Volume Input [veh/h]	0	300	441	20	27	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	22	15	9	6	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	322	456	29	33	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	81	114	7	8	0
Total Analysis Volume [veh/h]	1	322	456	29	33	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					Yes	
Storage Area [veh]	0		0		1	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.09	0.00
d_M, Delay for Movement [s/veh]	8.34	0.00	0.00	0.00	16.10	12.07
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.30	0.30
95th-Percentile Queue Length [ft/ln]	0.04	0.04	0.00	0.00	7.60	7.60
d_A, Approach Delay [s/veh]	0.03		0.00		15.98	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.66					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 27: Latrobe/S. Shingle

Control Type:	Two-way stop	Delay (sec / veh):	19.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.070

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Base Volume Input [veh/h]	0	185	66	43	288	31	10	32	2	44	13	79
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	0	6	4	6	9	0	0	0	0	9
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	190	66	49	292	37	19	32	2	44	13	88
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	49	17	13	75	10	5	8	1	11	3	23
Total Analysis Volume [veh/h]	0	196	68	51	301	38	20	33	2	45	13	91
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free			Free			Stop			Stop		
Flared Lane							No			No		
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance							No			No		
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.00	0.00	0.07	0.09	0.00	0.14	0.04	0.11
d_M, Delay for Movement [s/veh]	7.95	0.00	0.00	7.83	0.00	0.00	19.71	17.38	12.15	19.05	17.84	12.26
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.09	0.09	0.09	0.59	0.59	0.59	1.19	1.19	1.19
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.24	2.24	2.24	14.70	14.70	14.70	29.73	29.73	29.73
d_A, Approach Delay [s/veh]	0.00			1.02			18.04			14.80		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	4.19											
Intersection LOS	C											

Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	509	726	49	14
2	494	704	48	14
3	484	690	47	13
4	453	646	44	12
5	402	574	39	11
6	397	566	38	11
7	392	559	38	11
8	356	508	34	10
9	351	501	34	10
10	346	494	33	10
11	300	428	29	8
12	280	399	27	8
13	275	392	26	8
14	204	290	20	6
15	204	290	20	6
16	143	203	14	4
17	81	116	8	2
18	81	116	8	2
19	46	65	4	1
20	25	36	2	1
21	15	22	1	0
22	5	7	0	0
23	5	7	0	0
24	5	7	0	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1235	1	49	No	No	No	No	No	No	No	Yes	No	No
2	1	1198	1	48	No	No	No	No	No	No	No	Yes	No	No
3	1	1174	1	47	No	No	No	No	No	No	No	Yes	No	No
4	1	1099	1	44	No	No	No	No	No	No	No	Yes	No	No
5	1	976	1	39	No	No	No	No	No	No	No	No	No	No
6	1	963	1	38	No	No	No	No	No	No	No	No	No	No
7	1	951	1	38	No	No	No	No	No	No	No	No	No	No
8	1	864	1	34	No	No	No	No	No	No	No	No	No	No
9	1	852	1	34	No	No	No	No	No	No	No	No	No	No
10	1	840	1	33	No	No	No	No	No	No	No	No	No	No
11	1	728	1	29	No	No	No	No	No	No	No	No	No	No
12	1	679	1	27	No	No	No	No	No	No	No	No	No	No
13	1	667	1	26	No	No	No	No	No	No	No	No	No	No
14	1	494	1	20	No	No	No	No	No	No	No	No	No	No
15	1	494	1	20	No	No	No	No	No	No	No	No	No	No
16	1	346	1	14	No	No	No	No	No	No	No	No	No	No
17	1	197	1	8	No	No	No	No	No	No	No	No	No	No
18	1	197	1	8	No	No	No	No	No	No	No	No	No	No
19	1	111	1	4	No	No	No	No	No	No	No	No	No	No
20	1	61	1	2	No	No	No	No	No	No	No	No	No	No
21	1	37	1	1	No	No	No	No	No	No	No	No	No	No
22	1	12	1	0	No	No	No	No	No	No	No	No	No	No
23	1	12	1	0	No	No	No	No	No	No	No	No	No	No
24	1	12	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	4	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	12.4	42.4
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:10	0:09
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	49	14
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1298	1298
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 12: Latrobe Rd/Royal Oaks Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	355	683	125	135
2	344	663	121	131
3	337	649	119	128
4	316	608	111	120
5	280	540	99	107
6	277	533	98	105
7	273	526	96	104
8	248	478	88	95
9	245	471	86	93
10	241	464	85	92
11	209	403	74	80
12	195	376	69	74
13	192	369	68	73
14	142	273	50	54
15	142	273	50	54
16	99	191	35	38
17	57	109	20	22
18	57	109	20	22
19	32	61	11	12
20	18	34	6	7
21	11	20	4	4
22	4	7	1	1
23	4	7	1	1
24	4	7	1	1

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1038	1	135	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	2	1007	1	131	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	2	986	1	128	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	2	924	1	120	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
5	2	820	1	107	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No
6	2	810	1	105	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No
7	2	799	1	104	No	No	No	Yes	No	Yes	Yes	Yes	Yes	No
8	2	726	1	95	No	No	No	Yes	No	Yes	Yes	Yes	Yes	No
9	2	716	1	93	No	No	No	Yes	No	No	Yes	Yes	No	No
10	2	705	1	92	No	No	No	Yes	No	No	Yes	Yes	No	No
11	2	612	1	80	No	No	No	No	No	No	No	Yes	No	No
12	2	571	1	74	No	No	No	No	No	No	No	Yes	No	No
13	2	561	1	73	No	No	No	No	No	No	No	Yes	No	No
14	2	415	1	54	No	No	No	No	No	No	No	No	No	No
15	2	415	1	54	No	No	No	No	No	No	No	No	No	No
16	2	290	1	38	No	No	No	No	No	No	No	No	No	No
17	2	166	1	22	No	No	No	No	No	No	No	No	No	No
18	2	166	1	22	No	No	No	No	No	No	No	No	No	No
19	2	93	1	12	No	No	No	No	No	No	No	No	No	No
20	2	52	1	7	No	No	No	No	No	No	No	No	No	No
21	2	31	1	4	No	No	No	No	No	No	No	No	No	No
22	2	11	1	1	No	No	No	No	No	No	No	No	No	No
23	2	11	1	1	No	No	No	No	No	No	No	No	No	No
24	2	11	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	6	10	4	8	10	13	8	3

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	30.9	138.1
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:04	5:10
Delay Condition Met	No	Yes
Volume on Minor Street Approach During Same Hour	125	135
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	1298	1298
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	Yes
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 13: Golden Foothill/Robert J Mathews

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	905	255	571
2	878	247	554
3	860	242	542
4	805	227	508
5	715	201	451
6	706	199	445
7	697	196	440
8	634	179	400
9	624	176	394
10	615	173	388
11	534	150	337
12	498	140	314
13	489	138	308
14	362	102	228
15	362	102	228
16	253	71	160
17	145	41	91
18	145	41	91
19	81	23	51
20	45	13	29
21	27	8	17
22	9	3	6
23	9	3	6
24	9	3	6

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1160	1	571	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1125	1	554	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1102	1	542	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1032	1	508	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	916	1	451	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	905	1	445	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1	893	1	440	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	1	813	1	400	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	1	800	1	394	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	1	788	1	388	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	1	684	1	337	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
12	1	638	1	314	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
13	1	627	1	308	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
14	1	464	1	228	No	Yes	Yes	Yes	No	No	No	Yes	No	No
15	1	464	1	228	No	Yes	Yes	Yes	No	No	No	Yes	No	No
16	1	324	1	160	No	No	No	Yes	No	No	No	No	No	No
17	1	186	1	91	No	No	No	No	No	No	No	No	No	No
18	1	186	1	91	No	No	No	No	No	No	No	No	No	No
19	1	104	1	51	No	No	No	No	No	No	No	No	No	No
20	1	58	1	29	No	No	No	No	No	No	No	No	No	No
21	1	35	1	17	No	No	No	No	No	No	No	No	No	No
22	1	12	1	6	No	No	No	No	No	No	No	No	No	No
23	1	12	1	6	No	No	No	No	No	No	No	No	No	No
24	1	12	1	6	No	No	No	No	No	No	No	No	No	No
Hours Met					13	15	15	16	10	13	13	15	13	10

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	3030.5
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	480:39
Delay Condition Met	Yes
Volume on Minor Street Approach During Same Hour	571
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1731
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	Yes
Warrant Met for Intersection	**Yes**

Signal Warrants Report For Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	284	371	276	58
2	275	360	268	56
3	270	352	262	55
4	253	330	246	52
5	224	293	218	46
6	222	289	215	45
7	219	286	213	45
8	199	260	193	41
9	196	256	190	40
10	193	252	188	39
11	168	219	163	34
12	156	204	152	32
13	153	200	149	31
14	114	148	110	23
15	114	148	110	23
16	80	104	77	16
17	45	59	44	9
18	45	59	44	9
19	26	33	25	5
20	14	19	14	3
21	9	11	8	2
22	3	4	3	1
23	3	4	3	1
24	3	4	3	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	655	1	276	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
2	1	635	1	268	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
3	1	622	1	262	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
4	1	583	1	246	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
5	1	517	1	218	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
6	1	511	1	215	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
7	1	505	1	213	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
8	1	459	1	193	No	Yes	Yes	Yes	No	No	No	Yes	No	No
9	1	452	1	190	No	Yes	Yes	Yes	No	No	No	Yes	No	No
10	1	445	1	188	No	Yes	Yes	Yes	No	No	No	Yes	No	No
11	1	387	1	163	No	No	Yes	Yes	No	No	No	No	No	No
12	1	360	1	152	No	No	Yes	Yes	No	No	No	No	No	No
13	1	353	1	149	No	No	Yes	Yes	No	No	No	No	No	No
14	1	262	1	110	No	No	No	No	No	No	No	No	No	No
15	1	262	1	110	No	No	No	No	No	No	No	No	No	No
16	1	184	1	77	No	No	No	No	No	No	No	No	No	No
17	1	104	1	44	No	No	No	No	No	No	No	No	No	No
18	1	104	1	44	No	No	No	No	No	No	No	No	No	No
19	1	59	1	25	No	No	No	No	No	No	No	No	No	No
20	1	33	1	14	No	No	No	No	No	No	No	No	No	No
21	1	20	1	8	No	No	No	No	No	No	No	No	No	No
22	1	7	1	3	No	No	No	No	No	No	No	No	No	No
23	1	7	1	3	No	No	No	No	No	No	No	No	No	No
24	1	7	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					7	10	13	13	0	3	4	10	4	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	19	11.3
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:27	0:10
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	276	58
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	989	989
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	328	191	125
2	318	185	121
3	312	181	119
4	292	170	111
5	259	151	99
6	256	149	98
7	253	147	96
8	230	134	88
9	226	132	86
10	223	130	85
11	194	113	74
12	180	105	69
13	177	103	68
14	131	76	50
15	131	76	50
16	92	53	35
17	52	31	20
18	52	31	20
19	30	17	11
20	16	10	6
21	10	6	4
22	3	2	1
23	3	2	1
24	3	2	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	519	2	125	No	No	No	Yes	No	No	No	Yes	No	No
2	2	503	2	121	No	No	No	Yes	No	No	No	No	No	No
3	2	493	2	119	No	No	No	Yes	No	No	No	No	No	No
4	2	462	2	111	No	No	No	No	No	No	No	No	No	No
5	2	410	2	99	No	No	No	No	No	No	No	No	No	No
6	2	405	2	98	No	No	No	No	No	No	No	No	No	No
7	2	400	2	96	No	No	No	No	No	No	No	No	No	No
8	2	364	2	88	No	No	No	No	No	No	No	No	No	No
9	2	358	2	86	No	No	No	No	No	No	No	No	No	No
10	2	353	2	85	No	No	No	No	No	No	No	No	No	No
11	2	307	2	74	No	No	No	No	No	No	No	No	No	No
12	2	285	2	69	No	No	No	No	No	No	No	No	No	No
13	2	280	2	68	No	No	No	No	No	No	No	No	No	No
14	2	207	2	50	No	No	No	No	No	No	No	No	No	No
15	2	207	2	50	No	No	No	No	No	No	No	No	No	No
16	2	145	2	35	No	No	No	No	No	No	No	No	No	No
17	2	83	2	20	No	No	No	No	No	No	No	No	No	No
18	2	83	2	20	No	No	No	No	No	No	No	No	No	No
19	2	47	2	11	No	No	No	No	No	No	No	No	No	No
20	2	26	2	6	No	No	No	No	No	No	No	No	No	No
21	2	16	2	4	No	No	No	No	No	No	No	No	No	No
22	2	5	2	1	No	No	No	No	No	No	No	No	No	No
23	2	5	2	1	No	No	No	No	No	No	No	No	No	No
24	2	5	2	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	3	0	0	0	1	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	10.4
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:21
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	125
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	644
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 16: Carson Crossing Rd/Calypso Cir.

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	238	162	55
2	231	157	53
3	226	154	52
4	212	144	49
5	188	128	43
6	186	126	43
7	183	125	42
8	167	113	39
9	164	112	38
10	162	110	37
11	140	96	32
12	131	89	30
13	129	87	30
14	95	65	22
15	95	65	22
16	67	45	15
17	38	26	9
18	38	26	9
19	21	15	5
20	12	8	3
21	7	5	2
22	2	2	1
23	2	2	1
24	2	2	1

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	400	1	55	No	No	No	No	No	No	No	No	No	No
2	2	388	1	53	No	No	No	No	No	No	No	No	No	No
3	2	380	1	52	No	No	No	No	No	No	No	No	No	No
4	2	356	1	49	No	No	No	No	No	No	No	No	No	No
5	2	316	1	43	No	No	No	No	No	No	No	No	No	No
6	2	312	1	43	No	No	No	No	No	No	No	No	No	No
7	2	308	1	42	No	No	No	No	No	No	No	No	No	No
8	2	280	1	39	No	No	No	No	No	No	No	No	No	No
9	2	276	1	38	No	No	No	No	No	No	No	No	No	No
10	2	272	1	37	No	No	No	No	No	No	No	No	No	No
11	2	236	1	32	No	No	No	No	No	No	No	No	No	No
12	2	220	1	30	No	No	No	No	No	No	No	No	No	No
13	2	216	1	30	No	No	No	No	No	No	No	No	No	No
14	2	160	1	22	No	No	No	No	No	No	No	No	No	No
15	2	160	1	22	No	No	No	No	No	No	No	No	No	No
16	2	112	1	15	No	No	No	No	No	No	No	No	No	No
17	2	64	1	9	No	No	No	No	No	No	No	No	No	No
18	2	64	1	9	No	No	No	No	No	No	No	No	No	No
19	2	36	1	5	No	No	No	No	No	No	No	No	No	No
20	2	20	1	3	No	No	No	No	No	No	No	No	No	No
21	2	12	1	2	No	No	No	No	No	No	No	No	No	No
22	2	4	1	1	No	No	No	No	No	No	No	No	No	No
23	2	4	1	1	No	No	No	No	No	No	No	No	No	No
24	2	4	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	9.8
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:09
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	55
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	455
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 17: Carson Crossing Rd/Four Seasons Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	201	183	3
2	195	178	3
3	191	174	3
4	179	163	3
5	159	145	2
6	157	143	2
7	155	141	2
8	141	128	2
9	139	126	2
10	137	124	2
11	119	108	2
12	111	101	2
13	109	99	2
14	80	73	1
15	80	73	1
16	56	51	1
17	32	29	0
18	32	29	0
19	18	16	0
20	10	9	0
21	6	5	0
22	2	2	0
23	2	2	0
24	2	2	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	384	1	3	No	No	No	No	No	No	No	No	No	No
2	3	373	1	3	No	No	No	No	No	No	No	No	No	No
3	3	365	1	3	No	No	No	No	No	No	No	No	No	No
4	3	342	1	3	No	No	No	No	No	No	No	No	No	No
5	3	304	1	2	No	No	No	No	No	No	No	No	No	No
6	3	300	1	2	No	No	No	No	No	No	No	No	No	No
7	3	296	1	2	No	No	No	No	No	No	No	No	No	No
8	3	269	1	2	No	No	No	No	No	No	No	No	No	No
9	3	265	1	2	No	No	No	No	No	No	No	No	No	No
10	3	261	1	2	No	No	No	No	No	No	No	No	No	No
11	3	227	1	2	No	No	No	No	No	No	No	No	No	No
12	3	212	1	2	No	No	No	No	No	No	No	No	No	No
13	3	208	1	2	No	No	No	No	No	No	No	No	No	No
14	3	153	1	1	No	No	No	No	No	No	No	No	No	No
15	3	153	1	1	No	No	No	No	No	No	No	No	No	No
16	3	107	1	1	No	No	No	No	No	No	No	No	No	No
17	3	61	1	0	No	No	No	No	No	No	No	No	No	No
18	3	61	1	0	No	No	No	No	No	No	No	No	No	No
19	3	34	1	0	No	No	No	No	No	No	No	No	No	No
20	3	19	1	0	No	No	No	No	No	No	No	No	No	No
21	3	11	1	0	No	No	No	No	No	No	No	No	No	No
22	3	4	1	0	No	No	No	No	No	No	No	No	No	No
23	3	4	1	0	No	No	No	No	No	No	No	No	No	No
24	3	4	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	7.8
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	3
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	387
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 18: White Rock Rd/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	474	537	190	29
2	460	521	184	28
3	450	510	181	28
4	422	478	169	26
5	374	424	150	23
6	370	419	148	23
7	365	413	146	22
8	332	376	133	20
9	327	371	131	20
10	322	365	129	20
11	280	317	112	17
12	261	295	105	16
13	256	290	103	16
14	190	215	76	12
15	190	215	76	12
16	133	150	53	8
17	76	86	30	5
18	76	86	30	5
19	43	48	17	3
20	24	27	10	1
21	14	16	6	1
22	5	5	2	0
23	5	5	2	0
24	5	5	2	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1011	2	190	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
2	2	981	2	184	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
3	2	960	2	181	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
4	2	900	2	169	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
5	2	798	2	150	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No
6	2	789	2	148	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No
7	2	778	2	146	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No
8	2	708	2	133	No	No	No	Yes	No	No	Yes	Yes	No	No
9	2	698	2	131	No	No	No	Yes	No	No	Yes	Yes	No	No
10	2	687	2	129	No	No	No	Yes	No	No	Yes	Yes	No	No
11	2	597	2	112	No	No	No	Yes	No	No	No	Yes	No	No
12	2	556	2	105	No	No	No	No	No	No	No	Yes	No	No
13	2	546	2	103	No	No	No	No	No	No	No	Yes	No	No
14	2	405	2	76	No	No	No	No	No	No	No	No	No	No
15	2	405	2	76	No	No	No	No	No	No	No	No	No	No
16	2	283	2	53	No	No	No	No	No	No	No	No	No	No
17	2	162	2	30	No	No	No	No	No	No	No	No	No	No
18	2	162	2	30	No	No	No	No	No	No	No	No	No	No
19	2	91	2	17	No	No	No	No	No	No	No	No	No	No
20	2	51	2	10	No	No	No	No	No	No	No	No	No	No
21	2	30	2	6	No	No	No	No	No	No	No	No	No	No
22	2	10	2	2	No	No	No	No	No	No	No	No	No	No
23	2	10	2	2	No	No	No	No	No	No	No	No	No	No
24	2	10	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	11	4	7	10	13	0	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	94.2	15.2
Number of Lanes on Minor Street Approach	2	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	4:58	0:07
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	190	29
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1230	1230
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 25: New Intersection

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	509	683	0
2	494	663	0
3	484	649	0
4	453	608	0
5	402	540	0
6	397	533	0
7	392	526	0
8	356	478	0
9	351	471	0
10	346	464	0
11	300	403	0
12	280	376	0
13	275	369	0
14	204	273	0
15	204	273	0
16	143	191	0
17	81	109	0
18	81	109	0
19	46	61	0
20	25	34	0
21	15	20	0
22	5	7	0
23	5	7	0
24	5	7	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1192	1	0	No	No	No	No	No	No	No	No	No	No
2	1	1157	1	0	No	No	No	No	No	No	No	No	No	No
3	1	1133	1	0	No	No	No	No	No	No	No	No	No	No
4	1	1061	1	0	No	No	No	No	No	No	No	No	No	No
5	1	942	1	0	No	No	No	No	No	No	No	No	No	No
6	1	930	1	0	No	No	No	No	No	No	No	No	No	No
7	1	918	1	0	No	No	No	No	No	No	No	No	No	No
8	1	834	1	0	No	No	No	No	No	No	No	No	No	No
9	1	822	1	0	No	No	No	No	No	No	No	No	No	No
10	1	810	1	0	No	No	No	No	No	No	No	No	No	No
11	1	703	1	0	No	No	No	No	No	No	No	No	No	No
12	1	656	1	0	No	No	No	No	No	No	No	No	No	No
13	1	644	1	0	No	No	No	No	No	No	No	No	No	No
14	1	477	1	0	No	No	No	No	No	No	No	No	No	No
15	1	477	1	0	No	No	No	No	No	No	No	No	No	No
16	1	334	1	0	No	No	No	No	No	No	No	No	No	No
17	1	190	1	0	No	No	No	No	No	No	No	No	No	No
18	1	190	1	0	No	No	No	No	No	No	No	No	No	No
19	1	107	1	0	No	No	No	No	No	No	No	No	No	No
20	1	59	1	0	No	No	No	No	No	No	No	No	No	No
21	1	35	1	0	No	No	No	No	No	No	No	No	No	No
22	1	12	1	0	No	No	No	No	No	No	No	No	No	No
23	1	12	1	0	No	No	No	No	No	No	No	No	No	No
24	1	12	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	13
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1192
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 26: Latrobe/Wetsl-Oviatt

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	323	485	34
2	313	470	33
3	307	461	32
4	287	432	30
5	255	383	27
6	252	378	27
7	249	373	26
8	226	340	24
9	223	335	23
10	220	330	23
11	191	286	20
12	178	267	19
13	174	262	18
14	129	194	14
15	129	194	14
16	90	136	10
17	52	78	5
18	52	78	5
19	29	44	3
20	16	24	2
21	10	15	1
22	3	5	0
23	3	5	0
24	3	5	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	808	1	34	No	No	No	No	No	No	No	No	No	No
2	1	783	1	33	No	No	No	No	No	No	No	No	No	No
3	1	768	1	32	No	No	No	No	No	No	No	No	No	No
4	1	719	1	30	No	No	No	No	No	No	No	No	No	No
5	1	638	1	27	No	No	No	No	No	No	No	No	No	No
6	1	630	1	27	No	No	No	No	No	No	No	No	No	No
7	1	622	1	26	No	No	No	No	No	No	No	No	No	No
8	1	566	1	24	No	No	No	No	No	No	No	No	No	No
9	1	558	1	23	No	No	No	No	No	No	No	No	No	No
10	1	550	1	23	No	No	No	No	No	No	No	No	No	No
11	1	477	1	20	No	No	No	No	No	No	No	No	No	No
12	1	445	1	19	No	No	No	No	No	No	No	No	No	No
13	1	436	1	18	No	No	No	No	No	No	No	No	No	No
14	1	323	1	14	No	No	No	No	No	No	No	No	No	No
15	1	323	1	14	No	No	No	No	No	No	No	No	No	No
16	1	226	1	10	No	No	No	No	No	No	No	No	No	No
17	1	130	1	5	No	No	No	No	No	No	No	No	No	No
18	1	130	1	5	No	No	No	No	No	No	No	No	No	No
19	1	73	1	3	No	No	No	No	No	No	No	No	No	No
20	1	40	1	2	No	No	No	No	No	No	No	No	No	No
21	1	25	1	1	No	No	No	No	No	No	No	No	No	No
22	1	8	1	0	No	No	No	No	No	No	No	No	No	No
23	1	8	1	0	No	No	No	No	No	No	No	No	No	No
24	1	8	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	16
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:09
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	34
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	842
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 27: Latrobe/S. Shingle

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	56%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	256	378	145	53
2	248	367	141	51
3	243	359	138	50
4	228	336	129	47
5	202	299	115	42
6	200	295	113	41
7	197	291	112	41
8	179	265	102	37
9	177	261	100	37
10	174	257	99	36
11	151	223	86	31
12	141	208	80	29
13	138	204	78	29
14	102	151	58	21
15	102	151	58	21
16	72	106	41	15
17	41	60	23	8
18	41	60	23	8
19	23	34	13	5
20	13	19	7	3
21	8	11	4	2
22	3	4	1	1
23	3	4	1	1
24	3	4	1	1

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	634	1	145	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
2	1	615	1	141	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
3	1	602	1	138	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
4	1	564	1	129	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
5	1	501	1	115	No	No	Yes	Yes	No	No	No	Yes	No	No
6	1	495	1	113	No	No	Yes	Yes	No	No	No	Yes	No	No
7	1	488	1	112	No	No	Yes	Yes	No	No	No	Yes	No	No
8	1	444	1	102	No	No	No	Yes	No	No	No	Yes	No	No
9	1	438	1	100	No	No	No	Yes	No	No	No	Yes	No	No
10	1	431	1	99	No	No	No	Yes	No	No	No	Yes	No	No
11	1	374	1	86	No	No	No	Yes	No	No	No	No	No	No
12	1	349	1	80	No	No	No	No	No	No	No	No	No	No
13	1	342	1	78	No	No	No	No	No	No	No	No	No	No
14	1	253	1	58	No	No	No	No	No	No	No	No	No	No
15	1	253	1	58	No	No	No	No	No	No	No	No	No	No
16	1	178	1	41	No	No	No	No	No	No	No	No	No	No
17	1	101	1	23	No	No	No	No	No	No	No	No	No	No
18	1	101	1	23	No	No	No	No	No	No	No	No	No	No
19	1	57	1	13	No	No	No	No	No	No	No	No	No	No
20	1	32	1	7	No	No	No	No	No	No	No	No	No	No
21	1	19	1	4	No	No	No	No	No	No	No	No	No	No
22	1	7	1	1	No	No	No	No	No	No	No	No	No	No
23	1	7	1	1	No	No	No	No	No	No	No	No	No	No
24	1	7	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	11	0	3	4	10	4	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.8	18
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:35	0:15
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	145	53
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	832	832
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

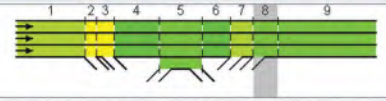
FREEVAL-2015e - Y:\Shared\Projects\P23160 Creekside Village II\Joint US50\FREEVAL\Eastbound\16 PM EB 2023 Plus-Proj.seed

Project Analyze Edit View Settings Toolbox Help

Edit Seed Facility: Global Input | Fill Data
Managed Lanes: Turn On
Reliability Analysis (RL): Generate | Delete | Summary
ATDM Analysis: Configure | Delete | Summary

Single Seed/Scenario I/O | Compare | Result Contours | Analysis Period Summary | Segment & Facility Summary

Table Display Options: In & Out | GP Only
Analysis Period (A.P.) Control: A.P. 1/1 7:00 - 7:15 | First | Last | Jump To



Segment	Seg. 1	Seg. 2	Seg. 3	Seg. 4	Seg. 5	Seg. 6	Seg. 7	Seg. 8	Seg. 9
General Purpose Segme...	*	*	*	*	*	*	*	*	*
General Purpose Segme...	EDC to...	Lat Slip	Lat Loop	between	Lat to SC	EB US ...	SV Loop	SV Slip	EB US ...
General Purpose Segme...	Basic	Off Ramp	Off Ramp	Basic	Weaving	Basic	On Ramp	On Ramp	Basic
Segment Length (ft)	3,000	500	800	2,000	1,900	1,260	1,000	1,100	4,300
Lane Width (ft)	12	12	12	12	12	12	12	12	12
Lateral Clearance (ft)	10	10	10	10	10	10	4	10	10
Terrain	Level	Level	Level	Level	Level	Level	Level	Level	Level
Truck-PC Equivalent (ET)	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
# of Lanes: Mainline	3	3	3	3	4	3	3	3	3
Mainline Dem. (vph)	4,108	4108	2793	1932	2950	2383	3247	3247	3247
Mainline Single Unit Truc...	2.00	2.00	2.00	2.00	1.65	1.57	1.69	1.69	1.69
Mainline Tractor Trailer (...	0.00	0.00	0.00	0.00	0.35	0.43	0.31	0.31	0.31
Seed Capacity Adj. Fac.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Entering Dem. Adj....	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Exit Dem. Adj. Fac.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Free Flow Speed ...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Driver Pop. Capac...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Driver Pop. Free F...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Acc/Dec Lane Length (ft)		0	0				500	1,100	
ONR Side					Right		Right	Right	
# Lanes: ONR					1		1	1	
ONR Queue Capacity (v...					50		50	50	
ONR Free Flow Speed (...					45		45	45	
ONR/Entering Dem. (vph)					1,018		864	0	
ONR Single Unit Truck a...					1.00		2.00	2.00	
ONR Tractor Trailer (%)					1.00		0.00	0.00	
ONR Metering Type					None		Fixed	Fixed	
ONR Metering Fixed Rat...							2,100	2,100	
OFR Side		Right	Right		Right				
# Lanes: OFR		1	1		2				
OFR Free Flow Speed (...		45	45		45				
OFR/Exit Dem. (vph)		1,315	861		567				
OFR Single Unit Truck a...		2.00	2.00		2.00				
OFR Tractor Trailer (%)		0.00	0.00		0.00				
Weave Segment Ls (ft)					1,500				
Weave Segment LCRF					1				
Weave Segment LCFR					0				
Weave Segment LCRR					0				
Weave Segment NW					2				
Ramp to Ramp Dem. (vph)					0				
Processed Segment Type	Basic	Off Ramp	Off Ramp	Basic	Weaving	Basic	On Ramp	On Ramp	Basic
Speed (mph)	73.3	65.6	67.3	74.2	63.3	74.1	67.0	68.7	74.9
Total Density (veh/mi/ln)	18.7	20.9	13.8	8.6	11.6	10.6	16.2	15.7	14.5
Total Density (pc/mi/ln)	19.1	21.3	14.1	8.8	11.9	10.8	16.5	16.1	14.7
Influence Area Density (...		30.6	29.3				20.0	14.3	
Adjusted Capacity (vph)	7,059	7,059	7,059	7,059	4,379	7,059	7,059	7,059	7,059
Adjusted Mainline Dem. ...	4,108	4,108	2,793	1,932	2,950	2,383	3,247	3,247	3,247
D/C	0.58	0.58	0.40	0.27	0.67	0.34	0.46	0.46	0.46
Mainline Volume Served ...	4,108	4,108	2,793	1,932	2,950	2,383	3,247	3,247	3,247
V/C	0.58	0.58	0.40	0.27	0.67	0.34	0.46	0.46	0.46
Adjusted ONR Dem. (vph)					1,018		864	0	
ONR Capacity (vph)					2,059		2,059	2,059	
ONR Volume Served (vph)					1,018		864	0	
ONR Avg RM Rate (vph)									
ONR Time RM Active (min)					0.00		0.00	0.00	
Adjusted OFR Dem. (vph)		1,315	861		567				
OFR Capacity (vph)		2,059	2,059		4,118				
OFR Volume Served (vph)		1,315	861		567				
Density Based LOS	C	D	D	A	B	A	C	B	B
Dem. Based LOS									
Mainline Queue Length (ft)									
Mainline Queue Length (...									
ONR Queue (veh)									
Actual Travel Time (min)	0.47	0.09	0.14	0.31	0.34	0.19	0.17	0.18	0.65
FFS Travel Time (min)	0.45	0.08	0.12	0.30	0.29	0.19	0.15	0.17	0.65
Mainline Delay (min)	0.01	0.01	0.01	0.00	0.05	0.00	0.02	0.02	0.00
VMTD (veh-miles / interval)	584	97	106	183	265	142	154	169	661
VMTV (veh-miles / interval)	584	97	106	183	265	142	154	169	661
PMTD (p-miles / interval)	584	97	106	183	265	142	154	169	661
PMTV (p-miles / interval)	584	97	106	183	265	142	154	169	661
VHT (travel / interval (hrs))	7.97	1.48	1.57	2.47	4.19	1.92	2.30	2.46	8.83
VHD-M (delay / interval (...	0.18	0.19	0.16	0.03	0.65	0.02	0.25	0.21	0.01
VHD-R (delay / interval (...					0.00		0.00	0.00	
VHD-Access (delay / int...									
VHD-MDE (delay / interv...	0.00								
VHD (delay / interval (hrs))	0.18	0.19	0.16	0.03	0.65	0.02	0.25	0.21	0.01
Space Mean Speed (mph)	73.3	65.6	67.3	74.2	63.3	74.1	67.0	68.7	74.9
Travel Time Index	1.02	1.14	1.12	1.01	1.18	1.01	1.12	1.09	1.00

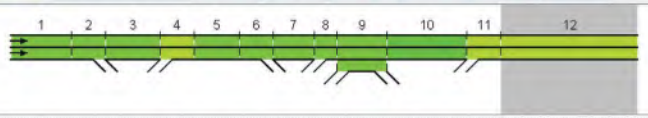
FREEVAL-2015e - Y:\Shared\Projects\P23160 Creekside Village II\Joint US50\FREEVAL\Existing 2023\4 PM WB 2023 plus Proj 20240216.seed

Project Analyze Edit View Settings Toolbox Help

Edit Seed Facility: Global Input | Fill Data
Managed Lanes: Turn On
Reliability Analysis (RL): Generate | Delete | Summary
ATDM Analysis: Configure | Delete | Summary

Single Seed/Scenario I/O | Compare | Result Contours | Analysis Period Summary | Segment & Facility Summary

Table Display Options: In & Out | GP Only
Analysis Period (A.P.) Control: A.P. 1/1 7:45 - 8:00 | First | Last | Jump To



Segment	Seg. 1	Seg. 2	Seg. 3	Seg. 4	Seg. 5	Seg. 6	Seg. 7	Seg. 8	Seg. 9	Seg. 10	Seg. 11	Seg. 12
General Pur...	*	*	*	*	*	*	*	*	*	*	*	*
General Pur...	Cam to ...	BL Off	between	BL On	BL to SV	SV Off	between	SV Loop	SV-Lat	between	Lat On	Lat to E...
General Pur...	Basic	Off Ramp	Basic	On Ramp	Basic	Off Ramp	Basic	On Ramp	Weaving	Basic	On Ramp	Basic
Segment Le...	2,640	1,500	2,400	1,500	2,000	1,500	1,800	1,000	2,200	3,500	1,500	6,000
Lane Width ...	12	12	12	12	12	12	12	12	12	12	12	12
Lateral Clea...	10	10	10	10	10	10	10	10	10	10	10	10
Terrain	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
Truck-PC E...	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
# of Lanes: ...	2	2	2	2	2	2	2	2	3	2	2	2
Mainline De...	2,273	2273	2116	2562	2562	2562	1886	1886	2246	1582	3136	3136
Mainline Sin...	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Mainline Tra...	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Seed Capac...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Enteri...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Exit D...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Free F...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Driver ...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Driver ...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Acc/Dec La...		500		500		1,400		500			1,000	
ONR Side				Right				Right	Right		Right	
# Lanes: ONR				1				1	1		1	
ONR Queue ...				50				50	50		50	
ONR Free Fl...				45				45	45		45	
ONR/Enterin...				446				0	360		1,554	
ONR Single ...				2.00				2.00	2.00		2.00	
ONR Tractor...				0.00				0.00	0.00		0.00	
ONR Meteri...				Fixed				None	Fixed		Fixed	
ONR Meteri...				2,100					2,100		2,100	
OFR Side		Right				Right			Right			
# Lanes: OFR		1				2			2			
OFR Free Fl...		45				45			45			
OFR/Exit De...		157				676			664			
OFR Single ...		2.00				2.00			2.00			
OFR Tractor...		0.00				0.00			0.00			
Weave Seg...									1,500			
Weave Seg...									1			
Weave Seg...									0			
Weave Seg...									0			
Weave Seg...									0			
Ramp to Ra...									0			
Processed ...	Basic	Off Ramp	Basic	On Ramp	Basic	Off Ramp	Basic	On Ramp	Weaving	Basic	On Ramp	Basic
Speed (mph)	74.7	64.7	74.6	64.1	74.0	63.1	74.2	65.0	67.6	74.9	64.2	71.0
Total Densit...	15.2	19.3	14.1	22.1	17.3	13.8	12.6	17.0	11.1	10.5	23.0	22.1
Total Densit...	15.5	19.7	14.4	22.5	17.7	14.1	12.8	17.3	11.3	10.8	23.4	22.5
Influence Ar...		19.7		22.5		14.1		17.3			23.4	
Adjusted Ca...	4,706	4,706	4,706	4,706	4,706	4,706	4,706	4,706	5,046	4,706	4,706	4,706
Adjusted Ma...	2,273	2,273	2,116	2,562	2,562	2,562	1,886	1,886	2,246	1,582	3,136	3,136
D/C	0.48	0.48	0.45	0.54	0.54	0.54	0.40	0.40	0.45	0.34	0.67	0.67
Mainline Vol...	2,273	2,273	2,116	2,562	2,562	2,562	1,886	1,886	2,246	1,582	3,136	3,136
V/C	0.48	0.48	0.45	0.54	0.54	0.54	0.40	0.40	0.45	0.34	0.67	0.67
Adjusted ON...				446				0	360		1,554	
ONR Capaci...				2,059				2,059	2,059		2,059	
ONR Volum...				446				0	360		1,554	
ONR Avg R...												
ONR Time R...				0.00				0.00	0.00		0.00	
Adjusted OF...		157				676			664			
OFR Capaci...		2,059				4,118			4,118			
OFR Volume...		157				676			664			
Density Bas...	B	B	B	C	B	B	B	B	B	A	C	C
Dem. Based ...												
Mainline Qu...												
Mainline Qu...												
ONR Queue ...												
Actual Trave...	0.40	0.26	0.37	0.27	0.31	0.27	0.28	0.17	0.37	0.53	0.27	0.96
FFS Travel ...	0.40	0.23	0.36	0.23	0.30	0.23	0.27	0.15	0.33	0.53	0.23	0.91
Mainline Del...	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.02	0.04	0.00	0.04	0.05
VMTD (veh-...	284	161	240	182	243	182	161	89	234	262	223	891
VMTV (veh-...	284	161	240	182	243	182	161	89	234	262	223	891
PMTD (p-mil...	284	161	240	182	243	182	161	89	234	262	223	891
PMTV (p-mil...	284	161	240	182	243	182	161	89	234	262	223	891
VHT (travel /...	3.80	2.50	3.22	2.84	3.28	2.88	2.17	1.37	3.46	3.50	3.47	12.54
VHD-M (del...	0.01	0.34	0.02	0.41	0.05	0.46	0.02	0.18	0.34	0.00	0.50	0.66
VHD-R (dela...				0.00				0.00	0.00		0.00	
VHD-Acces...												
VHD-MDE (...	0.00											
VHD (delay ...	0.01	0.34	0.02	0.41	0.05	0.46	0.02	0.18	0.34	0.00	0.50	0.66
Space Mean ...	74.7	64.7	74.6	64.1	74.0	63.1	74.2	65.0	67.6	74.9	64.2	71.0
Travel Time ...	1.00	1.16	1.01	1.17	1.01	1.19	1.01	1.15	1.11	1.00	1.17	1.06

Existing AM plus abated Project

Intersection Level Of Service Report
Intersection 1: El Dorado Hills Blvd/Serrano Pkwy

Control Type:	Signalized	Delay (sec / veh):	108.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.055

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	260.0	100.0	100.0	100.0	110.00	100.00	100.00	100.00	100.00	100.00	430.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No			No		
Crosswalk	No				Yes			Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Base Volume Input [veh/h]	5	194	705	301	68	1419	40	18	11	260	467	57	108
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	20	0	0	12	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	12	0	0	78	0	0	32
Total Hourly Volume [veh/h]	5	194	725	301	68	1431	28	18	11	182	467	57	76
Peak Hour Factor	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	56	208	86	20	411	8	5	3	52	134	16	22
Total Analysis Volume [veh/h]	5	223	833	346	78	1645	32	21	13	209	537	66	87
Presence of On-Street Parking	No			No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	1	6	0	7	7	0	0	8	0
Auxiliary Signal Groups													
Maximum Green [s]	0	25	40	0	25	40	0	35	35	0	0	35	0
Amber [s]	0.0	3.0	4.7	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	12	0	0	12	0	0	0	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	100.0	245.0	0.0	100.0	100.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	29	46	0	29	46	0	39	39	0	0	39	0
Lead / Lag	-	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	3	6	0	3	3	0	3	3	0	0	3	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No		No	No			No			No	
Maximum Recall		No	No		No	No			No			No	
Pedestrian Recall		No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C
C, Calculated Cycle Length [s]	119	119	119	119	119	119	119	119	119	119
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	17	51	51	7	40	40	19	19	26	26
g / C, Green / Cycle	0.14	0.42	0.42	0.06	0.34	0.34	0.16	0.16	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.13	0.23	0.22	0.04	0.45	0.45	0.01	0.14	0.20	0.20
s, saturation flow rate [veh/h]	1781	3560	1589	1781	1870	1857	1781	1604	1781	1744
c, Capacity [veh/h]	258	1506	672	101	626	622	278	250	385	377
d1, Uniform Delay [s]	50.13	25.98	25.44	55.63	39.76	39.76	43.06	49.38	45.62	45.66
k, delay calibration	0.10	0.04	0.13	0.04	0.50	0.50	0.04	0.04	0.16	0.16
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.20	0.12	0.72	4.72	164.19	166.76	0.04	4.16	11.21	11.82
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.55	0.51	0.78	1.34	1.35	0.08	0.89	0.90	0.91
d, Delay for Lane Group [s/veh]	59.33	26.10	26.16	60.35	203.95	206.52	43.10	53.54	56.84	57.48
Lane Group LOS	E	C	C	E	F	F	D	D	E	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	7.14	8.47	7.01	2.39	45.91	46.05	0.54	6.75	11.19	11.06
50th-Percentile Queue Length [ft/ln]	178.48	211.82	175.18	59.80	1147.71	1151.14	13.41	168.83	279.78	276.58
95th-Percentile Queue Length [veh/ln]	11.52	13.25	11.35	4.31	67.72	68.03	0.97	11.01	16.68	16.52
95th-Percentile Queue Length [ft/ln]	288.03	331.16	283.71	107.64	1693.02	1700.85	24.14	275.37	416.94	412.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	59.33	59.33	26.10	26.16	60.35	205.21	206.52	43.10	53.54	53.54	57.07	57.48	57.48
Movement LOS	E	E	C	C	E	F	F	D	D	D	E	E	E
d_A, Approach Delay [s/veh]	31.50				198.79			52.64			57.16		
Approach LOS	C				F			D			E		
d_I, Intersection Delay [s/veh]	108.77												
Intersection LOS	F												
Intersection V/C	1.055												

Emissions

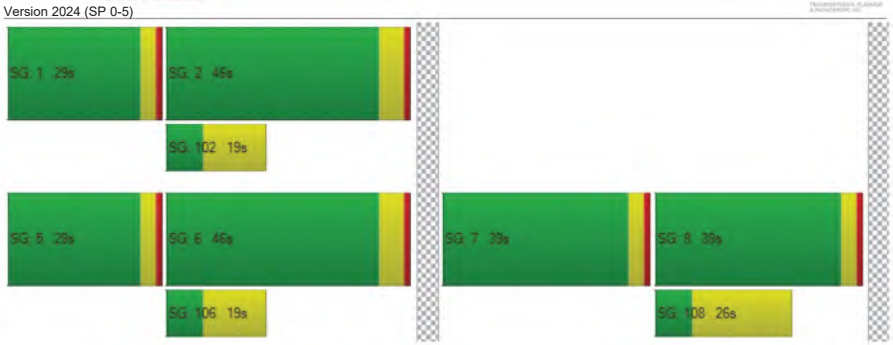
Vehicle Miles Traveled [mph]	54.44	198.89	82.61	11.47	123.50	123.20	0.90	9.51	18.17	17.85
Stops [stops/h]	215.46	511.40	211.47	72.19	1385.47	1389.62	16.19	203.80	337.75	333.88
Fuel consumption [US gal/h]	7.30	17.60	7.30	2.25	56.29	56.69	0.31	3.94	6.64	6.58
CO [g/h]	510.08	1230.20	510.47	157.19	3934.98	3962.75	21.71	275.13	464.07	459.87
NOx [g/h]	99.24	239.35	99.32	30.58	765.60	771.01	4.22	53.53	90.29	89.47
VOC [g/h]	118.22	285.11	118.31	36.43	911.97	918.41	5.03	63.76	107.55	106.58

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.15	49.15	49.15
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.132	2.277	2.376
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	676	676	587	587
d_b, Bicycle Delay [s]	26.15	26.15	29.78	29.78
l_b,int, Bicycle LOS Score for Intersection	2.716	3.017	2.089	2.751
Bicycle LOS	B	C	B	C

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	130.6
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.255

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	230.0	100.0	100.0	100.0	100.0	100.0	100.0	300.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	1	348	988	150	1	148	1611	391	132	61	682	11	13	84
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	10	20	0	0	0	12	0	0	0	6	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	45	0	0	0	117	0	0	206	0	0	25
Total Hourly Volume [veh/h]	1	358	1008	105	1	148	1623	274	132	61	482	11	13	59
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	96	271	28	0	40	436	74	35	16	130	3	3	16
Total Analysis Volume [veh/h]	1	385	1084	113	1	159	1745	295	142	66	518	12	14	63
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	128
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	0	3	8	0
Auxiliary Signal Groups														
Maximum Green [s]	0	26	50	0	0	20	44	0	20	20	0	0	20	0
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	18	0	0	0	16	0	0	0	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	0.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	0.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	30	56	0	0	24	50	0	24	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Calculated Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	26	58	58	12	44	44	20	20	20	7	7
g / C, Green / Cycle	0.23	0.50	0.50	0.11	0.38	0.38	0.17	0.17	0.17	0.06	0.06
(v / s)_i Volume / Saturation Flow Rate	0.22	0.22	0.22	0.09	0.49	0.19	0.06	0.06	0.33	0.01	0.05
s, saturation flow rate [veh/h]	1781	3560	1781	1781	3560	1589	1781	1836	1589	1781	1634
c, Capacity [veh/h]	403	1792	897	190	1365	609	310	320	277	110	101
d1, Uniform Delay [s]	43.83	18.24	18.24	50.34	35.39	26.79	41.53	41.51	47.39	50.87	53.03
k, delay calibration	0.40	0.13	0.13	0.04	0.20	0.13	0.04	0.04	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	30.54	0.21	0.42	3.90	127.65	0.72	0.23	0.22	405.10	0.16	4.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.96	0.45	0.45	0.84	1.28	0.48	0.33	0.33	1.87	0.11	0.76
d, Delay for Lane Group [s/veh]	74.38	18.45	18.66	54.25	163.04	27.52	41.76	41.73	452.49	51.03	57.49
Lane Group LOS	E	B	B	D	F	C	D	D	F	D	E
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	13.81	6.34	6.40	4.59	41.99	5.95	2.58	2.63	39.03	0.33	2.31
50th-Percentile Queue Length [ft/ln]	345.28	158.62	160.06	114.66	1049.86	148.66	64.39	65.85	975.63	8.29	57.73
95th-Percentile Queue Length [veh/ln]	19.91	10.48	10.55	8.10	61.45	9.95	4.64	4.74	61.49	0.60	4.16
95th-Percentile Queue Length [ft/ln]	497.65	261.89	263.80	202.46	1536.34	248.64	115.90	118.54	1537.17	14.92	103.92

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	74.38	74.38	18.50	18.66	54.25	54.25	163.0	27.52	41.76	41.73	452.49	51.03	57.49	57.49
Movement LOS	E	E	B	B	D	D	F	C	D	D	F	D	E	E
d_A, Approach Delay [s/veh]	32.14				136.95				334.81			56.62		
Approach LOS	C				F				F			E		
d_I, Intersection Delay [s/veh]	130.55													
Intersection LOS	F													
Intersection V/C	1.255													

Emissions

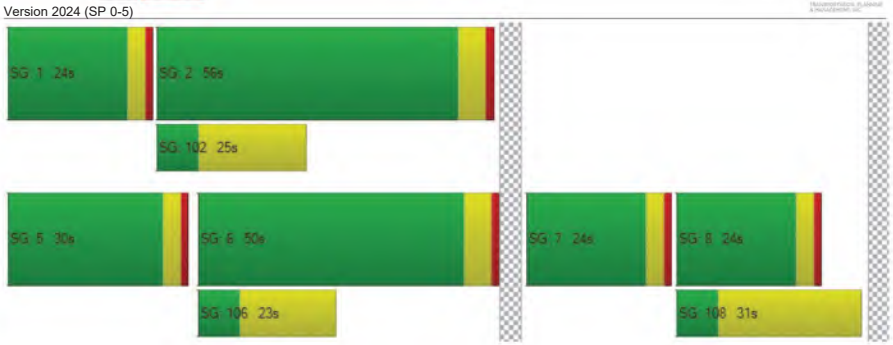
Vehicle Miles Traveled [mph]	72.64	150.14	75.13	38.20	416.64	70.43	6.41	6.56	32.30	0.59	3.75
Stops [stops/h]	433.40	398.19	200.91	143.92	2635.60	186.60	80.82	82.66	1224.63	10.40	72.47
Fuel consumption [US gal/h]	13.72	13.09	6.59	4.87	104.94	6.39	1.58	1.62	55.78	0.21	1.46
CO [g/h]	959.06	915.15	460.57	340.06	7335.00	446.40	110.71	113.25	3899.24	14.41	101.75
NOx [g/h]	186.60	178.05	89.61	66.16	1427.12	86.85	21.54	22.03	758.65	2.80	19.80
VOC [g/h]	222.27	212.09	106.74	78.81	1699.96	103.46	25.66	26.25	903.69	3.34	23.58

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	46.89	46.89	46.89
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.531	2.861	2.149
Crosswalk LOS	F	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	877	772	349	349
d_b, Bicycle Delay [s]	18.09	21.61	39.10	39.10
l_b,int, Bicycle LOS Score for Intersection	2.454	3.340	3.097	1.748
Bicycle LOS	B	C	C	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	79.9
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.918

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	500.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1181	1173	138	3	49	1285	968	256	92	816	146	92	55
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	40	30	6	0	0	18	0	0	0	7	4	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	43	0	0	0	290	0	0	247	0	0	17
Total Hourly Volume [veh/h]	1	1221	1203	101	3	49	1303	678	256	92	576	150	92	38
Peak Hour Factor	1.000	0.840	0.840	0.840	1.000	0.840	0.840	0.840	0.8400	0.8400	0.8400	0.8400	0.8400	0.8400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	363	358	30	1	15	388	202	76	27	171	45	27	11
Total Analysis Volume [veh/h]	1	1454	1432	120	3	58	1551	807	305	110	686	179	110	45
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	37	62	0	0	14	39	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	45	76	0	0	19	50	20	0	20	0	0	20	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Calculated Cycle Length [s]	135	135	135	135	135	135	135	135	135	135	135
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	40	77	77	7	44	69	20	20	11	11	11
g / C, Green / Cycle	0.30	0.57	0.57	0.05	0.33	0.51	0.15	0.15	0.08	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.42	0.29	0.30	0.03	0.30	0.51	0.12	0.12	0.06	0.06	0.06
s, saturation flow rate [veh/h]	3459	3560	1799	1781	5094	1589	1781	1826	1781	1815	1744
c, Capacity [veh/h]	1035	2045	1033	96	1674	812	257	264	140	143	137
d1, Uniform Delay [s]	33.83	1.30	1.31	62.59	43.74	32.80	55.83	55.82	61.11	61.08	61.15
k, delay calibration	0.19	0.50	0.50	0.04	0.50	0.50	0.18	0.18	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	184.84	0.87	1.85	2.62	10.33	30.11	8.98	8.74	3.82	3.62	4.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.41	0.50	0.52	0.64	0.93	0.99	0.80	0.80	0.79	0.79	0.80
d, Delay for Lane Group [s/veh]	218.67	2.17	3.16	65.22	54.07	62.91	64.80	64.56	64.93	64.70	65.21
Lane Group LOS	F	A	A	E	D	E	E	E	E	E	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	41.01	0.95	1.27	2.09	17.68	31.01	7.40	7.57	3.91	3.95	3.87
50th-Percentile Queue Length [ft/ln]	1025.35	23.68	31.71	52.16	442.00	775.19	184.94	189.13	97.77	98.64	96.83
95th-Percentile Queue Length [veh/ln]	61.86	1.71	2.28	3.76	24.58	40.14	11.86	12.08	7.04	7.10	6.97
95th-Percentile Queue Length [ft/ln]	1546.52	42.63	57.08	93.89	614.39	1003.49	296.45	301.90	175.99	177.55	174.30

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	218.6	218.6	2.46	3.16	65.22	65.22	54.07	62.91	64.73	64.56	0.00	64.84	65.00	65.21
Movement LOS	F	F	A	A	E	E	D	E	E	E		E	E	E
d_A, Approach Delay [s/veh]	107.10				57.30				27.09			64.94		
Approach LOS	F				E				C			E		
d_I, Intersection Delay [s/veh]	79.93													
Intersection LOS	E													
Intersection V/C	0.918													

Emissions

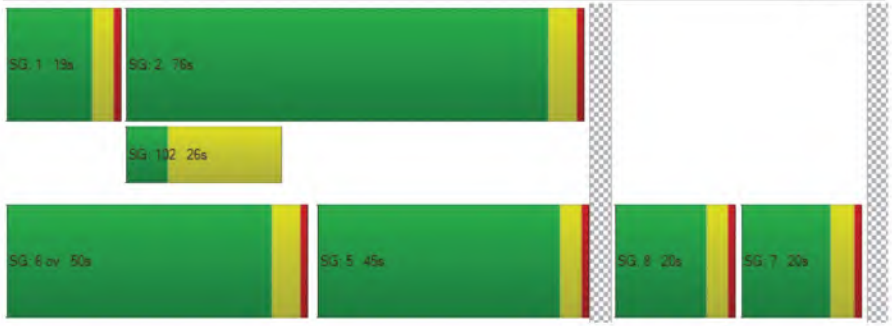
Vehicle Miles Traveled [mph]	249.20	174.28	91.53	11.48	291.89	151.87	9.48	9.72	3.54	3.58	3.50
Stops [stops/h]	2187.41	50.53	33.82	55.64	1414.40	826.87	197.27	201.74	104.29	105.22	103.29
Fuel consumption [US gal/h]	87.08	7.90	4.30	1.89	44.65	25.82	4.18	4.27	2.19	2.21	2.17
CO [g/h]	6086.63	552.41	300.46	132.45	3121.36	1804.57	292.35	298.76	153.32	154.56	151.99
NOx [g/h]	1184.24	107.48	58.46	25.77	607.30	351.10	56.88	58.13	29.83	30.07	29.57
VOC [g/h]	1410.63	128.03	69.64	30.70	723.40	418.23	67.75	69.24	35.53	35.82	35.22

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		56.95	
l_p,int, Pedestrian LOS Score for Intersectio	0.000		0.000		0.000		2.341	
Crosswalk LOS	F		F		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	1040		655		221		228	
d_b, Bicycle Delay [s]	15.55		30.54		53.42		52.98	
l_b,int, Bicycle LOS Score for Intersection	3.237		3.018		2.244		1.849	
Bicycle LOS	C		C		B		A	

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	33.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.643

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	3	2	0	0	1	2	0	0	0	3	0	0
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	260.0	100.0	100.0	260.0	360.0	100.0	100.0	100.0	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	2	84	1607	388	1	92	1561	407	2	310	108	60	298	227	187
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	97	23	0	0	59	0	0	0	0	0	14	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	123	0	0	0	122	0	0	0	18	0	0	56
Total Hourly Volume [veh/h]	2	84	1704	288	1	92	1620	285	2	310	108	42	312	227	131
Peak Hour Factor	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	0.9400	0.9400	0.9400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	22	453	77	0	24	431	76	1	82	29	11	83	60	35
Total Analysis Volume [veh/h]	2	89	1813	306	1	98	1723	303	2	330	115	45	332	241	139
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

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TKEAR

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	157
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups															
Maximum Green [s]	0	15	45	0	0	25	45	0	0	30	25	0	20	35	0
Amber [s]	0.0	4.0	4.7	0.0	0.0	4.0	4.7	0.0	0.0	4.5	4.7	0.0	4.5	4.7	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	39	0	0	0	37	0	0	0	48	0	0	50	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	3.0	3.7	0.0	0.0	3.0	3.7	0.0	0.0	4.0	3.7	0.0	4.0	3.7	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	19	51	0	0	29	51	0	0	36	31	0	26	41	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	7	0	0	10	7	0	0	10	10	0	10	10	0
Vehicle Extension [s]	0.0	1.5	3.0	0.0	0.0	1.5	3.0	0.0	0.0	1.5	2.0	0.0	1.5	2.0	0.0
Minimum Recall		No	Yes			No	Yes			No	No		No	No	
Maximum Recall		No	No			No	No			No	No		No	No	
Pedestrian Recall		No	No			No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Calculated Cycle Length [s]	157	157	157	157	157	157	157	157	157	157	157	157
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	6.00	5.70	5.70	6.00	5.70	5.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	4.00	3.70	3.70	4.00	3.70	3.70
g_i, Effective Green Time [s]	10	91	91	10	91	91	17	16	16	17	16	16
g / C, Green / Cycle	0.06	0.58	0.58	0.06	0.58	0.58	0.11	0.10	0.10	0.11	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.05	0.27	0.19	0.03	0.34	0.19	0.10	0.04	0.05	0.10	0.07	0.09
s, saturation flow rate [veh/h]	1767	6737	1577	3431	5053	1577	3431	1855	1682	3431	3532	1577
c, Capacity [veh/h]	111	3915	916	217	2939	917	379	193	175	374	362	162
d1, Uniform Delay [s]	72.72	18.85	17.09	70.94	20.85	17.01	68.78	65.99	66.06	68.98	67.85	69.33
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.63	0.40	0.98	0.56	0.86	0.97	2.58	0.57	0.65	2.85	0.79	5.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.46	0.33	0.46	0.59	0.33	0.88	0.43	0.44	0.89	0.67	0.86
d, Delay for Lane Group [s/veh]	78.35	19.24	18.07	71.50	21.71	17.97	71.35	66.55	66.71	71.83	68.63	74.37
Lane Group LOS	E	B	B	E	C	B	E	E	E	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.82	9.64	6.09	1.92	13.02	5.75	6.74	3.18	2.95	6.76	4.73	5.75
50th-Percentile Queue Length [ft/ln]	95.46	240.95	152.13	47.95	325.47	143.69	168.40	79.40	73.82	168.97	118.21	143.84
95th-Percentile Queue Length [veh/ln]	6.87	14.73	10.13	3.45	18.94	9.68	10.99	5.72	5.32	11.02	8.29	9.69
95th-Percentile Queue Length [ft/ln]	171.83	368.23	253.27	86.30	473.41	241.99	274.81	142.91	132.88	275.57	207.37	242.19

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	78.35	78.35	19.24	18.07	71.50	71.50	21.71	17.97	71.35	71.35	66.60	66.71	71.83	68.63	74.37
Movement LOS	E	E	B	B	E	E	C	B	E	E	E	E	E	E	E
d_A, Approach Delay [s/veh]	21.51				23.50				69.82				71.25		
Approach LOS	C				C				E				E		
d_I, Intersection Delay [s/veh]	32.96														
Intersection LOS	C														
Intersection V/C	0.643														

Emissions

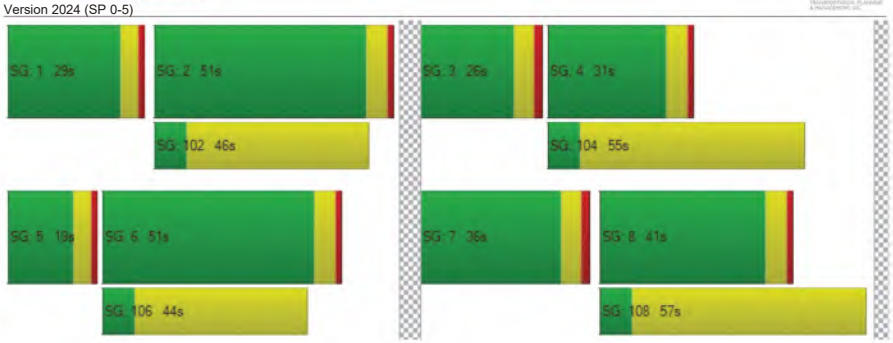
Vehicle Miles Traveled [mph]	36.23	721.81	121.83	22.09	384.54	67.62	82.74	20.68	19.19	34.81	25.27	14.57
Stops [stops/h]	87.56	883.99	139.53	87.95	895.57	131.80	308.91	72.82	67.71	309.97	216.85	131.93
Fuel consumption [US gal/h]	3.43	41.70	6.91	3.29	31.93	5.06	9.93	2.38	2.21	8.00	5.60	3.43
CO [g/h]	239.46	2914.65	483.12	230.05	2231.74	354.02	694.30	166.21	154.42	559.05	391.70	239.92
NOx [g/h]	46.59	567.08	94.00	44.76	434.22	68.88	135.09	32.34	30.04	108.77	76.21	46.68
VOC [g/h]	55.50	675.50	111.97	53.32	517.23	82.05	160.91	38.52	35.79	129.57	90.78	55.60

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	67.89	67.89	67.89	67.89
I_p,int, Pedestrian LOS Score for Intersectio	3.533	3.837	2.710	2.896
Crosswalk LOS	D	D	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	577	577	322	450
d_b, Bicycle Delay [s]	39.74	39.74	55.24	47.17
I_b,int, Bicycle LOS Score for Intersection	2.521	2.742	1.708	2.193
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	29.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.819

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	41	605	21	209	386	563	314	41	5	136	94	335
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	34	123	14	0	75	0	0	0	21	9	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	11	0	0	169	0	0	8	0	0	101
Total Hourly Volume [veh/h]	75	728	24	209	461	394	314	41	18	145	94	234
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	204	7	59	129	111	88	12	5	41	26	66
Total Analysis Volume [veh/h]	84	818	27	235	518	443	353	46	20	163	106	263
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	26	25	0	26	25	0	0	30	0	0	20	0
Amber [s]	3.0	4.0	0.0	3.0	4.0	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	3.0	0.0	2.0	3.0	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	30	30	0	0	35	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Calculated Cycle Length [s]	71	71	71	71	71	71	71	71	71	71
L, Total Lost Time per Cycle [s]	4.00	5.00	5.00	4.00	5.00	5.00	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.00	3.00	2.00	3.00	3.00	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	4	18	18	11	25	25	10	10	13	13
g / C, Green / Cycle	0.06	0.25	0.25	0.16	0.35	0.35	0.15	0.15	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.05	0.23	0.23	0.13	0.28	0.28	0.12	0.12	0.16	0.16
s, saturation flow rate [veh/h]	1781	1870	1849	1781	1870	1590	1781	1779	1803	1589
c, Capacity [veh/h]	109	473	468	279	652	554	259	258	332	292
d1, Uniform Delay [s]	32.77	25.59	25.59	29.02	20.80	20.86	29.35	29.35	27.98	27.99
k, delay calibration	0.04	0.11	0.11	0.04	0.22	0.23	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.25	6.44	6.50	2.63	4.56	5.63	2.32	2.32	2.41	2.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.90	0.90	0.84	0.79	0.80	0.81	0.81	0.85	0.85
d, Delay for Lane Group [s/veh]	37.02	32.03	32.10	31.66	25.36	26.49	31.67	31.67	30.39	30.72
Lane Group LOS	D	C	C	C	C	C	C	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.50	7.33	7.25	3.60	7.10	6.26	3.47	3.47	4.62	4.11
50th-Percentile Queue Length [ft/ln]	37.48	183.16	181.33	89.95	177.61	156.59	86.72	86.63	115.62	102.73
95th-Percentile Queue Length [veh/ln]	2.70	11.77	11.67	6.48	11.48	10.37	6.24	6.24	8.15	7.40
95th-Percentile Queue Length [ft/ln]	67.47	294.14	291.75	161.91	286.89	259.19	156.09	155.94	203.80	184.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.02	32.06	32.10	31.66	25.36	26.49	31.67	31.67	31.67	30.39	30.39	30.72
Movement LOS	D	C	C	C	C	C	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	32.51			27.01			31.67			30.55		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	29.92											
Intersection LOS	C											
Intersection V/C	0.819											

Emissions

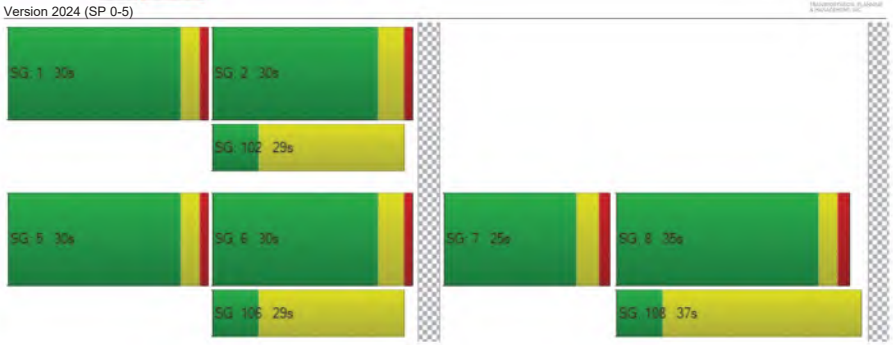
Vehicle Miles Traveled [mph]	48.51	245.38	242.63	163.96	361.09	309.41	15.77	15.75	31.25	27.58
Stops [stops/h]	76.37	373.20	369.46	183.27	361.89	319.05	176.69	176.52	235.59	209.32
Fuel consumption [US gal/h]	3.05	14.93	14.77	10.40	21.47	18.67	2.98	2.97	4.34	3.85
CO [g/h]	213.32	1043.80	1032.69	727.16	1500.85	1304.83	208.02	207.82	303.07	269.21
NOx [g/h]	41.51	203.09	200.92	141.48	292.01	253.87	40.47	40.43	58.97	52.38
VOC [g/h]	49.44	241.91	239.34	168.53	347.84	302.41	48.21	48.17	70.24	62.39

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	25.19	0.00	25.19	25.19
I_p,int, Pedestrian LOS Score for Intersectio	2.624	0.000	2.338	2.380
Crosswalk LOS	B	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	707	707	863	566
d_b, Bicycle Delay [s]	14.76	14.76	11.42	18.17
I_b,int, Bicycle LOS Score for Intersection	2.335	2.686	2.264	2.604
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	10.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.706

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	160.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	122	465	254	273	202	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	171	104	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	126	636	358	273	202	57
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	177	99	76	56	16
Total Analysis Volume [veh/h]	140	707	398	303	224	63
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	12	56	40	0	20	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	62	46	0	24	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C
C, Calculated Cycle Length [s]	35	35	35	35	35	35
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	4	20	12	12	5	5
g / C, Green / Cycle	0.11	0.56	0.34	0.34	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.08	0.38	0.21	0.19	0.08	0.08
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1690
c, Capacity [veh/h]	193	1057	639	543	262	249
d1, Uniform Delay [s]	15.00	5.28	9.56	9.30	13.77	13.78
k, delay calibration	0.04	0.15	0.15	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.96	1.05	1.42	1.28	1.87	2.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.73	0.67	0.62	0.56	0.56	0.56
d, Delay for Lane Group [s/veh]	16.96	6.34	10.98	10.58	15.64	15.79
Lane Group LOS	B	A	B	B	B	B
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.80	0.50	1.42	1.06	0.99	0.95
50th-Percentile Queue Length [ft/ln]	19.94	12.44	35.55	26.48	24.67	23.83
95th-Percentile Queue Length [veh/ln]	1.44	0.90	2.56	1.91	1.78	1.72
95th-Percentile Queue Length [ft/ln]	35.88	22.39	63.99	47.66	44.41	42.89

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	16.96	6.34	10.98	10.58	15.70	15.79
Movement LOS	B	A	B	B	B	B
d_A, Approach Delay [s/veh]	8.09		10.81		15.72	
Approach LOS	A		B		B	
d_I, Intersection Delay [s/veh]	10.32					
Intersection LOS	B					
Intersection V/C	0.706					

Emissions

Vehicle Miles Traveled [mph]	17.27	87.23	229.85	174.99	34.45	32.96
Stops [stops/h]	82.93	51.75	147.88	110.15	102.63	99.12
Fuel consumption [US gal/h]	2.60	4.79	11.33	8.55	2.45	2.36
CO [g/h]	181.84	334.88	791.64	597.78	171.42	164.64
NOx [g/h]	35.38	65.15	154.02	116.31	33.35	32.03
VOC [g/h]	42.14	77.61	183.47	138.54	39.73	38.16

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	10.23	0.00	10.23
l_p,int, Pedestrian LOS Score for Intersectio	2.670	0.000	2.128
Crosswalk LOS	B	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	3235	2311	1156
d_b, Bicycle Delay [s]	6.60	0.42	3.09
l_b,int, Bicycle LOS Score for Intersection	2.957	2.716	2.033
Bicycle LOS	C	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Signalized	Delay (sec / veh):	19.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.744

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	387	32	41	254	0	0	0	0	10	0	161
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	8	0	0	6	64	152	2	17	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	31	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	14	0	0	0	0	0	0	0	14
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	395	32	55	260	95	152	2	17	10	1	175
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	106	9	15	70	26	41	1	5	3	0	47
Total Analysis Volume [veh/h]	12	425	34	59	280	102	163	2	18	11	1	188
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	11	0	0	18	0	0	14	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	9	9	0	9	9	0	0	9	0	0	9	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Calculated Cycle Length [s]	51	51	51	51	51	51
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	16	3	18	7	9
g / C, Green / Cycle	0.02	0.31	0.06	0.35	0.14	0.17
(v / s)_i Volume / Saturation Flow Rate	0.01	0.28	0.04	0.24	0.12	0.14
s, saturation flow rate [veh/h]	1603	1661	1603	1607	1585	1440
c, Capacity [veh/h]	25	520	90	569	230	245
d1, Uniform Delay [s]	24.75	16.52	23.45	13.88	20.95	20.28
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.29	2.00	3.00	0.52	2.39	2.55
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.48	0.88	0.66	0.67	0.80	0.82
d, Delay for Lane Group [s/veh]	30.05	18.52	26.45	14.40	23.34	22.83
Lane Group LOS	C	B	C	B	C	C
Critical Lane Group	No	Yes	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.16	3.86	0.64	2.61	2.04	2.21
50th-Percentile Queue Length [ft/ln]	3.88	96.40	16.01	65.36	50.98	55.27
95th-Percentile Queue Length [veh/ln]	0.28	6.94	1.15	4.71	3.67	3.98
95th-Percentile Queue Length [ft/ln]	6.98	173.52	28.81	117.65	91.77	99.48

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.05	18.52	18.52	26.45	14.40	14.40	23.34	23.34	23.34	22.83	22.83	22.83
Movement LOS	C	B	B	C	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	18.81			16.01			23.34			22.83		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	19.12											
Intersection LOS	B											
Intersection V/C	0.744											

Emissions

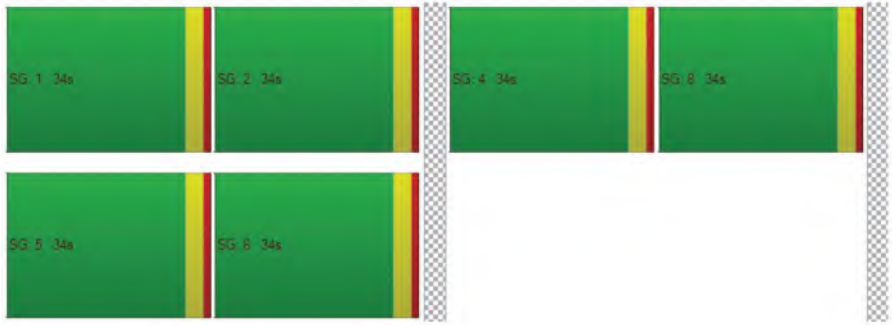
Vehicle Miles Traveled [mph]	4.07	155.69	5.98	38.72	9.95	168.84
Stops [stops/h]	11.04	274.72	45.62	186.26	145.30	157.50
Fuel consumption [US gal/h]	0.41	12.04	1.37	5.87	2.08	8.75
CO [g/h]	28.99	841.68	95.42	410.65	145.51	611.63
NOx [g/h]	5.64	163.76	18.56	79.90	28.31	119.00
VOC [g/h]	6.72	195.07	22.11	95.17	33.72	141.75

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		0.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		0.00	
l_p,int, Pedestrian LOS Score for Intersectio	0.000		0.000		0.000		0.000	
Crosswalk LOS	F		F		F		F	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	1187		1187		1187		1187	
d_b, Bicycle Delay [s]	4.17		4.17		4.17		4.17	
l_b,int, Bicycle LOS Score for Intersection	2.337		2.287		1.862		1.890	
Bicycle LOS	B		B		A		A	

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Roundabout	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	13	232	128	45	0	546	152
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	21	0	0	0	34
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	13	232	149	45	0	546	186
Peak Hour Factor	1.0000	0.9060	0.9060	0.9060	0.9060	1.0000	0.9060	0.9060
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	64	41	12	0	151	51
Total Analysis Volume [veh/h]	0	14	256	164	50	0	603	205
Pedestrian Volume [ped/h]	0			0		0		

Scenario 3: 3 Abated - 2023 AM, + Project Report File: Y:\...\2023 AM Abated 1,2,3,6,9,10,12,13,18,21.pdf 11/18/2024

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1	
Circulating Flow Rate [veh/h]	167			615			14	
Exiting Flow Rate [veh/h]	666			223			428	
Demand Flow Rate [veh/h]	0	13	232	149	45	0	546	186
Adjusted Demand Flow Rate [veh/h]	0	14	256	164	50	0	603	205

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	0.98	0.98	0.98
Entry Flow Rate [veh/h]	276	219	825
Capacity of Entry and Bypass Lanes [veh/h]	1164	737	1361
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1141	723	1334
X, volume / capacity	0.24	0.30	0.61

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.92	1.24	4.33
95th-Percentile Queue Length [ft]	23.06	30.96	108.21
Approach Delay [s/veh]	5.32	8.55	9.79
Approach LOS	A	A	A
Intersection Delay [s/veh]	8.65		
Intersection LOS	A		

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Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	All-way stop	Delay (sec / veh):	17.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.735

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	65	0	18	66	1	8	4	227	71	37	439	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	34	0	0	0	0	0	0	0	21	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	99	0	18	66	1	8	4	227	92	37	439	15
Peak Hour Factor	0.9700	1.0000	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	0	5	17	0	2	1	59	24	10	113	4
Total Analysis Volume [veh/h]	102	0	19	68	1	8	4	234	95	38	453	15
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	485	580	500	563	633	583	637
Degree of Utilization, x	0.21	0.03	0.15	0.01	0.52	0.07	0.73

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.79	0.10	0.54	0.02	3.00	0.21	6.38
95th-Percentile Queue Length [ft]	19.67	2.54	13.51	0.54	75.11	5.22	159.56
Approach Delay [s/veh]	11.63		11.51	14.30		21.39	
Approach LOS	B		B	B		C	
Intersection Delay [s/veh]	17.24						
Intersection LOS	C						

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Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	39.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.862

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	95	50	256	155	36	46	68	194	30	162	653	238
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	12	0	0	5	7	16	0	7	9	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	80	0	0	15	0	0	9	0	0	71
Total Hourly Volume [veh/h]	95	50	188	155	36	36	75	210	21	169	662	167
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	14	54	45	10	10	22	60	6	49	190	48
Total Analysis Volume [veh/h]	109	57	216	178	41	41	86	241	24	194	761	192
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	0	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	35	0	0	40	0	25	45	0	25	45	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	18	0	0	17	0	0	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	100.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	0	0	44	0	29	50	0	29	51	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	0.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C	R
C, Calculated Cycle Length [s]	98	98	98	98	98	98	98	98	98
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	3.50	5.30	3.50	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	1.50	3.30	1.50	4.00	4.00
g_i, Effective Green Time [s]	19	19	13	13	6	37	13	42	42
g / C, Green / Cycle	0.20	0.20	0.13	0.13	0.06	0.37	0.13	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.06	0.17	0.10	0.05	0.05	0.14	0.11	0.41	0.12
s, saturation flow rate [veh/h]	1781	1641	1781	1718	1781	1841	1781	1870	1589
c, Capacity [veh/h]	350	322	227	219	111	686	229	807	686
d1, Uniform Delay [s]	33.80	38.06	41.52	39.25	45.36	22.59	41.87	26.79	18.07
k, delay calibration	0.13	0.13	0.13	0.13	0.04	0.11	0.04	0.37	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.63	7.56	7.16	1.31	4.23	0.36	3.36	16.57	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.85	0.78	0.37	0.77	0.39	0.85	0.94	0.28
d, Delay for Lane Group [s/veh]	34.43	45.62	48.68	40.56	49.59	22.95	45.23	43.36	18.35
Lane Group LOS	C	D	D	D	D	C	D	D	B
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.27	6.90	4.58	1.88	2.18	4.47	4.75	19.89	2.81
50th-Percentile Queue Length [ft/ln]	56.71	172.56	114.53	46.95	54.45	111.66	118.87	497.29	70.19
95th-Percentile Queue Length [veh/ln]	4.08	11.21	8.09	3.38	3.92	7.93	8.33	27.21	5.05
95th-Percentile Queue Length [ft/ln]	102.08	280.27	202.29	84.50	98.01	198.31	208.27	680.15	126.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.43	45.62	45.62	48.68	40.56	40.56	49.59	22.95	22.95	45.23	43.36	18.35
Movement LOS	C	D	D	D	D	D	D	C	C	D	D	B
d_A, Approach Delay [s/veh]	42.43			46.12			29.48			39.49		
Approach LOS	D			D			C			D		
d_I, Intersection Delay [s/veh]	39.18											
Intersection LOS	D											
Intersection V/C	0.862											

Emissions

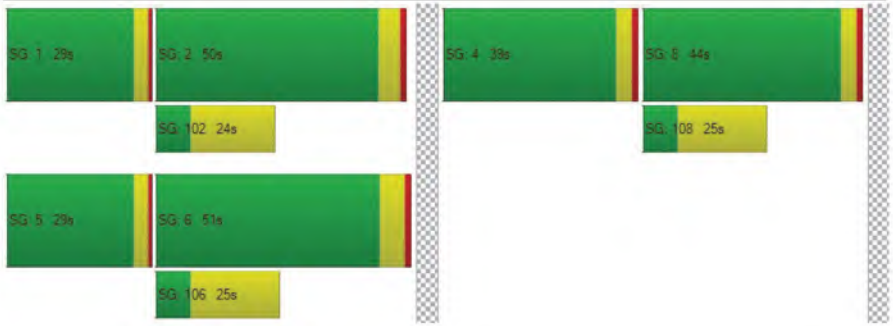
Vehicle Miles Traveled [mph]	187.55	469.74	36.09	16.62	30.11	92.79	87.54	343.38	86.63
Stops [stops/h]	83.28	253.40	168.19	68.94	79.96	163.98	174.56	730.26	103.07
Fuel consumption [US gal/h]	8.94	23.27	4.18	1.74	2.55	5.96	6.35	24.88	4.85
CO [g/h]	625.22	1626.69	292.05	121.77	178.19	416.85	444.12	1739.44	339.22
NOx [g/h]	121.64	316.49	56.82	23.69	34.67	81.10	86.41	338.43	66.00
VOC [g/h]	144.90	377.00	67.68	28.22	41.30	96.61	102.93	403.13	78.62

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	38.65	38.65	38.65	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.295	2.187	2.375	0.000
Crosswalk LOS	B	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	710	812	912	918
d_b, Bicycle Delay [s]	20.40	17.31	14.52	14.36
l_b,int, Bicycle LOS Score for Intersection	2.322	2.013	2.154	3.569
Bicycle LOS	B	B	B	D

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Signal Warrants Report For Intersection 18: White Rock Rd/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	491	323	117	75
2	476	313	113	73
3	466	307	111	71
4	437	287	104	67
5	388	255	92	59
6	383	252	91	59
7	378	249	90	58
8	344	226	82	53
9	339	223	81	52
10	334	220	80	51
11	290	191	69	44
12	270	178	64	41
13	265	174	63	41
14	196	129	47	30
15	196	129	47	30
16	137	90	33	21
17	79	52	19	12
18	79	52	19	12
19	44	29	11	7
20	25	16	6	4
21	15	10	4	2
22	5	3	1	1
23	5	3	1	1
24	5	3	1	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	814	1	117	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No
2	2	789	1	113	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No
3	2	773	1	111	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No
4	2	724	1	104	No	No	No	Yes	No	Yes	Yes	Yes	No	No
5	2	643	1	92	No	No	No	Yes	No	No	Yes	Yes	No	No
6	2	635	1	91	No	No	No	Yes	No	No	Yes	Yes	No	No
7	2	627	1	90	No	No	No	Yes	No	No	No	Yes	No	No
8	2	570	1	82	No	No	No	No	No	No	No	Yes	No	No
9	2	562	1	81	No	No	No	No	No	No	No	Yes	No	No
10	2	554	1	80	No	No	No	No	No	No	No	Yes	No	No
11	2	481	1	69	No	No	No	No	No	No	No	No	No	No
12	2	448	1	64	No	No	No	No	No	No	No	No	No	No
13	2	439	1	63	No	No	No	No	No	No	No	No	No	No
14	2	325	1	47	No	No	No	No	No	No	No	No	No	No
15	2	325	1	47	No	No	No	No	No	No	No	No	No	No
16	2	227	1	33	No	No	No	No	No	No	No	No	No	No
17	2	131	1	19	No	No	No	No	No	No	No	No	No	No
18	2	131	1	19	No	No	No	No	No	No	No	No	No	No
19	2	73	1	11	No	No	No	No	No	No	No	No	No	No
20	2	41	1	6	No	No	No	No	No	No	No	No	No	No
21	2	25	1	4	No	No	No	No	No	No	No	No	No	No
22	2	8	1	1	No	No	No	No	No	No	No	No	No	No
23	2	8	1	1	No	No	No	No	No	No	No	No	No	No
24	2	8	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	3	7	0	4	6	10	0	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	11.6	11.5
Number of Lanes on Minor Street Approach	2	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:22	0:14
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	117	75
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1006	1006
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Existing PM plus abated Project

Intersection Level Of Service Report
Intersection 1: El Dorado Hills Blvd/Serrano Pkwy

Control Type:	Signalized	Delay (sec / veh):	42.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.969

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	260.0	100.0	100.0	100.0	110.00	100.00	100.00	100.00	100.00	100.00	430.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No			No		
Crosswalk	No				Yes			Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Base Volume Input [veh/h]	3	91	1766	401	35	1038	55	36	17	54	339	52	22
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	16	0	0	23	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	17	0	0	16	0	0	7
Total Hourly Volume [veh/h]	3	91	1782	401	35	1061	38	36	17	38	339	52	15
Peak Hour Factor	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	26	512	115	10	305	11	10	5	11	97	15	4
Total Analysis Volume [veh/h]	3	105	2048	461	40	1220	44	41	20	44	390	60	17
Presence of On-Street Parking	No			No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	1	6	0	7	7	0	0	8	0
Auxiliary Signal Groups													
Maximum Green [s]	0	25	40	0	25	40	0	35	35	0	0	35	0
Amber [s]	0.0	3.0	4.7	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	12	0	0	12	0	0	0	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	100.0	245.0	0.0	100.0	100.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	29	46	0	29	46	0	39	39	0	0	39	0
Lead / Lag	-	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	3	6	0	3	3	0	3	3	0	0	3	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No		No	No			No			No	
Maximum Recall		No	No		No	No			No			No	
Pedestrian Recall		No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C
C, Calculated Cycle Length [s]	77	77	77	77	77	77	77	77	77	77
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	40	40	2	36	36	5	5	12	12
g / C, Green / Cycle	0.08	0.52	0.52	0.03	0.47	0.47	0.06	0.06	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.06	0.58	0.29	0.02	0.34	0.34	0.02	0.04	0.13	0.13
s, saturation flow rate [veh/h]	1781	3560	1589	1781	1870	1847	1781	1668	1781	1787
c, Capacity [veh/h]	142	1851	827	51	878	867	106	99	288	289
d1, Uniform Delay [s]	34.72	18.47	12.49	37.14	16.42	16.43	34.85	35.41	31.11	31.11
k, delay calibration	0.04	0.05	0.05	0.04	0.13	0.13	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.19	48.71	0.27	9.12	1.39	1.42	0.86	2.61	2.07	2.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	1.11	0.56	0.78	0.72	0.73	0.39	0.65	0.81	0.81
d, Delay for Lane Group [s/veh]	37.90	67.18	12.77	46.26	17.81	17.85	35.71	38.02	33.18	33.17
Lane Group LOS	D	F	B	D	B	B	D	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.97	25.36	4.38	0.83	7.78	7.71	0.75	1.22	4.19	4.21
50th-Percentile Queue Length [ft/ln]	49.37	633.94	109.60	20.81	194.52	192.74	18.67	30.40	104.80	105.15
95th-Percentile Queue Length [veh/ln]	3.55	36.26	7.82	1.50	12.36	12.26	1.34	2.19	7.55	7.57
95th-Percentile Queue Length [ft/ln]	88.86	906.49	195.44	37.45	308.89	306.58	33.60	54.73	188.64	189.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.90	37.90	67.18	12.77	46.26	17.83	17.85	35.71	38.02	38.02	33.18	33.17	33.17
Movement LOS	D	D	F	B	D	B	B	D	D	D	C	C	C
d_A, Approach Delay [s/veh]	56.39				18.70			37.12			33.18		
Approach LOS	E				B			D			C		
d_I, Intersection Delay [s/veh]	42.59												
Intersection LOS	D												
Intersection V/C	0.969												

Emissions

Vehicle Miles Traveled [mph]	25.79	489.13	110.10	5.88	93.42	92.41	1.75	2.73	12.20	12.24
Stops [stops/h]	92.56	2377.20	205.49	39.01	364.72	361.37	35.00	57.00	196.49	197.15
Fuel consumption [US gal/h]	2.87	74.32	7.53	1.06	10.04	9.94	0.56	0.92	3.16	3.17
CO [g/h]	200.47	5194.99	526.11	74.32	701.82	695.15	39.38	64.49	220.99	221.72
NOx [g/h]	39.01	1010.76	102.36	14.46	136.55	135.25	7.66	12.55	43.00	43.14
VOC [g/h]	46.46	1203.99	121.93	17.22	162.65	161.11	9.13	14.95	51.22	51.39

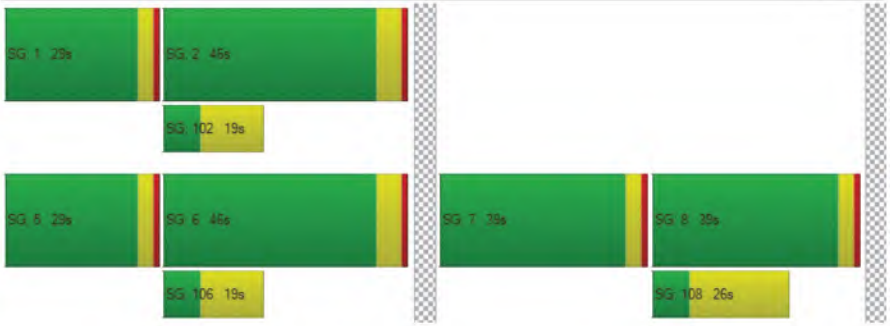
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	28.19	28.19	28.19
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.320	2.067	2.265
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1049	1049	911	911
d_b, Bicycle Delay [s]	8.67	8.67	11.38	11.38
l_b,int, Bicycle LOS Score for Intersection	3.716	2.649	1.759	2.342
Bicycle LOS	D	B	A	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Version 2024 (SP 0-5)



Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	94.1
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.201

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	230.0	100.0	100.0	100.0	100.0	100.0	100.0	300.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	5	442	1616	75	4	164	1068	198	365	41	525	59	107	276
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	9	16	0	0	0	23	0	0	0	11	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	23	0	0	0	59	0	0	161	0	0	83
Total Hourly Volume [veh/h]	5	451	1632	52	4	164	1091	139	365	41	375	59	107	193
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	121	439	14	1	44	293	37	98	11	101	16	29	52
Total Analysis Volume [veh/h]	5	485	1755	56	4	176	1173	149	392	44	403	63	115	208
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	128
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	0	3	8	0
Auxiliary Signal Groups														
Maximum Green [s]	0	26	50	0	0	20	44	0	20	20	0	0	20	0
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	18	0	0	0	16	0	0	0	0	0	28	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	0.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	0.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	30	56	0	0	24	50	0	24	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Calculated Cycle Length [s]	127	127	127	127	127	127	127	127	127	127	127
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	26	55	55	15	44	44	20	20	20	20	20
g / C, Green / Cycle	0.20	0.43	0.43	0.12	0.34	0.34	0.16	0.16	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.28	0.33	0.34	0.10	0.33	0.09	0.12	0.12	0.25	0.04	0.19
s, saturation flow rate [veh/h]	1781	3560	1841	1781	3560	1589	1781	1798	1589	1781	1679
c, Capacity [veh/h]	363	1534	793	207	1222	545	280	282	249	280	264
d1, Uniform Delay [s]	50.71	31.02	31.10	55.34	41.00	30.33	51.58	51.54	53.71	46.94	53.71
k, delay calibration	0.50	0.13	0.35	0.12	0.13	0.13	0.23	0.23	0.50	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	174.02	1.05	5.38	11.46	6.74	0.32	9.51	9.13	294.67	0.15	130.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.35	0.78	0.78	0.87	0.96	0.27	0.78	0.77	1.62	0.23	1.23
d, Delay for Lane Group [s/veh]	224.73	32.07	36.49	66.80	47.74	30.66	61.09	60.67	348.37	47.09	184.06
Lane Group LOS	F	C	D	E	D	C	E	E	F	D	F
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	28.80	15.06	16.65	6.21	18.36	3.29	7.42	7.42	28.40	1.77	17.97
50th-Percentile Queue Length [ft/ln]	720.03	376.50	416.15	155.27	459.03	82.14	185.39	185.50	709.95	44.30	449.26
95th-Percentile Queue Length [veh/ln]	43.38	21.42	23.34	10.30	25.39	5.91	11.88	11.89	44.51	3.19	27.31
95th-Percentile Queue Length [ft/ln]	1084.53	535.61	583.43	257.45	634.72	147.84	297.05	297.18	1112.74	79.74	682.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	224.7	224.7	33.49	36.49	66.80	66.80	47.74	30.66	60.90	60.67	348.37	47.09	184.06	184.06
Movement LOS	F	F	C	D	E	E	D	C	E	E	F	D	F	F
d_A, Approach Delay [s/veh]	74.29				48.33				198.97			161.71		
Approach LOS	E				D				F			F		
d_I, Intersection Delay [s/veh]	94.05													
Intersection LOS	F													
Intersection V/C	1.201													

Emissions

Vehicle Miles Traveled [mph]	92.22	224.27	116.55	42.99	280.15	35.59	13.56	13.63	25.13	3.07	15.75
Stops [stops/h]	813.77	851.04	470.33	175.48	1037.59	92.83	209.53	209.65	802.38	50.07	507.75
Fuel consumption [US gal/h]	35.68	26.05	14.44	6.10	33.90	3.30	4.42	4.42	34.03	1.01	15.55
CO [g/h]	2494.27	1820.67	1009.42	426.53	2369.49	230.92	308.91	308.73	2378.81	70.37	1086.94
NOx [g/h]	485.30	354.24	196.40	82.99	461.02	44.93	60.10	60.07	462.83	13.69	211.48
VOC [g/h]	578.07	421.96	233.94	98.85	549.15	53.52	71.59	71.55	551.31	16.31	251.91

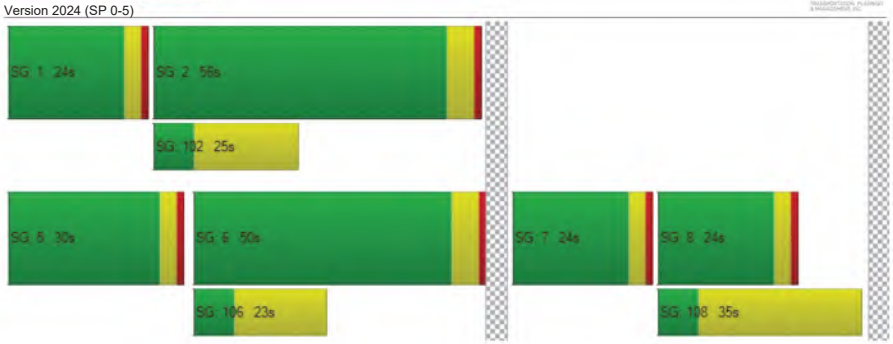
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	53.18	53.18	53.18
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.530	2.817	2.325
Crosswalk LOS	F	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	790	695	314	314
d_b, Bicycle Delay [s]	23.33	27.11	45.28	45.28
l_b,int, Bicycle LOS Score for Intersection	2.835	2.702	3.210	2.333
Bicycle LOS	C	B	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	51.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.007

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	500.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	980	1679	319	0	37	1192	428	208	130	290	236	80	251
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	28	25	4	0	0	34	0	0	0	13	7	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	97	0	0	0	128	0	0	91	0	0	75
Total Hourly Volume [veh/h]	1	1008	1704	226	0	37	1226	300	208	130	212	243	80	176
Peak Hour Factor	1.000	0.840	0.990	0.840	1.000	0.840	0.990	0.840	0.8400	0.8400	0.8400	0.8400	0.8400	0.8400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	300	430	67	0	11	310	89	62	39	63	72	24	52
Total Analysis Volume [veh/h]	1	1200	1721	269	0	44	1238	357	248	155	252	289	95	210
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	136
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	45	62	0	0	14	29	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	50	68	0	0	19	35	28	0	28	0	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Calculated Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	45	73	73	7	34	57	18	18	18	18	18
g / C, Green / Cycle	0.33	0.54	0.54	0.05	0.25	0.42	0.13	0.13	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.35	0.37	0.40	0.02	0.25	0.22	0.11	0.11	0.11	0.11	0.13
s, saturation flow rate [veh/h]	3459	3532	1735	1781	5053	1589	1781	1847	1781	1823	1589
c, Capacity [veh/h]	1155	1901	934	86	1275	668	232	241	241	247	216
d1, Uniform Delay [s]	45.29	22.99	23.97	63.17	50.34	29.48	57.87	57.86	56.88	56.86	58.54
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.15	0.15	0.22	0.21	0.37
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	20.76	2.04	5.10	1.76	19.09	3.05	11.47	11.02	10.68	10.21	46.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.04	0.69	0.73	0.51	0.97	0.53	0.85	0.85	0.79	0.78	0.97
d, Delay for Lane Group [s/veh]	66.05	25.04	29.07	64.94	69.43	32.54	69.34	68.88	67.55	67.07	104.89
Lane Group LOS	F	C	C	E	E	C	E	E	E	E	F
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	22.65	15.59	17.80	1.50	15.74	9.01	7.41	7.65	7.05	7.16	9.98
50th-Percentile Queue Length [ft/ln]	566.18	389.65	444.92	37.60	393.43	225.17	185.34	191.29	176.29	179.07	249.49
95th-Percentile Queue Length [veh/ln]	31.27	22.06	24.72	2.71	22.24	13.93	11.88	12.19	11.41	11.55	15.16
95th-Percentile Queue Length [ft/ln]	781.71	551.52	617.88	67.67	556.07	348.21	296.97	304.71	285.17	288.81	379.01

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	66.05	66.05	26.01	29.07	64.94	64.94	69.43	32.54	69.25	68.88	0.00	67.39	67.07	104.89
Movement LOS	E	F	C	C	E	E	E	C	E	E		E	E	F
d_A, Approach Delay [s/veh]	41.34				61.27				45.28			80.59		
Approach LOS	D				E				D			F		
d_I, Intersection Delay [s/veh]	51.22													
Intersection LOS	D													
Intersection V/C	1.007													

Emissions

Vehicle Miles Traveled [mph]	205.69	223.46	117.36	8.28	232.99	67.19	9.15	9.49	6.04	6.17	6.68
Stops [stops/h]	1198.97	825.15	471.09	39.81	1249.71	238.41	196.24	202.55	186.66	189.61	264.17
Fuel consumption [US gal/h]	31.23	20.41	11.49	1.36	41.01	7.63	4.25	4.38	3.89	3.95	6.22
CO [g/h]	2183.21	1426.33	802.96	95.08	2866.79	533.39	297.32	306.43	272.09	275.95	434.50
NOx [g/h]	424.77	277.51	156.23	18.50	557.77	103.78	57.85	59.62	52.94	53.69	84.54
VOC [g/h]	505.98	330.57	186.09	22.03	664.41	123.62	68.91	71.02	63.06	63.95	100.70

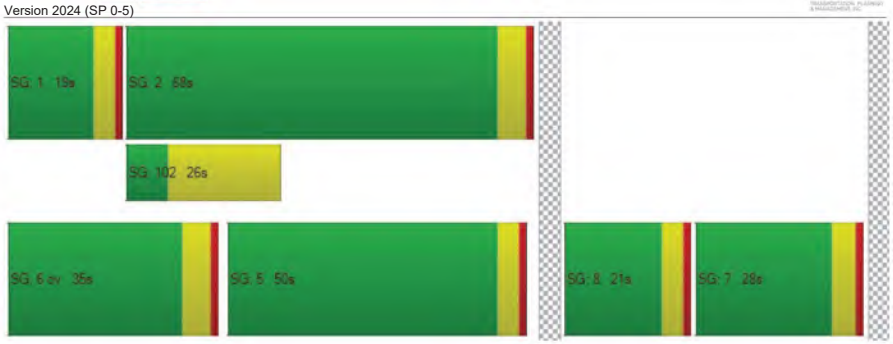
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	57.44
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.558
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	915	429	337	241
d_b, Bicycle Delay [s]	20.02	41.93	47.03	52.59
l_b,int, Bicycle LOS Score for Intersection	3.367	2.507	2.225	2.112
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

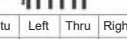
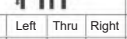
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Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	41.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.664

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	3	2	0	0	1	2	0	0	0	3	0	0
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	260.0	100.0	100.0	260.0	360.0	100.0	100.0	100.0	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	6	73	1515	362	2	243	1325	392	2	349	336	86	393	164	194
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	73	19	0	0	108	0	0	0	0	0	26	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	114	0	0	0	118	0	0	0	26	0	0	58
Total Hourly Volume [veh/h]	6	73	1588	267	2	243	1433	274	2	349	336	60	419	164	136
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	20	427	72	1	65	385	74	1	94	90	16	113	44	37
Total Analysis Volume [veh/h]	6	78	1708	287	2	261	1541	295	2	375	361	65	451	176	146
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	160
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	50	0	0	20	50	0	0	23	31	0	36	44	0
Amber [s]	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0	0.0	4.5	5.0	0.0	4.5	5.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	39	0	0	0	37	0	0	0	48	0	0	50	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	4.0	0.0	0.0	3.0	4.0	0.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	56	0	0	25	56	0	0	29	37	0	42	50	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	7	0	0	10	7	0	0	10	10	0	10	10	0
Vehicle Extension [s]	0.0	1.5	3.0	0.0	0.0	1.5	3.0	0.0	0.0	1.5	2.0	0.0	1.5	2.0	0.0
Minimum Recall		No	Yes			No	Yes			No	No		No	No	
Maximum Recall		No	No			No	No			No	No		No	No	
Pedestrian Recall		No	No			No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Calculated Cycle Length [s]	160	160	160	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	5.00	6.00	6.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	4.00	4.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	10	79	79	14	83	83	19	21	21	23	25	25
g / C, Green / Cycle	0.06	0.49	0.49	0.09	0.52	0.52	0.12	0.13	0.13	0.14	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.05	0.25	0.18	0.08	0.30	0.19	0.11	0.12	0.12	0.13	0.05	0.09
s, saturation flow rate [veh/h]	1781	6792	1589	3459	5094	1589	3459	1870	1772	3459	3560	1589
c, Capacity [veh/h]	110	3346	783	307	2647	826	420	245	232	498	547	244
d1, Uniform Delay [s]	73.95	27.52	25.13	71.92	26.46	22.66	69.32	68.40	68.41	67.42	60.28	63.09
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.16	0.56	1.32	2.72	0.94	1.21	2.86	4.45	4.73	2.62	0.13	0.87
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.51	0.37	0.86	0.58	0.36	0.90	0.89	0.89	0.91	0.32	0.60
d, Delay for Lane Group [s/veh]	78.11	28.08	26.46	74.64	27.40	23.86	72.18	72.84	73.14	70.04	60.40	63.97
Lane Group LOS	E	C	C	E	C	C	E	E	E	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.55	11.34	7.17	5.37	13.31	6.71	7.82	9.15	8.70	9.30	3.23	5.64
50th-Percentile Queue Length [ft/ln]	88.76	283.54	179.28	134.35	332.76	167.74	195.47	228.69	217.55	232.52	80.63	141.10
95th-Percentile Queue Length [veh/ln]	6.39	16.86	11.56	9.18	19.29	10.96	12.40	14.11	13.54	14.30	5.81	9.54
95th-Percentile Queue Length [ft/ln]	159.77	421.61	289.08	229.39	482.34	273.94	310.11	352.70	338.50	357.56	145.14	238.50

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	78.11	78.11	28.08	26.46	74.64	74.64	27.40	23.86	72.18	72.18	72.96	73.14	70.04	60.40	63.97
Movement LOS	E	E	C	C	E	E	C	C	E	E	E	E	E	E	E
d_A, Approach Delay [s/veh]	29.87				32.82				72.61				66.70		
Approach LOS	C				C				E				E		
d_I, Intersection Delay [s/veh]	41.86														
Intersection LOS	D														
Intersection V/C	0.664														

Emissions

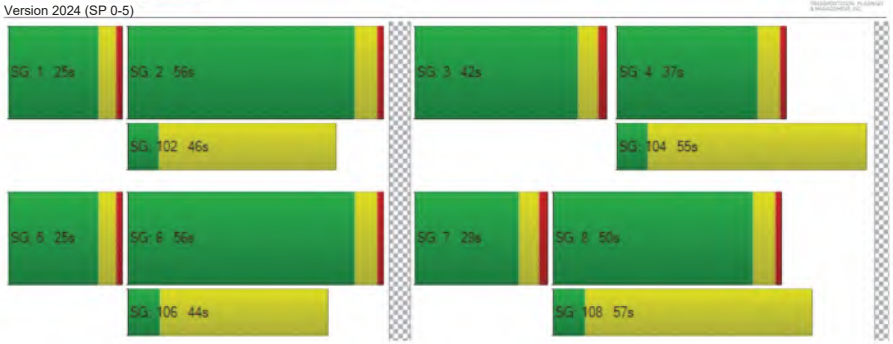
Vehicle Miles Traveled [mph]	33.44	679.93	114.25	58.71	344.01	65.85	94.09	54.55	51.77	47.12	18.39	15.25
Stops [stops/h]	79.88	1020.73	161.35	241.83	898.45	150.97	351.84	205.83	195.80	418.53	145.14	126.99
Fuel consumption [US gal/h]	3.15	43.39	7.14	9.01	31.55	5.57	11.35	6.62	6.30	10.68	3.72	3.23
CO [g/h]	220.39	3032.79	499.08	630.04	2205.66	389.13	793.64	462.88	440.39	746.47	260.16	225.76
NOx [g/h]	42.88	590.07	97.10	122.58	429.14	75.71	154.41	90.06	85.68	145.24	50.62	43.93
VOC [g/h]	51.08	702.88	115.67	146.02	511.18	90.18	183.93	107.28	102.06	173.00	60.30	52.32

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	69.38	69.38	69.38	69.38
l_p,int, Pedestrian LOS Score for Intersectio	3.502	3.820	2.760	2.962
Crosswalk LOS	D	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	625	625	388	550
d_b, Bicycle Delay [s]	37.81	37.81	52.00	42.05
l_b,int, Bicycle LOS Score for Intersection	2.462	2.635	1.934	2.245
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	47.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.896

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

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Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	98	575	21	249	446	625	494	119	26	13	155	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	27	96	13	0	140	0	0	0	39	16	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	10	0	0	188	0	0	20	0	0	33
Total Hourly Volume [veh/h]	125	671	24	249	586	437	494	119	45	29	155	77
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	184	7	68	161	120	136	33	12	8	43	21
Total Analysis Volume [veh/h]	137	737	26	274	644	480	543	131	49	32	170	85
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	26	25	0	26	25	0	0	30	0	0	20	0
Amber [s]	3.0	4.0	0.0	3.0	4.0	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.0	0.0	2.0	3.0	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	30	30	0	0	35	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Calculated Cycle Length [s]	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	5.00	5.00	4.00	5.00	5.00	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.00	3.00	2.00	3.00	3.00	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	8	19	19	14	25	25	18	18	11	11
g / C, Green / Cycle	0.10	0.23	0.23	0.18	0.31	0.31	0.23	0.23	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.08	0.21	0.21	0.15	0.32	0.33	0.20	0.20	0.11	0.05
s, saturation flow rate [veh/h]	1781	1870	1848	1781	1870	1611	1781	1783	1855	1589
c, Capacity [veh/h]	172	436	430	314	585	504	404	404	246	211
d1, Uniform Delay [s]	35.38	29.64	29.64	32.09	27.52	27.52	30.05	30.04	33.79	31.81
k, delay calibration	0.04	0.12	0.12	0.04	0.42	0.44	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.12	6.53	6.61	2.95	39.12	50.67	2.88	2.87	2.58	0.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.88	0.88	0.87	1.02	1.05	0.90	0.90	0.82	0.40
d, Delay for Lane Group [s/veh]	38.50	36.17	36.25	35.04	66.64	78.19	32.93	32.92	36.36	32.27
Lane Group LOS	D	D	D	D	F	F	C	C	D	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.70	7.61	7.53	4.88	15.90	15.32	6.80	6.81	3.89	1.50
50th-Percentile Queue Length [ft/ln]	67.43	190.32	188.29	121.92	397.62	383.02	170.05	170.14	97.17	37.42
95th-Percentile Queue Length [veh/ln]	4.86	12.14	12.03	8.50	22.73	22.38	11.08	11.08	7.00	2.69
95th-Percentile Queue Length [ft/ln]	121.38	303.45	300.81	212.46	568.21	559.44	276.98	277.10	174.91	67.36

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.50	36.21	36.25	35.04	67.50	78.19	32.92	32.92	32.92	36.36	36.36	32.27
Movement LOS	D	D	D	D	E	E	C	C	C	D	D	C
d_A, Approach Delay [s/veh]	36.56			64.81			32.92			35.15		
Approach LOS	D			E			C			D		
d_I, Intersection Delay [s/veh]	47.58											
Intersection LOS	D											
Intersection V/C	0.896											

Emissions

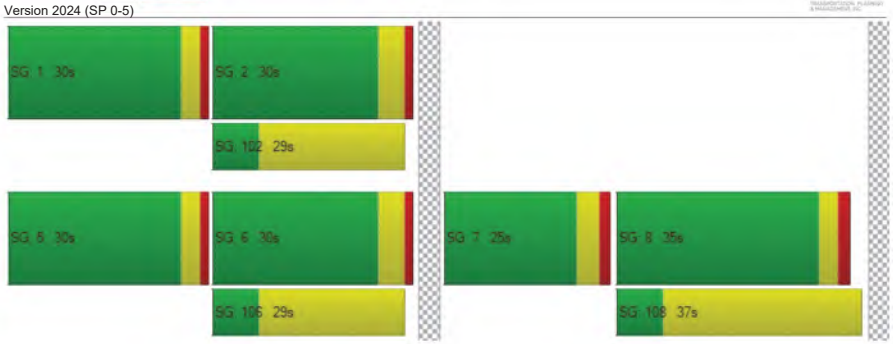
Vehicle Miles Traveled [mph]	79.12	221.64	219.01	191.17	416.02	368.20	27.19	27.20	22.34	9.40
Stops [stops/h]	121.52	342.99	339.33	219.72	716.57	690.25	306.45	306.62	175.12	67.44
Fuel consumption [US gal/h]	5.00	13.84	13.69	12.43	35.31	33.53	5.23	5.24	3.38	1.32
CO [g/h]	349.62	967.70	956.77	868.85	2468.35	2344.02	365.82	366.01	236.40	92.11
NOx [g/h]	68.02	188.28	186.15	169.05	480.25	456.06	71.18	71.21	46.00	17.92
VOC [g/h]	81.03	224.27	221.74	201.36	572.06	543.25	84.78	84.83	54.79	21.35

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.71	0.00	29.71	29.71
l_p,int, Pedestrian LOS Score for Intersectio	2.630	0.000	2.520	2.228
Crosswalk LOS	B	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	626	626	763	501
d_b, Bicycle Delay [s]	18.86	18.86	15.27	22.46
l_b,int, Bicycle LOS Score for Intersection	2.310	2.868	2.786	2.088
Bicycle LOS	B	C	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	17.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.775

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	160.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

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Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	115	314	447	38	380	79
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	136	195	0	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	11	0	25
Total Hourly Volume [veh/h]	119	450	642	27	380	59
Peak Hour Factor	0.9000	0.9000	0.9000	0.7900	0.7900	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	125	178	9	120	16
Total Analysis Volume [veh/h]	132	500	713	34	481	66
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	164
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	46	94	44	0	60	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	50	100	50	0	64	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	R	L	C
C, Calculated Cycle Length [s]	57	57	57	57	57	57
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	6	35	25	25	12	12
g / C, Green / Cycle	0.10	0.61	0.45	0.45	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.07	0.27	0.38	0.02	0.16	0.16
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1730
c, Capacity [veh/h]	173	1148	836	710	374	364
d1, Uniform Delay [s]	25.08	5.79	14.08	8.90	21.04	21.04
k, delay calibration	0.04	0.15	0.15	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.65	0.37	3.65	0.04	2.90	2.99
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.44	0.85	0.05	0.74	0.74
d, Delay for Lane Group [s/veh]	27.72	6.16	17.73	8.94	23.93	24.02
Lane Group LOS	C	A	B	A	C	C
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.59	1.53	6.28	0.17	3.45	3.36
50th-Percentile Queue Length [ft/ln]	39.66	38.35	156.97	4.29	86.27	84.06
95th-Percentile Queue Length [veh/ln]	2.86	2.76	10.39	0.31	6.21	6.05
95th-Percentile Queue Length [ft/ln]	71.39	69.03	259.71	7.72	155.29	151.31

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.72	6.16	17.73	8.94	23.97	24.02
Movement LOS	C	A	B	A	C	C
d_A, Approach Delay [s/veh]	10.66		17.33		23.98	
Approach LOS	B		B		C	
d_I, Intersection Delay [s/veh]	17.03					
Intersection LOS	B					
Intersection V/C	0.775					

Emissions

Vehicle Miles Traveled [mph]	16.29	61.69	411.77	19.64	65.16	63.32
Stops [stops/h]	100.50	97.17	397.75	10.86	218.61	213.01
Fuel consumption [US gal/h]	3.16	4.50	23.73	0.92	5.24	5.10
CO [g/h]	220.62	314.22	1659.07	64.34	366.36	356.58
NOx [g/h]	42.93	61.14	322.79	12.52	71.28	69.38
VOC [g/h]	51.13	72.82	384.51	14.91	84.91	82.64

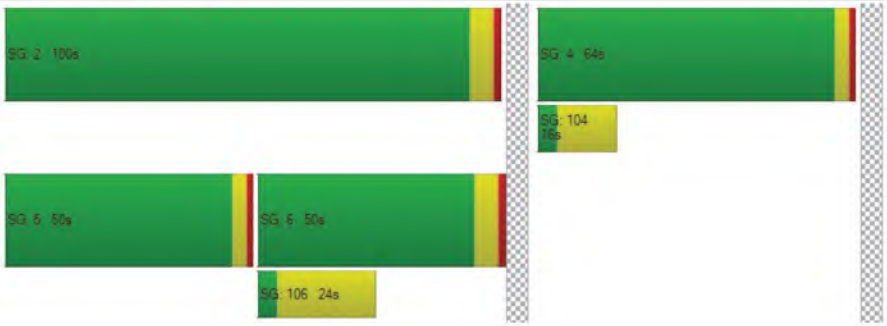
Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0		0.0		8.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	20.98		0.00		20.98	
l_p,int, Pedestrian LOS Score for Intersectio	2.775		0.000		2.199	
Crosswalk LOS	C		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	3308		1548		2112	
d_b, Bicycle Delay [s]	12.16		1.45		0.09	
l_b,int, Bicycle LOS Score for Intersection	2.602		2.810		2.503	
Bicycle LOS	B		C		B	

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Signalized	Delay (sec / veh):	20.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.775

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	311	16	94	407	0	0	0	0	54	0	69
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	20	8	0	0	11	161	121	0	14	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	10	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	319	16	94	418	171	121	0	14	54	2	69
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	86	4	25	112	46	33	0	4	15	1	19
Total Analysis Volume [veh/h]	22	343	17	101	449	184	130	0	15	58	2	74
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	11	0	0	18	0	0	14	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	9	9	0	9	9	0	0	9	0	0	9	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Calculated Cycle Length [s]	50	50	50	50	50	50
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	19	4	22	6	6
g / C, Green / Cycle	0.03	0.38	0.08	0.43	0.12	0.11
(v / s)_i Volume / Saturation Flow Rate	0.01	0.22	0.06	0.40	0.09	0.09
s, saturation flow rate [veh/h]	1603	1669	1603	1601	1583	1504
c, Capacity [veh/h]	43	629	127	687	184	167
d1, Uniform Delay [s]	24.24	12.50	22.83	13.59	21.71	21.89
k, delay calibration	0.04	0.04	0.04	0.15	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.58	0.31	4.24	7.72	2.88	3.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.52	0.57	0.80	0.92	0.79	0.80
d, Delay for Lane Group [s/veh]	27.82	12.81	27.07	21.31	24.59	25.25
Lane Group LOS	C	B	C	C	C	C
Critical Lane Group	Yes	No	No	Yes	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.26	2.21	1.10	5.62	1.66	1.56
50th-Percentile Queue Length [ft/ln]	6.40	55.22	27.59	140.53	41.48	39.00
95th-Percentile Queue Length [veh/ln]	0.46	3.98	1.99	9.51	2.99	2.81
95th-Percentile Queue Length [ft/ln]	11.53	99.39	49.67	237.74	74.67	70.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.82	12.81	12.81	27.07	21.31	21.31	24.59	24.59	24.59	25.25	25.25	25.25
Movement LOS	C	B	B	C	C	C	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	13.67			22.10			24.59			25.25		
Approach LOS	B			C			C			C		
d_I, Intersection Delay [s/veh]	20.35											
Intersection LOS	C											
Intersection V/C	0.775											

Emissions

Vehicle Miles Traveled [mph]	7.46	122.08	10.25	64.22	7.89	113.13
Stops [stops/h]	18.32	158.01	78.96	402.13	118.71	111.60
Fuel consumption [US gal/h]	0.71	7.96	2.37	12.36	1.71	5.96
CO [g/h]	49.94	556.20	165.37	864.17	119.25	416.74
NOx [g/h]	9.72	108.22	32.18	168.14	23.20	81.08
VOC [g/h]	11.57	128.90	38.33	200.28	27.64	96.58

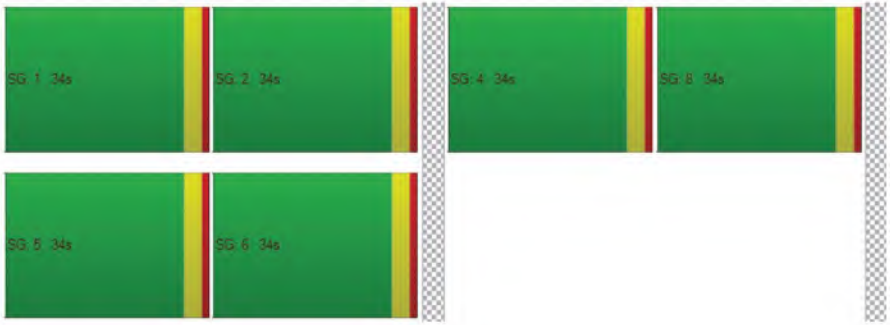
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1192	1192	1192	1192
d_b, Bicycle Delay [s]	4.10	4.10	4.10	4.10
l_b,int, Bicycle LOS Score for Intersection	2.190	2.771	1.799	1.781
Bicycle LOS	B	C	A	A

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Roundabout	Delay (sec / veh):	17.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	101	470	168	48	1	692	185
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	39	0	0	0	27
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	101	470	207	48	1	692	212
Peak Hour Factor	1.0000	0.8800	0.8800	0.8800	0.8800	1.0000	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	29	134	59	14	0	197	60
Total Analysis Volume [veh/h]	0	115	534	235	55	1	786	241
Pedestrian Volume [ped/h]	0			0		0		

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Intersection Settings

Number of Conflicting Circulating Lanes	1			1		1		
Circulating Flow Rate [veh/h]	241			803		117		
Exiting Flow Rate [veh/h]	858			363		785		
Demand Flow Rate [veh/h]	0	101	470	207	48	1	692	212
Adjusted Demand Flow Rate [veh/h]	0	115	534	235	55	1	786	241

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	0.98	0.98	0.98
Entry Flow Rate [veh/h]	662	296	1049
Capacity of Entry and Bypass Lanes [veh/h]	1080	609	1225
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1059	597	1201
X, volume / capacity	0.61	0.49	0.86

Movement, Approach, & Intersection Results

Lane LOS	B	B	C
95th-Percentile Queue Length [veh]	4.38	2.65	11.62
95th-Percentile Queue Length [ft]	109.52	66.35	290.56
Approach Delay [s/veh]	11.70	14.04	21.87
Approach LOS	B	B	C
Intersection Delay [s/veh]	17.36		
Intersection LOS	C		

Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	107.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.950

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	138	0	25	7	1	21	5	408	85	66	397	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	27	0	0	0	0	0	0	0	39	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	165	0	25	7	1	21	5	408	124	66	397	11
Peak Hour Factor	0.9700	1.0000	0.9300	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9300	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	0	7	2	0	5	1	105	32	18	102	3
Total Analysis Volume [veh/h]	170	0	27	7	1	22	5	421	128	71	409	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop		Stop		Free		Free	
Flared Lane	No		No					
Storage Area [veh]	0		0		0		0	
Two-Stage Gap Acceptance	No		No					
Number of Storage Spaces in Median	0		2		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.95	0.00	0.05	0.04	0.01	0.03	0.00	0.00	0.00	0.07	0.00	0.00
d_M, Delay for Movement [s/veh]	107.37	22.57	11.49	25.71	24.50	11.44	8.17	0.00	0.00	8.79	0.00	0.00
Movement LOS	F	C	B	D	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	7.45	0.15	0.15	0.25	0.25	0.25	0.01	0.00	0.00	0.22	0.00	0.00
95th-Percentile Queue Length [ft/ln]	186.19	3.64	3.64	6.34	6.34	6.34	0.33	0.00	0.00	5.60	0.00	0.00
d_A, Approach Delay [s/veh]	94.23			15.21			0.07			1.27		
Approach LOS	F			C			A			A		
d_I, Intersection Delay [s/veh]	15.47											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	57.0
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.936

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	350.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	57	61	268	230	100	36	33	574	121	234	562	158
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	9	0	0	8	6	13	0	13	18	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	83	0	0	13	0	0	36	0	0	47
Total Hourly Volume [veh/h]	57	61	194	230	100	31	39	587	85	247	580	111
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	16	50	59	26	8	10	151	22	64	149	29
Total Analysis Volume [veh/h]	59	63	200	237	103	32	40	605	88	255	598	114
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	0	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	35	0	0	40	0	25	45	0	25	45	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	18	0	0	17	0	0	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	100.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	0	0	44	0	29	50	0	29	51	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	0.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C	R
C, Calculated Cycle Length [s]	124	124	124	124	124	124	124	124	124
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	3.50	5.30	3.50	6.00	6.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	1.50	3.30	1.50	4.00	4.00
g_i, Effective Green Time [s]	22	22	19	19	4	45	20	60	60
g / C, Green / Cycle	0.18	0.18	0.16	0.16	0.03	0.36	0.16	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.03	0.16	0.13	0.08	0.02	0.38	0.14	0.32	0.07
s, saturation flow rate [veh/h]	1781	1649	1781	1795	1781	1829	1781	1870	1589
c, Capacity [veh/h]	323	299	281	283	54	664	283	909	772
d1, Uniform Delay [s]	42.94	49.40	50.72	47.55	59.60	39.48	51.17	24.08	17.65
k, delay calibration	0.13	0.16	0.13	0.13	0.04	0.48	0.20	0.36	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	11.38	8.35	1.55	7.04	46.11	16.51	2.72	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.18	0.88	0.84	0.48	0.74	1.04	0.90	0.66	0.15
d, Delay for Lane Group [s/veh]	43.28	60.78	59.07	49.10	66.64	85.59	67.68	26.80	17.76
Lane Group LOS	D	E	E	D	E	F	E	C	B
Critical Lane Group	No	Yes	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.57	8.85	7.78	3.93	1.35	28.29	9.05	13.67	1.84
50th-Percentile Queue Length [ft/ln]	39.28	221.24	194.50	98.22	33.80	707.36	226.16	341.77	45.95
95th-Percentile Queue Length [veh/ln]	2.83	13.73	12.35	7.07	2.43	38.17	13.98	19.73	3.31
95th-Percentile Queue Length [ft/ln]	70.71	343.21	308.86	176.79	60.83	954.13	349.47	493.37	82.71

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.28	60.78	60.78	59.07	49.10	49.10	66.64	85.59	85.59	67.68	26.80	17.76
Movement LOS	D	E	E	E	D	D	E	F	F	E	C	B
d_A, Approach Delay [s/veh]	57.57			55.45			84.56			36.51		
Approach LOS	E			E			F			D		
d_I, Intersection Delay [s/veh]	57.00											
Intersection LOS	E											
Intersection V/C	0.936											

Emissions

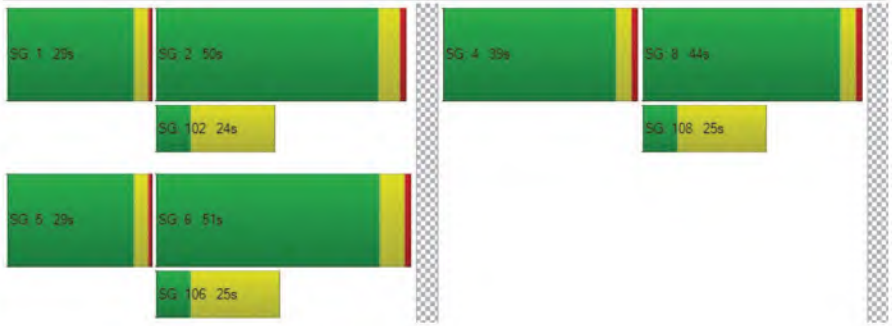
Vehicle Miles Traveled [mph]	101.52	452.53	48.05	27.37	14.01	242.66	115.06	269.83	51.44
Stops [stops/h]	45.72	257.48	226.35	114.30	39.33	823.22	263.20	397.75	53.48
Fuel consumption [US gal/h]	4.95	23.30	6.08	3.11	1.34	26.61	9.70	16.57	2.83
CO [g/h]	346.09	1628.96	424.79	217.18	93.41	1859.82	678.19	1158.02	197.47
NOx [g/h]	67.34	316.94	82.65	42.26	18.17	361.85	131.95	225.31	38.42
VOC [g/h]	80.21	377.53	98.45	50.33	21.65	431.03	157.18	268.38	45.77

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.36	51.36	51.36	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.362	2.185	2.485	0.000
Crosswalk LOS	B	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	562	643	723	727
d_b, Bicycle Delay [s]	31.96	28.47	25.24	25.05
l_b,int, Bicycle LOS Score for Intersection	2.228	2.195	2.828	3.233
Bicycle LOS	B	B	C	C

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Signal Warrants Report For Intersection 18: White Rock Rd/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	474	537	190	29
2	460	521	184	28
3	450	510	181	28
4	422	478	169	26
5	374	424	150	23
6	370	419	148	23
7	365	413	146	22
8	332	376	133	20
9	327	371	131	20
10	322	365	129	20
11	280	317	112	17
12	261	295	105	16
13	256	290	103	16
14	190	215	76	12
15	190	215	76	12
16	133	150	53	8
17	76	86	30	5
18	76	86	30	5
19	43	48	17	3
20	24	27	10	1
21	14	16	6	1
22	5	5	2	0
23	5	5	2	0
24	5	5	2	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1011	2	190	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
2	2	981	2	184	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
3	2	960	2	181	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
4	2	900	2	169	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
5	2	798	2	150	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No
6	2	789	2	148	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No
7	2	778	2	146	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No
8	2	708	2	133	No	No	No	Yes	No	No	Yes	Yes	No	No
9	2	698	2	131	No	No	No	Yes	No	No	Yes	Yes	No	No
10	2	687	2	129	No	No	No	Yes	No	No	Yes	Yes	No	No
11	2	597	2	112	No	No	No	Yes	No	No	No	Yes	No	No
12	2	556	2	105	No	No	No	No	No	No	No	Yes	No	No
13	2	546	2	103	No	No	No	No	No	No	No	Yes	No	No
14	2	405	2	76	No	No	No	No	No	No	No	No	No	No
15	2	405	2	76	No	No	No	No	No	No	No	No	No	No
16	2	283	2	53	No	No	No	No	No	No	No	No	No	No
17	2	162	2	30	No	No	No	No	No	No	No	No	No	No
18	2	162	2	30	No	No	No	No	No	No	No	No	No	No
19	2	91	2	17	No	No	No	No	No	No	No	No	No	No
20	2	51	2	10	No	No	No	No	No	No	No	No	No	No
21	2	30	2	6	No	No	No	No	No	No	No	No	No	No
22	2	10	2	2	No	No	No	No	No	No	No	No	No	No
23	2	10	2	2	No	No	No	No	No	No	No	No	No	No
24	2	10	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	11	4	7	10	13	0	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	94.2	15.2
Number of Lanes on Minor Street Approach	2	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	4:58	0:07
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	190	29
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1230	1230
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

EPAP AM no Project

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Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	El Dorado Hills Blvd/Serrano Pkwy	Signalized	HCM 7th Edition	SB Right	1.156	177.9	F
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	EB Right	1.396	162.8	F
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	NB Left	1.106	92.6	F
4	Latrobe Rd/US 50 EB	Signalized	HCM 7th Edition	EB Right	1.040	32.3	C
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	SB Left	0.969	39.4	D
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	NB Left	0.773	44.3	D
7	Latrobe Rd/Golden Foothill Pkwy N	Signalized	HCM 7th Edition	SB Right	1.094	84.0	F
8	Latrobe Rd/Suncast Ln	Signalized	HCM 7th Edition	NB Left	0.822	13.7	B
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	EB Thru	1.040	90.2	F
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	NB Left	0.753	12.2	B
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	WB Right	0.090	14.1	B
12	Latrobe Rd/Royal Oaks Dr	Two-way stop	HCM 7th Edition	WB Left	0.049	25.9	D
13	Golden Foothill/Robert J Mathews	Two-way stop	HCM 7th Edition	NB Left	2.315	1,336.5	F
14	Investment Blvd/Robert J Mathews Pkwy	All-way stop	HCM 7th Edition	SB Thru	1.712	203.9	F
15	Golden Foothill Pkwy/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.218	13.7	B
16	Carson Crossing Rd/Calypso Cir.	Two-way stop	HCM 7th Edition	NB Left	0.192	15.1	C
17	Carson Crossing Rd/Four Seasons Dr	All-way stop	HCM 7th Edition	WB Left	0.108	8.0	A
	White Rock Rd/Carson		HCM 7th				

18	White Rock Rd/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.381	34.5	D
19	White Rock Rd/Windfield Way	Signalized	HCM 7th Edition	EB Left	0.585	29.2	C
20	White Rock Rd/Post St	Signalized	HCM 7th Edition	SB Left	0.625	40.1	D
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 7th Edition	WB Thru	1.314	252.3	F
22	White Rock Rd/Clarksville Crossing	Signalized	HCM 7th Edition	SB Right	0.857	35.7	D
23	White Rock Rd/US 50 EB	Signalized	HCM 7th Edition	EB Left	0.686	21.7	C
24	Silva Valley Pkwy/US 50 WB	Signalized	HCM 7th Edition	WB Left	1.021	69.7	E
25	New Intersection	Two-way stop	HCM 6th Edition	NB Thru	0.007	0.0	A
26	Latrobe/Wetsl-Oviatt	Two-way stop	HCM 7th Edition	EB Left	0.010	13.8	B
27	Latrobe/S. Shingle	Two-way stop	HCM 7th Edition	EB Left	0.142	20.3	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

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Intersection Level Of Service Report
Intersection 1: El Dorado Hills Blvd/Serrano Pkwy

Control Type:	Signalized	Delay (sec / veh):	177.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.156

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	260.0	100.0	100.0	100.0	110.00	100.00	100.00	100.00	100.00	100.00	430.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No			No		
Crosswalk	No				Yes			Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Base Volume Input [veh/h]	5	232	792	301	70	1655	46	23	14	260	467	64	111
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	3	0	0	-6	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	14	0	0	78	0	0	33
Total Hourly Volume [veh/h]	5	232	795	301	70	1649	32	23	14	182	467	64	78
Peak Hour Factor	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	67	228	86	20	474	9	7	4	52	134	18	22
Total Analysis Volume [veh/h]	5	267	914	346	80	1895	37	26	16	209	537	74	90
Presence of On-Street Parking	No			No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	1	6	0	7	7	0	0	8	0
Auxiliary Signal Groups													
Maximum Green [s]	0	25	40	0	25	40	0	35	35	0	0	35	0
Amber [s]	0.0	3.0	4.7	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	12	0	0	12	0	0	0	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	100.0	245.0	0.0	100.0	100.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	29	46	0	29	46	0	39	39	0	0	39	0
Lead / Lag	-	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	3	6	0	3	3	0	3	3	0	0	3	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	4.0	0.0
Minimum Recall		No	No		No	No			No			No	
Maximum Recall		No	No		No	No			No			No	
Pedestrian Recall		No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C
C, Cycle Length [s]	128	128	128	128	128	128	128	128	128	128
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	54	54	7	40	40	20	20	29	29
g / C, Green / Cycle	0.17	0.42	0.42	0.06	0.31	0.31	0.16	0.16	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.15	0.26	0.22	0.04	0.52	0.52	0.01	0.14	0.20	0.20
s, saturation flow rate [veh/h]	1781	3560	1589	1781	1870	1857	1781	1607	1781	1744
c, Capacity [veh/h]	299	1499	669	103	581	577	279	252	405	396
d1, Uniform Delay [s]	52.59	29.01	27.56	59.83	44.34	44.34	46.44	53.21	47.95	47.99
k, delay calibration	0.25	0.04	0.17	0.04	0.50	0.50	0.04	0.04	0.29	0.29
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	20.28	0.15	0.97	4.78	305.40	310.44	0.05	4.43	14.10	14.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.61	0.52	0.78	1.66	1.67	0.09	0.89	0.87	0.88
d, Delay for Lane Group [s/veh]	72.87	29.16	28.53	64.61	349.74	354.77	46.49	57.65	62.05	62.73
Lane Group LOS	E	C	C	E	F	F	D	E	E	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	10.07	10.53	7.73	2.65	67.03	67.38	0.72	7.43	12.48	12.34
50th-Percentile Queue Length [ft/ln]	251.84	263.13	193.24	66.36	1675.64	1684.57	18.05	185.75	311.90	308.49
95th-Percentile Queue Length [veh/ln]	15.28	15.85	12.29	4.78	103.07	103.76	1.30	11.90	18.27	18.10
95th-Percentile Queue Length [ft/ln]	381.96	396.15	307.23	119.44	2576.64	2594.06	32.50	297.51	456.72	452.52

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	72.87	72.87	29.16	28.53	64.61	352.21	354.77	46.49	57.65	57.65	62.28	62.73	62.73
Movement LOS	E	E	C	C	E	F	F	D	E	E	E	E	E
d_A, Approach Delay [s/veh]	36.78				340.82			56.49			62.39		
Approach LOS	D				F			E			E		
d_I, Intersection Delay [s/veh]	177.93												
Intersection LOS	F												
Intersection V/C	1.156												

Emissions

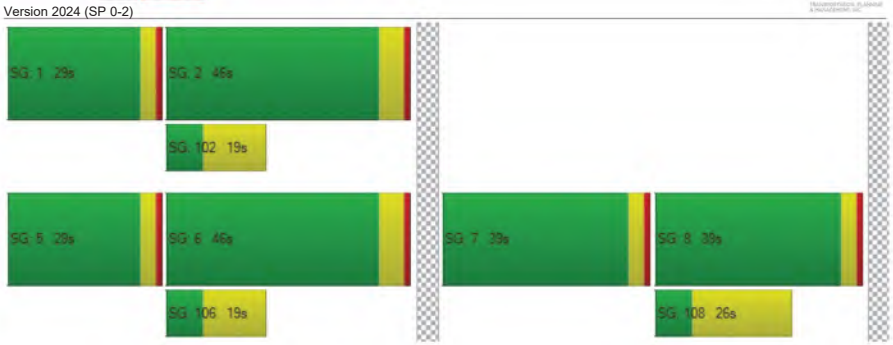
Vehicle Miles Traveled [mph]	64.96	218.29	82.64	11.76	142.03	142.03	1.11	9.61	18.50	18.18
Stops [stops/h]	282.37	590.07	216.67	74.40	1878.78	1888.79	20.24	208.27	349.71	345.89
Fuel consumption [US gal/h]	9.77	20.24	7.54	2.38	96.97	98.08	0.40	4.19	7.16	7.10
CO [g/h]	682.96	1414.93	526.73	166.36	6777.86	6855.70	28.21	292.56	500.23	495.95
NOx [g/h]	132.88	275.29	102.48	32.37	1318.73	1333.87	5.49	56.92	97.33	96.49
VOC [g/h]	158.28	327.92	122.07	38.56	1570.83	1588.88	6.54	67.80	115.93	114.94

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	53.69	53.69	53.69
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.240	2.303	2.386
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	628	628	545	545
d_b, Bicycle Delay [s]	30.24	30.24	33.98	33.98
l_b,int, Bicycle LOS Score for Intersection	2.819	3.231	2.102	2.771
Bicycle LOS	C	C	B	C

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	162.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.396

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	500.0	100.0	100.0	100.0	500.0	100.0	100.0	300.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	1	413	988	150	1	218	1727	441	150	61	708	33	34	191
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	3	0	0	0	-6	0	0	0	-3	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	45	0	0	0	132	0	0	212	0	0	57
Total Hourly Volume [veh/h]	1	415	991	105	1	218	1721	309	150	61	493	33	34	134
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	112	266	28	0	59	463	83	40	16	133	9	9	36
Total Analysis Volume [veh/h]	1	446	1066	113	1	234	1851	332	161	66	530	35	37	144
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	5	3	8	1
Auxiliary Signal Groups														1,8
Maximum Green [s]	0	20	50	0	0	20	50	0	20	20	20	0	20	20
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	3.0	0.0	3.0	3.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	14	0	0	0	18	0	0	0	0	0	28	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0
l2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	2.0	0.0	2.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	20.0	0.0	20.0	20.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	245.0	0.0	245.0	245.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	6.0	0.0	6.0	6.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	0	24	56	0	24	24	24	0	24	24
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	4	0	5	4
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Cycle Length [s]	123	123	123	123	123	123	123	123	123	123	123
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	52	52	18	50	50	20	20	20	16	16
g / C, Green / Cycle	0.16	0.42	0.42	0.15	0.41	0.41	0.16	0.16	0.16	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.25	0.22	0.22	0.13	0.52	0.21	0.06	0.06	0.33	0.02	0.11
s, saturation flow rate [veh/h]	1781	3560	1780	1781	3560	1589	1781	1831	1589	1781	1640
c, Capacity [veh/h]	289	1497	748	262	1443	644	289	297	258	226	208
d1, Uniform Delay [s]	51.67	26.58	26.59	51.67	36.67	27.56	46.20	46.18	51.67	47.97	52.86
k, delay calibration	0.50	0.13	0.14	0.26	0.20	0.13	0.04	0.04	0.50	0.04	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	262.99	0.35	0.72	21.30	129.30	0.77	0.32	0.31	488.51	0.12	14.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.55	0.53	0.53	0.90	1.28	0.52	0.39	0.39	2.06	0.16	0.87
d, Delay for Lane Group [s/veh]	314.66	26.93	27.31	72.97	165.97	28.33	46.52	46.48	540.17	48.09	66.92
Lane Group LOS	F	C	C	E	F	C	D	D	F	D	E
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	29.76	8.27	8.35	8.49	46.30	7.18	3.12	3.18	42.91	0.97	6.31
50th-Percentile Queue Length [ft/ln]	743.92	206.74	208.79	212.35	1157.41	179.55	78.02	79.48	1072.85	24.31	157.79
95th-Percentile Queue Length [veh/ln]	46.05	12.99	13.09	13.27	67.48	11.58	5.62	5.72	67.64	1.75	10.43
95th-Percentile Queue Length [ft/ln]	1151.15	324.64	327.28	331.84	1686.89	289.42	140.43	143.06	1691.09	43.76	260.80

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	314.6	314.6	27.03	27.31	72.97	72.97	165.9	28.33	46.52	46.48	540.17	48.09	66.92	66.92
Movement LOS	F	F	C	C	E	E	F	C	D	D	F	D	E	E
d_A, Approach Delay [s/veh]	106.12				138.03				392.14			63.87		
Approach LOS	F				F				F			E		
d_I, Intersection Delay [s/veh]	162.84													
Intersection LOS	F													
Intersection V/C	1.396													

Emissions

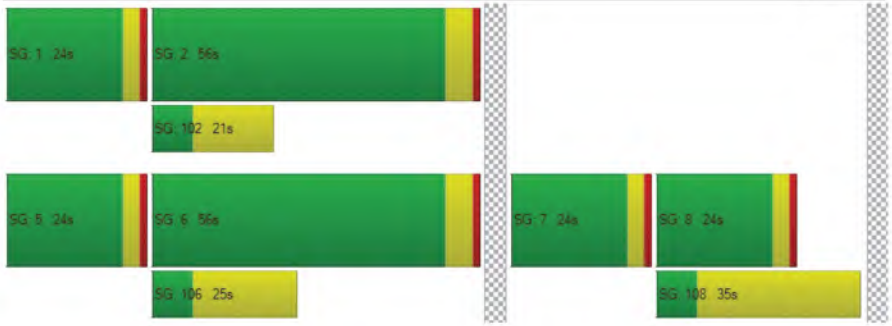
Vehicle Miles Traveled [mph]	84.12	147.91	73.98	56.13	442.08	79.29	7.01	7.15	33.05	1.71	8.83
Stops [stops/h]	869.09	483.05	243.92	248.08	2704.33	209.76	91.14	92.85	1253.38	28.40	184.34
Fuel consumption [US gal/h]	42.31	15.38	7.75	8.50	111.28	7.24	1.86	1.89	66.53	0.57	3.85
CO [g/h]	2957.17	1075.22	541.92	593.99	7778.60	506.06	129.74	132.19	4650.55	39.82	268.87
NOx [g/h]	575.36	209.20	105.44	115.57	1513.43	98.46	25.24	25.72	904.83	7.75	52.31
VOC [g/h]	685.35	249.19	125.60	137.66	1802.77	117.28	30.07	30.64	1077.81	9.23	62.31

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.12	51.12	51.12
I_p,int, Pedestrian LOS Score for Intersectio	0.000	3.628	2.915	2.274
Crosswalk LOS	F	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	816	816	325	325
d_b, Bicycle Delay [s]	21.59	21.59	43.25	43.25
I_b,int, Bicycle LOS Score for Intersection	2.478	3.470	3.158	2.010
Bicycle LOS	B	C	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	92.6
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.106

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	500.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1417	1188	141	3	69	1353	1044	256	92	816	171	99	105
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	5	2	0	0	-9	0	0	0	-4	-2	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	43	0	0	0	313	0	0	244	0	0	32
Total Hourly Volume [veh/h]	1	1421	1193	100	3	69	1344	731	256	92	568	169	99	73
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	355	298	25	1	17	336	183	64	23	142	42	25	18
Total Analysis Volume [veh/h]	1	1421	1193	100	3	69	1344	731	256	92	568	169	99	73
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	134
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	37	62	0	0	14	39	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	42	68	0	0	19	45	28	0	28	0	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	37	71	71	8	41	73	27	27	11	11	11
g / C, Green / Cycle	0.28	0.52	0.52	0.06	0.30	0.53	0.20	0.20	0.08	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.41	0.24	0.25	0.04	0.26	0.46	0.10	0.10	0.06	0.06	0.07
s, saturation flow rate [veh/h]	3459	3560	1798	1781	5094	1589	1781	1826	1781	1827	1674
c, Capacity [veh/h]	951	1845	932	99	1520	847	351	360	145	149	137
d1, Uniform Delay [s]	36.83	4.98	5.00	63.24	45.46	27.44	48.51	48.50	61.30	61.25	61.40
k, delay calibration	0.22	0.50	0.50	0.04	0.50	0.50	0.08	0.08	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	225.32	0.83	1.73	3.85	7.85	11.28	0.79	0.76	3.56	3.32	4.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.50	0.46	0.47	0.73	0.88	0.86	0.49	0.49	0.79	0.78	0.81
d, Delay for Lane Group [s/veh]	262.15	5.81	6.73	67.09	53.31	38.72	49.30	49.26	64.86	64.57	65.64
Lane Group LOS	F	A	A	E	D	D	D	D	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	43.51	2.18	2.50	2.52	15.06	21.70	5.30	5.42	4.04	4.09	3.92
50th-Percentile Queue Length [ft/ln]	1087.72	54.59	62.53	62.90	376.51	542.39	132.54	135.57	100.90	102.14	97.96
95th-Percentile Queue Length [veh/ln]	66.39	3.93	4.50	4.53	21.42	29.33	9.08	9.24	7.26	7.35	7.05
95th-Percentile Queue Length [ft/ln]	1659.82	98.26	112.56	113.23	535.62	733.37	226.94	231.05	181.61	183.85	176.34

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	262.1	262.1	6.07	6.73	67.09	67.09	53.31	38.72	49.29	49.26	0.00	64.77	64.98	65.64
Movement LOS	F	F	A	A	E	E	D	D	D	D		E	E	E
d_A, Approach Delay [s/veh]	140.22				48.81				18.72			65.01		
Approach LOS	F				D				B			E		
d_I, Intersection Delay [s/veh]	92.63													
Intersection LOS	F													
Intersection V/C	1.106													

Emissions

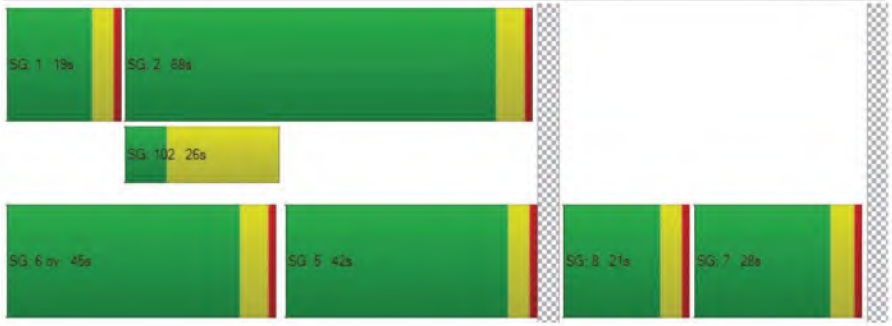
Vehicle Miles Traveled [mph]	243.54	145.71	75.74	13.55	252.93	137.57	7.95	8.14	3.64	3.69	3.51
Stops [stops/h]	2303.42	115.60	66.21	66.60	1195.97	574.30	140.33	143.55	106.83	108.15	103.73
Fuel consumption [US gal/h]	98.60	7.64	4.09	2.28	38.12	17.62	2.83	2.89	2.25	2.28	2.19
CO [g/h]	6891.80	534.22	285.88	159.05	2664.57	1231.36	197.67	202.20	157.32	159.11	153.15
NOx [g/h]	1340.89	103.94	55.62	30.95	518.43	239.58	38.46	39.34	30.61	30.96	29.80
VOC [g/h]	1597.24	123.81	66.26	36.86	617.54	285.38	45.81	46.86	36.46	36.88	35.49

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		57.44	
l_p,int, Pedestrian LOS Score for Intersectio	0.000		0.000		0.000		2.361	
Crosswalk LOS	F		F		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	915		576		337		241	
d_b, Bicycle Delay [s]	20.02		34.45		47.03		52.59	
l_b,int, Bicycle LOS Score for Intersection	3.076		2.875		2.134		1.867	
Bicycle LOS	C		C		B		A	

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Latrobe Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	32.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.040

Intersection Setup

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	200.00	570.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No			No		
Crosswalk	No			No				No			Yes		

Volumes

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Base Volume Input [veh/h]	0	2219	463	0	520	1821	0	0	0	1266	0	0	528
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	11	2	0	0	-15	0	0	0	-13	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	140	0	0	0	0	0	0	376	0	0	158
Total Hourly Volume [veh/h]	0	2230	325	0	520	1806	0	0	0	877	0	0	370
Peak Hour Factor	1.0000	0.8400	0.8400	1.000	0.840	0.840	1.000	1.0000	1.0000	0.8400	1.0000	1.0000	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	664	97	0	155	538	0	0	0	261	0	0	110
Total Analysis Volume [veh/h]	0	2655	387	0	619	2150	0	0	0	1044	0	0	440
Presence of On-Street Parking	No		No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0				0			0		
v_co, Outbound Pedestrian Volume crossing	0			0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0				0			0		
Bicycle Volume [bicycles/h]	0			0				0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	74.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	50	0	0	39	50	0	0	0	45	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No				No			
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
l2, Clearance Lost Time [s]	0.0	4.2	0.0	0.0	2.6	4.2	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	2.5	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Minimum Recall		No			No	No				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	R	
C, Cycle Length [s]	68	68	68	68	68	
L, Total Lost Time per Cycle [s]	6.20	6.20	4.60	6.20	4.60	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	4.20	4.20	2.60	4.20	2.60	
g_i, Effective Green Time [s]	32	32	25	35	22	
g / C, Green / Cycle	0.47	0.47	0.37	0.51	0.33	
(v / s)_i Volume / Saturation Flow Rate	0.45	0.44	0.35	0.32	0.37	
s, saturation flow rate [veh/h]	5094	1716	1781	6792	2813	
c, Capacity [veh/h]	2395	807	661	3476	927	
d1, Uniform Delay [s]	17.29	17.15	20.61	11.86	22.80	
k, delay calibration	0.50	0.50	0.14	0.50	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	10.24	20.49	8.51	0.84	58.28	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.95	0.94	0.94	0.62	1.13	
d, Delay for Lane Group [s/veh]	27.53	37.64	29.13	12.69	81.08	
Lane Group LOS	C	D	C	B	F	
Critical Lane Group	Yes	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	11.12	13.37	9.47	4.65	14.26	
50th-Percentile Queue Length [ft/ln]	278.01	334.16	236.75	116.27	356.53	
95th-Percentile Queue Length [veh/ln]	16.59	19.36	14.52	8.19	21.95	
95th-Percentile Queue Length [ft/ln]	414.73	484.05	362.92	204.69	548.68	

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	28.95	37.64	29.13	29.13	12.69	0.00	0.00	0.00	81.08	0.00	0.00	0.00
Movement LOS		C	D	C	C	B				F			
d_A, Approach Delay [s/veh]		30.06			16.37				81.08			0.00	
Approach LOS		C			B				F			A	
d_I, Intersection Delay [s/veh]	32.30												
Intersection LOS	C												
Intersection V/C	1.040												

Emissions

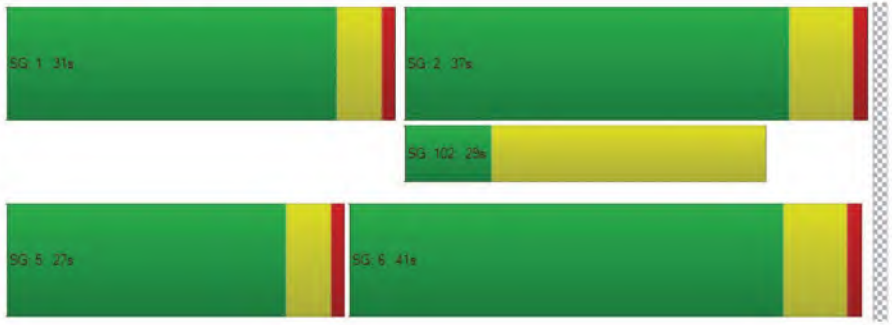
Vehicle Miles Traveled [mph]	330.13	110.04	106.02	368.23	74.71	
Stops [stops/h]	1766.17	707.62	501.35	984.89	1510.00	
Fuel consumption [US gal/h]	46.06	18.39	13.54	30.42	28.64	
CO [g/h]	3219.50	1285.79	946.20	2126.52	2002.06	
NOx [g/h]	626.40	250.17	184.10	413.74	389.53	
VOC [g/h]	746.15	297.99	219.29	492.84	464.00	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	23.89
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.258
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	906	1024	659	0
d_b, Bicycle Delay [s]	10.18	8.10	15.29	34.00
l_b,int, Bicycle LOS Score for Intersection	2.872	2.446	1.560	1.560
Bicycle LOS	C	B	A	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	39.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.969

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	68	1965	251	4	537	2174	372	156	9	24	1	72	32	557
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	13	1	0	0	-28	0	0	0	0	0	-2	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	76	0	0	0	112	0	0	7	0	0	0	167
Total Hourly Volume [veh/h]	1	69	1978	176	4	537	2146	260	156	9	17	1	70	32	390
Peak Hour Factor	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.9800	0.9800	0.9800	0.980	0.980	0.980	0.980
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	18	505	45	1	137	547	66	40	2	4	0	18	8	99
Total Analysis Volume [veh/h]	1	70	2018	180	4	548	2190	265	159	9	17	1	71	33	398
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

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Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	123
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	5	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	50	0	15	15	50	0	15	20	0	0	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	3.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.5	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	1.5	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	245.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	19	19	56	0	19	24	0	0	19	19	0
Lead / Lag	-	Lead	-	-	Lead	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	4	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	No			No	No			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	102	102	102	102	102	102	102	102	102	102	102	102
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	4	49	49	15	60	60	7	7	7	15	15	15
g / C, Green / Cycle	0.04	0.48	0.48	0.15	0.59	0.59	0.07	0.07	0.07	0.15	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.02	0.44	0.13	0.18	0.48	0.19	0.05	0.01	0.01	0.04	0.15	0.15
s, saturation flow rate [veh/h]	3113	4584	1431	3113	4584	1431	3113	1683	1431	1603	1464	1431
c, Capacity [veh/h]	120	2191	684	455	2686	838	228	124	105	235	214	209
d1, Uniform Delay [s]	48.50	24.96	15.98	43.76	16.84	10.79	46.38	44.25	44.54	39.12	43.76	43.76
k, delay calibration	0.04	0.04	0.04	0.09	0.04	0.04	0.08	0.08	0.08	0.08	0.44	0.44
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.75	0.75	0.08	99.22	0.24	0.08	2.83	0.18	0.53	0.54	62.16	62.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.92	0.26	1.21	0.82	0.32	0.70	0.07	0.16	0.31	1.02	1.02
d, Delay for Lane Group [s/veh]	50.25	25.71	16.06	142.98	17.07	10.87	49.22	44.43	45.07	39.66	105.92	106.60
Lane Group LOS	D	C	B	F	B	B	D	D	D	D	F	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.92	14.53	2.48	11.98	12.46	2.90	2.06	0.22	0.42	1.65	9.06	8.90
50th-Percentile Queue Length [ft/ln]	22.96	363.26	61.95	299.50	311.52	72.61	51.43	5.47	10.49	41.19	226.58	222.41
95th-Percentile Queue Length [veh/ln]	1.65	20.78	4.46	19.14	18.25	5.23	3.70	0.39	0.75	2.97	14.11	13.90
95th-Percentile Queue Length [ft/ln]	41.32	519.55	111.52	478.53	456.25	130.71	92.57	9.84	18.87	74.15	352.85	347.50

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.25	50.25	25.71	16.06	142.9	142.9	17.07	10.87	49.22	44.43	45.07	39.66	39.66	105.9	106.2
Movement LOS	D	D	C	B	F	F	B	B	D	D	D	D	D	F	F
d_A, Approach Delay [s/veh]	25.71				39.64				48.60			96.73			
Approach LOS	C				D				D			F			
d_I, Intersection Delay [s/veh]	39.43														
Intersection LOS	D														
Intersection V/C	0.969														

Emissions

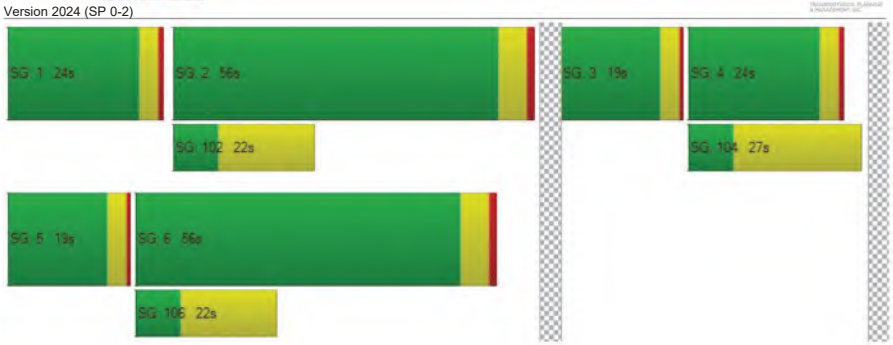
Vehicle Miles Traveled [mph]	15.85	450.37	40.17	79.87	316.89	38.34	20.28	1.15	2.17	25.27	76.50	74.77
Stops [stops/h]	64.58	1532.90	87.15	842.57	1314.56	102.14	144.68	7.69	14.75	57.94	318.70	312.85
Fuel consumption [US gal/h]	1.74	37.57	2.72	24.00	27.92	2.73	3.23	0.17	0.33	1.94	9.61	9.43
CO [g/h]	121.28	2625.97	190.37	1677.70	1951.47	190.77	225.54	11.96	22.83	135.71	671.59	658.94
NOx [g/h]	23.60	510.92	37.04	326.42	379.68	37.12	43.88	2.33	4.44	26.40	130.67	128.21
VOC [g/h]	28.11	608.59	44.12	388.82	452.27	44.21	52.27	2.77	5.29	31.45	155.65	152.71

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	40.78	0.00	40.78	40.78
I_p,int, Pedestrian LOS Score for Intersectio	3.465	0.000	2.578	2.833
Crosswalk LOS	C	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	987	987	400	303
d_b, Bicycle Delay [s]	13.14	13.14	32.74	36.86
I_b,int, Bicycle LOS Score for Intersection	2.849	2.974	1.718	2.548
Bicycle LOS	C	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	44.3
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.773

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	3	2	0	0	1	2	0	0	0	3	0	0
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	260.0	100.0	100.0	260.0	360.0	100.0	100.0	100.0	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	2	121	1681	388	1	95	1737	444	2	355	391	78	425	318	248
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	16	4	0	0	-30	0	0	0	0	0	-7	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	118	0	0	0	133	0	0	0	23	0	0	74
Total Hourly Volume [veh/h]	2	121	1697	274	1	95	1707	311	2	355	391	55	418	318	174
Peak Hour Factor	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	0.9400	0.9400	0.9400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	32	451	73	0	25	454	83	1	94	104	15	111	85	46
Total Analysis Volume [veh/h]	2	129	1805	291	1	101	1816	331	2	378	416	59	445	338	185
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	157
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups															
Maximum Green [s]	0	15	45	0	0	25	45	0	0	30	25	0	20	35	0
Amber [s]	0.0	4.0	4.7	0.0	0.0	4.0	4.7	0.0	0.0	4.5	4.7	0.0	4.5	4.7	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	39	0	0	0	37	0	0	0	48	0	0	50	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	3.0	3.7	0.0	0.0	3.0	3.7	0.0	0.0	4.0	3.7	0.0	4.0	3.7	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	19	51	0	0	29	51	0	0	36	31	0	26	41	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	7	0	0	10	7	0	0	10	10	0	10	10	0
Vehicle Extension [s]	0.0	1.5	3.0	0.0	0.0	1.5	3.0	0.0	0.0	1.5	2.0	0.0	1.5	2.0	0.0
Minimum Recall		No	Yes			No	Yes			No	No		No	No	
Maximum Recall		No	No			No	No			No	No		No	No	
Pedestrian Recall		No	No			No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	157	157	157	157	157	157	157	157	157	157	157	157
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	6.00	5.70	5.70	6.00	5.70	5.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	4.00	3.70	3.70	4.00	3.70	3.70
g_i, Effective Green Time [s]	13	82	82	10	79	79	20	23	23	20	23	23
g / C, Green / Cycle	0.09	0.52	0.52	0.06	0.50	0.50	0.12	0.14	0.14	0.13	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.07	0.27	0.18	0.03	0.36	0.21	0.11	0.13	0.13	0.13	0.10	0.12
s, saturation flow rate [veh/h]	1767	6737	1577	3431	5053	1577	3431	1855	1775	3431	3532	1577
c, Capacity [veh/h]	151	3520	824	218	2529	789	427	267	255	437	518	231
d1, Uniform Delay [s]	70.87	24.45	21.95	70.93	30.58	24.80	67.65	66.21	66.22	68.50	63.22	64.77
k, delay calibration	0.17	0.50	0.50	0.04	0.50	0.50	0.04	0.23	0.23	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	20.03	0.54	1.19	0.58	1.79	1.64	2.57	20.82	21.61	17.05	0.52	2.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.51	0.35	0.47	0.72	0.42	0.89	0.91	0.91	1.02	0.65	0.80
d, Delay for Lane Group [s/veh]	90.91	24.99	23.14	71.51	32.37	26.43	70.22	87.03	87.83	85.55	63.74	67.21
Lane Group LOS	F	C	C	E	C	C	E	F	F	F	E	E
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.08	11.17	6.66	1.98	17.63	7.99	7.69	11.16	10.75	9.84	6.46	7.35
50th-Percentile Queue Length [ft/ln]	151.91	279.32	166.62	49.43	440.65	199.70	192.37	279.09	268.70	246.06	161.38	183.85
95th-Percentile Queue Length [veh/ln]	10.12	16.65	10.90	3.56	24.51	12.62	12.24	16.64	16.12	15.11	10.62	11.80
95th-Percentile Queue Length [ft/ln]	252.98	416.37	272.46	88.98	612.79	315.58	306.10	416.08	403.12	377.70	265.55	295.03

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	90.91	90.91	24.99	23.14	71.51	71.51	32.37	26.43	70.22	70.22	87.36	87.83	85.55	63.74	67.21
Movement LOS	F	F	C	C	E	E	C	C	E	E	F	F	F	E	E
d_A, Approach Delay [s/veh]	28.62				33.27				79.78				74.43		
Approach LOS	C				C				E				E		
d_I, Intersection Delay [s/veh]	44.26														
Intersection LOS	D														
Intersection V/C	0.773														

Emissions

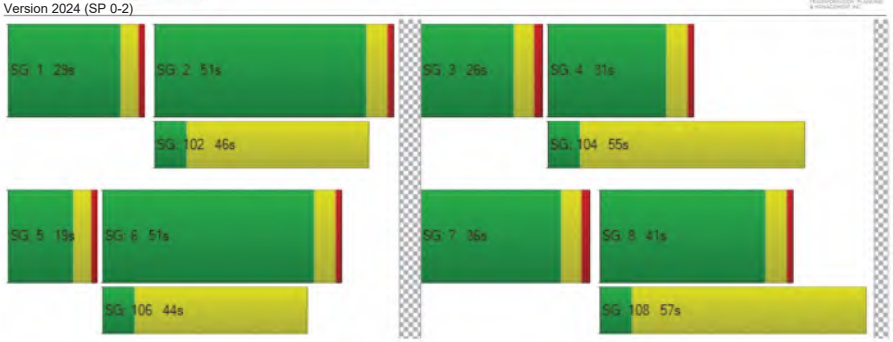
Vehicle Miles Traveled [mph]	52.16	718.63	115.86	22.76	405.29	73.87	94.70	60.47	57.91	46.65	35.44	19.40
Stops [stops/h]	139.33	1024.78	152.82	90.68	1212.50	183.17	352.88	255.98	246.45	451.37	296.03	168.62
Fuel consumption [US gal/h]	5.34	44.42	6.98	3.39	40.93	6.59	11.28	8.20	7.90	12.16	7.48	4.26
CO [g/h]	373.26	3105.11	488.17	237.09	2861.01	460.65	788.30	573.16	552.08	849.98	522.72	297.77
NOx [g/h]	72.62	604.14	94.98	46.13	556.65	89.62	153.37	111.52	107.41	165.37	101.70	57.94
VOC [g/h]	86.51	719.64	113.14	54.95	663.07	106.76	182.70	132.84	127.95	196.99	121.15	69.01

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	67.89	67.89	67.89	67.89
l_p,int, Pedestrian LOS Score for Intersectio	3.551	3.888	2.806	3.000
Crosswalk LOS	D	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	577	577	322	450
d_b, Bicycle Delay [s]	39.74	39.74	55.24	47.17
l_b,int, Bicycle LOS Score for Intersection	2.526	2.814	1.972	2.419
Bicycle LOS	B	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	84.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.094

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	57	1777	2	2	18	1704	532	257	5	15	4	9	15
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	20	0	0	0	-38	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	50	0	0	5	0	0	5
Total Hourly Volume [veh/h]	1	57	1797	2	2	18	1666	482	257	5	10	4	9	10
Peak Hour Factor	1.000	0.870	0.870	0.870	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	16	516	1	1	5	479	139	74	1	3	1	3	3
Total Analysis Volume [veh/h]	1	66	2066	2	2	21	1915	554	295	6	11	5	10	11
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	112
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	12	40	0	0	15	40	0	0	20	0	0	20	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	12	0	0	0	20	0	0	20	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	0	0	18	46	0	0	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	73	73	73	73	73	73	73	73	73
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	43	43	1	40	40	9	9	2
g / C, Green / Cycle	0.05	0.59	0.59	0.02	0.55	0.55	0.12	0.12	0.03
(v / s)_i Volume / Saturation Flow Rate	0.04	0.55	0.55	0.01	0.66	0.71	0.09	0.09	0.02
s, saturation flow rate [veh/h]	1781	1870	1869	1781	1870	1733	1781	1769	1725
c, Capacity [veh/h]	92	1093	1093	29	1026	951	219	217	51
d1, Uniform Delay [s]	34.04	14.08	14.08	35.73	16.44	16.44	30.75	30.75	34.86
k, delay calibration	0.04	0.44	0.44	0.04	0.50	0.50	0.11	0.11	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.98	15.55	15.61	16.03	100.65	141.88	4.33	4.37	2.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.72	0.95	0.95	0.79	1.20	1.30	0.72	0.72	0.51
d, Delay for Lane Group [s/veh]	38.02	29.63	29.69	51.76	117.09	158.32	35.08	35.12	37.79
Lane Group LOS	D	C	C	D	F	F	D	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.24	17.41	17.43	0.50	40.23	48.17	2.81	2.80	0.48
50th-Percentile Queue Length [ft/ln]	30.89	435.24	435.75	12.48	1005.85	1204.31	70.26	69.91	12.08
95th-Percentile Queue Length [veh/ln]	2.22	24.25	24.28	0.90	58.08	71.55	5.06	5.03	0.87
95th-Percentile Queue Length [ft/ln]	55.59	606.32	606.92	22.46	1451.88	1788.78	126.47	125.84	21.75

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.02	38.02	29.66	29.69	51.76	51.76	131.7	158.3	35.10	35.12	35.12	37.79	37.79	37.79
Movement LOS	D	D	C	C	D	D	F	F	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	29.92				136.91				35.10			37.79		
Approach LOS	C				F				D			D		
d_I, Intersection Delay [s/veh]	83.99													
Intersection LOS	F													
Intersection V/C	1.094													

Emissions

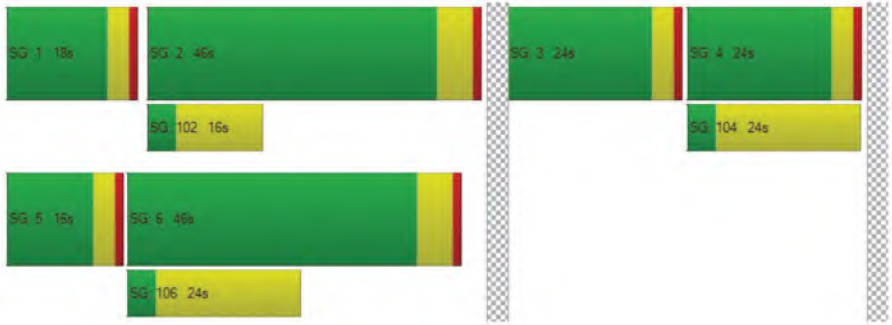
Vehicle Miles Traveled [mph]	23.71	365.89	365.89	9.16	491.49	491.49	37.68	37.46	0.49
Stops [stops/h]	61.15	861.72	862.72	24.71	1991.43	2384.36	139.11	138.42	23.92
Fuel consumption [US gal/h]	1.83	26.06	26.08	1.01	82.84	100.50	3.44	3.42	0.35
CO [g/h]	128.07	1821.43	1822.69	70.42	5790.78	7024.68	240.21	238.95	24.64
NOx [g/h]	24.92	354.38	354.63	13.70	1126.67	1366.75	46.74	46.49	4.79
VOC [g/h]	29.68	422.13	422.43	16.32	1342.07	1628.04	55.67	55.38	5.71

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	28.81	0.00	28.81	28.81
l_p,int, Pedestrian LOS Score for Intersectio	3.086	0.000	2.263	1.743
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1100	1100	550	550
d_b, Bicycle Delay [s]	7.37	7.37	19.12	19.12
l_b,int, Bicycle LOS Score for Intersection	3.320	3.639	2.083	1.611
Bicycle LOS	C	D	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Latrobe Rd/Suncast Ln

Control Type:	Signalized	Delay (sec / veh):	13.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.822

Intersection Setup

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Approach	Northbound			Southbound		Eastbound	
Lane Configuration							
Turning Movement	U-turn	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			No		Yes	

Volumes

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Base Volume Input [veh/h]	1	92	1693	1327	397	153	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	20	-38	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	119	0	17
Total Hourly Volume [veh/h]	1	92	1713	1289	278	153	40
Peak Hour Factor	1.0000	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	26	492	370	80	44	11
Total Analysis Volume [veh/h]	1	106	1969	1482	320	176	46
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permissive	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	5	2	6	0	3	0
Auxiliary Signal Groups							
Maximum Green [s]	0	12	40	40	0	20	0
Amber [s]	0.0	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No	No		No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	46	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-
Minimum Green [s]	0	5	5	5	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall		No	No	No		No	
Maximum Recall		No	No	No		No	
Pedestrian Recall		No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	L	R
C, Cycle Length [s]	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	5	47	38	38	9	9
g / C, Green / Cycle	0.08	0.72	0.58	0.58	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.06	0.55	0.48	0.51	0.10	0.03
s, saturation flow rate [veh/h]	1781	3560	1870	1760	1781	1589
c, Capacity [veh/h]	139	2548	1077	1014	234	209
d1, Uniform Delay [s]	29.53	5.91	11.32	12.03	27.35	25.38
k, delay calibration	0.04	0.15	0.30	0.33	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.34	0.73	4.85	8.15	4.84	0.53
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.77	0.84	0.89	0.75	0.22
d, Delay for Lane Group [s/veh]	32.87	6.65	16.18	20.17	32.18	25.91
Lane Group LOS	C	A	B	C	C	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.70	5.26	9.78	11.14	2.82	0.64
50th-Percentile Queue Length [ft/ln]	42.55	131.42	244.57	278.51	70.61	15.98
95th-Percentile Queue Length [veh/ln]	3.06	9.02	14.91	16.61	5.08	1.15
95th-Percentile Queue Length [ft/ln]	76.58	225.42	372.81	415.35	127.09	28.77

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.87	32.87	6.65	17.74	20.17	32.18	25.91
Movement LOS	C	C	A	B	C	C	C
d_A, Approach Delay [s/veh]	8.00			18.17		30.88	
Approach LOS	A			B		C	
d_I, Intersection Delay [s/veh]	13.71						
Intersection LOS	B						
Intersection V/C	0.822						

Emissions

Vehicle Miles Traveled [mph]	74.65	1373.79	318.83	318.83	59.38	15.52
Stops [stops/h]	93.97	580.49	540.15	615.10	155.94	35.30
Fuel consumption [US gal/h]	4.31	62.43	19.08	20.22	4.46	1.08
CO [g/h]	301.14	4363.53	1333.39	1413.53	311.67	75.24
NOx [g/h]	58.59	848.98	259.43	275.02	60.64	14.64
VOC [g/h]	69.79	1011.29	309.03	327.60	72.23	17.44

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0			0.0		8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00			0.00		0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00			0.00		0.00
d_p, Pedestrian Delay [s]	25.09			0.00		25.09
I_p,int, Pedestrian LOS Score for Intersectio	2.992			0.000		2.206
Crosswalk LOS	C			F		B
s_b, Saturation Flow Rate of the bicycle lane	2000			2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	1227			1227		613
d_b, Bicycle Delay [s]	4.87			4.87		15.67
I_b,int, Bicycle LOS Score for Intersection	3.271			3.144		1.560
Bicycle LOS	C			C		A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	90.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.040

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	53	773	21	249	386	750	514	69	78	136	241	520
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	8	2	0	-15	-23	12	2	-5	-3	-4	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	7	0	0	218	0	0	22	0	0	156
Total Hourly Volume [veh/h]	56	781	16	249	371	509	526	71	51	133	237	364
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	219	4	70	104	143	148	20	14	37	67	102
Total Analysis Volume [veh/h]	63	878	18	280	417	572	591	80	57	149	266	409
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Cycle Length [s]	89	89	89	89	89	89	89	89	89	89
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	4	23	23	12	31	31	15	15	20	20
g / C, Green / Cycle	0.05	0.26	0.26	0.14	0.35	0.35	0.17	0.17	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.04	0.24	0.24	0.16	0.22	0.36	0.21	0.21	0.23	0.25
s, saturation flow rate [veh/h]	1781	1870	1857	1781	1870	1589	1781	1766	1829	1589
c, Capacity [veh/h]	83	484	481	241	650	552	301	298	412	358
d1, Uniform Delay [s]	41.83	32.10	32.10	38.40	24.33	28.97	36.90	36.90	34.40	34.40
k, delay calibration	0.04	0.27	0.27	0.50	0.22	0.50	0.50	0.50	0.41	0.47
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.16	17.20	17.29	109.22	2.19	47.85	122.84	123.96	50.48	78.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.93	0.93	1.16	0.64	1.04	1.21	1.22	1.04	1.11
d, Delay for Lane Group [s/veh]	46.99	49.29	49.38	147.62	26.53	76.82	159.74	160.86	84.88	112.52
Lane Group LOS	D	D	D	F	C	F	F	F	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.47	11.42	11.36	12.12	6.87	17.55	16.64	16.59	14.40	15.26
50th-Percentile Queue Length [ft/ln]	36.68	285.62	283.91	302.94	171.69	438.64	415.99	414.84	359.94	381.59
95th-Percentile Queue Length [veh/ln]	2.64	16.97	16.88	19.01	11.17	24.99	25.51	25.46	21.06	22.89
95th-Percentile Queue Length [ft/ln]	66.03	424.20	422.07	475.14	279.14	624.83	637.63	636.58	526.49	572.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.99	49.33	49.38	147.62	26.53	76.82	160.17	160.86	160.86	84.88	84.88	112.52
Movement LOS	D	D	D	F	C	F	F	F	F	F	F	F
d_A, Approach Delay [s/veh]	49.18			75.91			160.29			98.17		
Approach LOS	D			E			F			F		
d_I, Intersection Delay [s/veh]	90.23											
Intersection LOS	F											
Intersection V/C	1.040											

Emissions

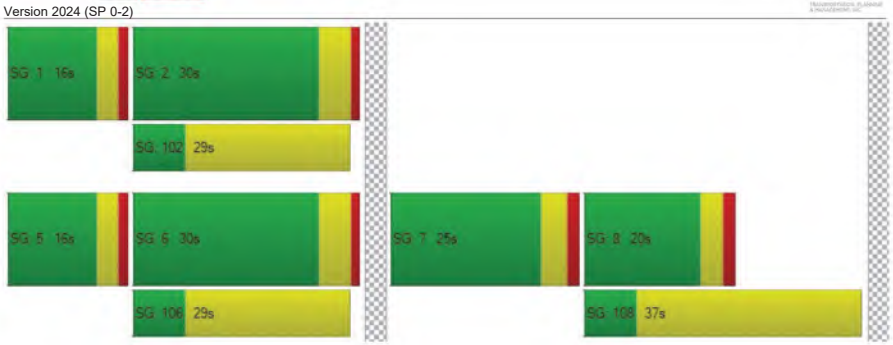
Vehicle Miles Traveled [mph]	36.38	259.65	257.81	195.36	290.94	399.09	27.47	27.30	47.30	43.84
Stops [stops/h]	59.50	463.26	460.48	491.35	278.47	711.45	674.71	672.84	583.80	618.91
Fuel consumption [US gal/h]	2.43	17.76	17.64	24.07	17.16	35.51	16.73	16.72	12.56	14.30
CO [g/h]	169.78	1241.25	1233.25	1682.59	1199.21	2481.90	1169.20	1168.46	877.78	999.46
NOx [g/h]	33.03	241.50	239.95	327.37	233.32	482.89	227.48	227.34	170.78	194.46
VOC [g/h]	39.35	287.67	285.82	389.96	277.93	575.20	270.97	270.80	203.43	231.63

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.07	0.00	34.07	34.07
l_p,int, Pedestrian LOS Score for Intersectio	2.623	0.000	2.578	2.605
Crosswalk LOS	B	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	349	451
d_b, Bicycle Delay [s]	23.13	23.13	30.24	26.64
l_b,int, Bicycle LOS Score for Intersection	2.357	2.786	2.797	3.177
Bicycle LOS	B	C	C	C

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	12.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.753

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	122	575	254	291	262	88
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-3	0	0	-23	13	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	119	575	254	268	275	90
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	160	71	74	76	25
Total Analysis Volume [veh/h]	132	639	282	298	306	100
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	12	40	40	0	20	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	46	46	0	24	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	38	38	38	38	38	38
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	4	19	11	11	9	9
g / C, Green / Cycle	0.10	0.50	0.29	0.29	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.07	0.34	0.15	0.19	0.17	0.06
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1589
c, Capacity [veh/h]	178	935	550	467	420	375
d1, Uniform Delay [s]	16.55	7.19	11.11	11.61	13.34	11.79
k, delay calibration	0.04	0.15	0.15	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.26	1.27	1.06	2.06	2.43	0.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.68	0.51	0.64	0.73	0.27
d, Delay for Lane Group [s/veh]	18.81	8.46	12.17	13.68	15.77	12.16
Lane Group LOS	B	A	B	B	B	B
Critical Lane Group	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.88	1.52	1.29	1.51	2.18	0.59
50th-Percentile Queue Length [ft/ln]	22.09	37.97	32.13	37.72	54.46	14.66
95th-Percentile Queue Length [veh/ln]	1.59	2.73	2.31	2.72	3.92	1.06
95th-Percentile Queue Length [ft/ln]	39.76	68.34	57.83	67.89	98.03	26.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.81	8.46	12.17	13.68	15.77	12.16
Movement LOS	B	A	B	B	B	B
d_A, Approach Delay [s/veh]	10.24		12.94		14.88	
Approach LOS	B		B		B	
d_I, Intersection Delay [s/veh]	12.20					
Intersection LOS	B					
Intersection V/C	0.753					

Emissions

Vehicle Miles Traveled [mph]	16.29	78.84	162.86	172.10	71.87	23.49
Stops [stops/h]	84.30	144.90	122.61	143.96	207.85	55.96
Fuel consumption [US gal/h]	2.62	6.43	8.42	9.26	5.09	1.52
CO [g/h]	182.85	449.43	588.83	647.31	355.71	106.50
NOx [g/h]	35.58	87.44	114.56	125.94	69.21	20.72
VOC [g/h]	42.38	104.16	136.47	150.02	82.44	24.68

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0		0.0		8.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	11.71		0.00		11.71	
I_p,int, Pedestrian LOS Score for Intersectio	2.583		0.000		2.168	
Crosswalk LOS	B		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	2120		2120		1060	
d_b, Bicycle Delay [s]	0.07		0.07		4.17	
I_b,int, Bicycle LOS Score for Intersection	2.832		2.517		1.560	
Bicycle LOS	C		B		A	

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	14.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.090

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	658	0	14	328	0	0	0	0	0	0	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-3	0	0	2	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	655	0	14	330	0	0	0	0	0	0	39
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	178	0	4	90	0	0	0	0	0	0	10
Total Analysis Volume [veh/h]	0	712	0	14	359	0	0	0	0	0	0	39
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			Yes	Yes
Storage Area [veh]	0	0	1	1
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
d_M, Delay for Movement [s/veh]	8.00	0.00	0.00	9.07	0.00	0.00	26.92	22.28	10.25	25.16	23.11	14.15
Movement LOS	A	A	A	A	A	A	D	C	B	D	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.02	0.02	0.02	0.00	0.00	0.00	0.30	0.30	0.30
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.59	0.59	0.59	0.00	0.00	0.00	7.39	7.39	7.39
d_A, Approach Delay [s/veh]	0.00			0.34			19.82			14.15		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	0.60											
Intersection LOS	B											

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Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Two-way stop	Delay (sec / veh):	25.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.049

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	408	41	74	254	0	0	0	0	11	0	250
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-3	0	0	2	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	405	41	74	256	0	0	0	0	11	0	250
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	109	11	20	69	0	0	0	0	3	0	67
Total Analysis Volume [veh/h]	0	435	44	80	275	0	0	0	0	12	0	269
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.45
d_M, Delay for Movement [s/veh]	7.79	0.00	0.00	8.59	0.00	0.00	37.94	19.24	9.71	25.85	24.87	17.02
Movement LOS	A	A	A	A	A	A	E	C	A	D	C	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00	2.73	2.73	2.73
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	5.97	0.00	0.00	0.00	0.00	0.00	68.30	68.30	68.30
d_A, Approach Delay [s/veh]	0.00			1.94			22.30			17.39		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	5.00											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Two-way stop	Delay (sec / veh):	1,336.5
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.315

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	13	460	201	51	0	862	182
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	14	-5	-8	0	-26	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	18	474	196	43	0	836	185
Peak Hour Factor	1.0000	0.9060	0.9060	0.9060	0.9060	1.0000	0.9060	0.9060
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	5	131	54	12	0	231	51
Total Analysis Volume [veh/h]	0	20	523	216	47	0	923	204
Pedestrian Volume [ped/h]	0			0		0		

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	2.31	0.65	0.00	0.00	0.00	0.71	0.00
d_M, Delay for Movement [s/veh]	1336.45	1336.45	924.30	0.00	0.00	20.85	10.25	0.00
Movement LOS	F	F	F	A	A	C	B	A
95th-Percentile Queue Length [veh/ln]	49.16	49.16	49.16	0.00	0.00	3.44	3.44	3.44
95th-Percentile Queue Length [ft/ln]	1228.90	1228.90	1228.90	0.00	0.00	86.02	86.02	86.02
d_A, Approach Delay [s/veh]	939.48			0.00		8.40		
Approach LOS	F			A		A		
d_I, Intersection Delay [s/veh]	268.80							
Intersection LOS	F							

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Intersection Level Of Service Report
Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Control Type:	All-way stop	Delay (sec / veh):	203.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.712

Intersection Setup

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Base Volume Input [veh/h]	9	149	80	2	30	779	37	11	17	0	240	45	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	-36	20	15	0	0	-26	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	149	80	2	30	779	1	31	32	0	240	19	62
Peak Hour Factor	0.8300	0.8300	0.8300	1.000	0.830	0.830	0.830	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	45	24	1	9	235	0	9	10	0	72	6	19
Total Analysis Volume [veh/h]	11	180	96	2	36	939	1	37	39	0	289	23	75
Pedestrian Volume [ped/h]	0			0				0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	543	978	453	530
Degree of Utilization, x	0.53	1.71	0.17	0.73

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.07	57.24	0.60	6.07
95th-Percentile Queue Length [ft]	76.74	1430.99	14.93	151.67
Approach Delay [s/veh]	16.82	344.09	12.54	26.03
Approach LOS	C	F	B	D
Intersection Delay [s/veh]	203.92			
Intersection LOS	F			

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Intersection Level Of Service Report
Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	13.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.218

Intersection Setup

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00			30.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	No		No			No		

Volumes

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Base Volume Input [veh/h]	110	126	1	106	95	0	67	128
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-13	0	-1	0	0	7	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	113	1	105	95	0	74	129
Peak Hour Factor	0.9500	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	30	0	28	25	0	19	34
Total Analysis Volume [veh/h]	116	119	1	111	100	0	78	136
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.22	0.13	0.00	0.00	0.00	0.00	0.06	0.00
d_M, Delay for Movement [s/veh]	13.65	9.70	8.82	0.00	0.00	10.10	7.81	0.00
Movement LOS	B	A	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.82	0.46	0.00	0.00	0.00	0.18	0.18	0.00
95th-Percentile Queue Length [ft/ln]	20.61	11.61	0.05	0.05	0.05	4.56	4.56	0.00
d_A, Approach Delay [s/veh]	11.65		0.04			2.85		
Approach LOS	B		A			A		
d_I, Intersection Delay [s/veh]	5.08							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 16: Carson Crossing Rd/Calypso Cir.

Control Type:	Two-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.192

Intersection Setup

Name			Carson Crossing Rd		Carson Crossing Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	190.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			Carson Crossing Rd		Carson Crossing Rd	
Base Volume Input [veh/h]	83	80	145	57	121	95
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-13	0	0	7
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	83	80	132	57	121	102
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	22	36	15	33	28
Total Analysis Volume [veh/h]	90	87	143	62	132	111
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.19	0.10	0.00	0.00	0.10	0.00
d_M, Delay for Movement [s/veh]	15.06	11.34	0.00	0.00	7.92	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.19	1.19	0.00	0.00	0.32	0.00
95th-Percentile Queue Length [ft/ln]	29.78	29.78	0.00	0.00	8.00	0.00
d_A, Approach Delay [s/veh]	13.23		0.00		4.30	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	5.42					
Intersection LOS	C					

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Intersection Level Of Service Report
Intersection 17: Carson Crossing Rd/Four Seasons Dr

Control Type:	All-way stop	Delay (sec / veh):	8.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.108

Intersection Setup

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	500.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	500.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Base Volume Input [veh/h]	67	10	11	165	19	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	0	0	-13	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	74	10	11	152	19	18
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	3	3	41	5	5
Total Analysis Volume [veh/h]	80	11	12	165	21	20
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	723	748	690	764	764	732
Degree of Utilization, x	0.06	0.06	0.02	0.11	0.11	0.06

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.20	0.19	0.05	0.36	0.36	0.18
95th-Percentile Queue Length [ft]	5.03	4.85	1.33	9.05	9.05	4.44
Approach Delay [s/veh]	7.92		7.99			8.21
Approach LOS	A		A			A
Intersection Delay [s/veh]	8.00					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	34.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.381

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	65	0	18	66	1	8	4	296	125	50	536	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	0	0	0	0	0	0	0	-13	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	72	0	18	66	1	8	4	296	112	50	536	15
Peak Hour Factor	0.9700	1.0000	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	0	5	17	0	2	1	76	29	13	138	4
Total Analysis Volume [veh/h]	74	0	19	68	1	8	4	305	115	52	553	15
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.38	0.00	0.03	0.35	0.00	0.02	0.00	0.00	0.00	0.05	0.01	0.00
d_M, Delay for Movement [s/veh]	34.49	21.66	10.43	33.40	32.51	21.67	8.60	0.00	0.00	8.31	0.00	0.00
Movement LOS	D	C	B	D	D	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.66	0.09	0.09	1.61	1.61	1.61	0.01	0.00	0.00	0.14	0.00	0.00
95th-Percentile Queue Length [ft/ln]	41.54	2.15	2.15	40.18	40.18	40.18	0.30	0.00	0.00	3.58	0.00	0.00
d_A, Approach Delay [s/veh]	29.57			32.17			0.08			0.70		
Approach LOS	D			D			A			A		
d_I, Intersection Delay [s/veh]	4.69											
Intersection LOS	D											

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Intersection Level Of Service Report
Intersection 19: White Rock Rd/Windfield Way

Control Type:	Signalized	Delay (sec / veh):	29.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.585

Intersection Setup

Name	Windfield Way				White Rock Rd				White Rock Rd			
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00			
Grade [%]	0.00			0.00			0.00			0.00			
Curb Present	No			No			No			No			
Crosswalk	Yes			Yes			Yes			No			

Volumes

Name	Windfield Way						White Rock Rd			White Rock Rd			
Base Volume Input [veh/h]	72	5	189	5	5	5	5	632	184	0	378	502	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	57	0	0	2	0	0	55	0	0	0	2
Total Hourly Volume [veh/h]	72	5	132	5	5	3	5	632	129	0	378	502	3
Peak Hour Factor	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000	1.0000	0.9700	0.9700	1.000	0.970	0.970	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	19	1	34	1	1	1	1	163	33	0	97	129	1
Total Analysis Volume [veh/h]	74	5	136	5	5	3	5	652	133	0	390	518	3
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	31.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi
Signal Group	3	8	0	7	4	0	5	2	0	0	1	6	0
Auxiliary Signal Groups													
Maximum Green [s]	25	25	0	10	10	0	9	19	0	0	44	54	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	2.0	1.0	0.0	0.0	2.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	26	0	0	13	0	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	245.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	15	15	0	15	25	0	0	50	60	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	3	3	0	5	3	0	5	7	0	0	3	7	0
Vehicle Extension [s]	1.0	1.0	0.0	3.0	1.0	0.0	3.0	3.6	0.0	0.0	1.0	3.6	0.0
Minimum Recall	No	No		No	No		No	Yes			No	Yes	
Maximum Recall	No	No		No	No		No	No			No	No	
Pedestrian Recall	No	No		No	No		No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	6	12	1	7	1	57	57	28	84	84
g / C, Green / Cycle	0.05	0.10	0.01	0.06	0.01	0.47	0.47	0.23	0.70	0.70
(v / s)_i Volume / Saturation Flow Rate	0.04	0.09	0.00	0.00	0.00	0.22	0.22	0.22	0.14	0.14
s, saturation flow rate [veh/h]	1781	1598	1781	1754	1781	1870	1762	1781	1870	1866
c, Capacity [veh/h]	96	165	12	99	12	885	834	415	1308	1305
d1, Uniform Delay [s]	56.04	52.90	59.33	53.65	59.34	21.23	21.24	45.20	6.30	6.30
k, delay calibration	0.04	0.04	0.11	0.04	0.11	0.50	0.50	0.08	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.83	4.72	19.50	0.13	19.95	1.69	1.81	8.64	0.34	0.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.85	0.40	0.08	0.40	0.46	0.46	0.94	0.20	0.20
d, Delay for Lane Group [s/veh]	60.87	57.61	78.83	53.78	79.29	22.92	23.05	53.84	6.65	6.65
Lane Group LOS	E	E	E	D	E	C	C	D	A	A
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.34	4.39	0.22	0.23	0.22	7.96	7.55	12.32	2.28	2.28
50th-Percentile Queue Length [ft/ln]	58.56	109.83	5.48	5.83	5.50	199.09	188.65	308.10	57.00	56.89
95th-Percentile Queue Length [veh/ln]	4.22	7.83	0.39	0.42	0.40	12.59	12.05	18.08	4.10	4.10
95th-Percentile Queue Length [ft/ln]	105.40	195.77	9.86	10.49	9.90	314.79	301.28	452.04	102.59	102.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	60.87	57.61	57.61	78.83	53.78	53.78	79.29	22.97	23.05	53.84	53.84	6.65	6.65
Movement LOS	E	E	E	E	D	D	E	C	C	D	D	A	A
d_A, Approach Delay [s/veh]	58.73			63.41			23.34			26.85			
Approach LOS	E			E			C			C			
d_I, Intersection Delay [s/veh]	29.21												
Intersection LOS	C												
Intersection V/C	0.585												

Emissions

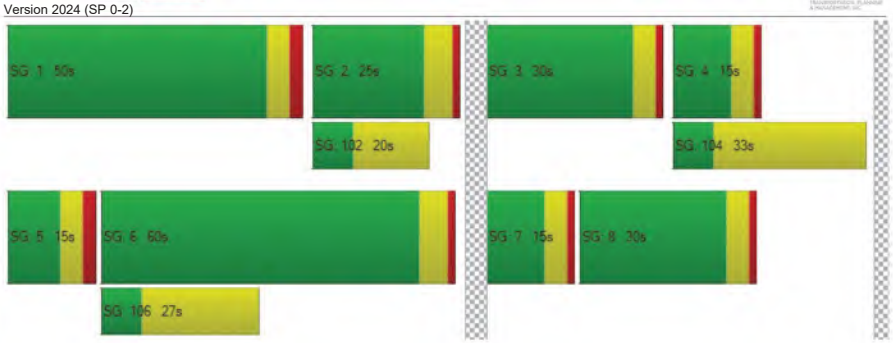
Vehicle Miles Traveled [mph]	28.51	54.33	0.17	0.28	4.21	339.83	320.77	97.19	64.98	64.85
Stops [stops/h]	70.27	131.80	6.57	6.99	6.60	238.91	226.38	369.72	68.40	68.27
Fuel consumption [US gal/h]	2.48	4.62	0.12	0.14	0.29	17.19	16.24	10.32	3.41	3.40
CO [g/h]	173.25	322.77	8.65	9.62	20.30	1201.81	1135.42	721.11	238.07	237.59
NOx [g/h]	33.71	62.80	1.68	1.87	3.95	233.83	220.91	140.30	46.32	46.23
VOC [g/h]	40.15	74.80	2.00	2.23	4.70	278.53	263.15	167.12	55.18	55.06

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.313	1.967	2.673	0.000
Crosswalk LOS	B	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	417	167	317	900
d_b, Bicycle Delay [s]	37.60	50.42	42.50	18.15
l_b,int, Bicycle LOS Score for Intersection	2.008	1.584	2.257	1.991
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 20: White Rock Rd/Post St

Control Type:	Signalized	Delay (sec / veh):	40.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.625

Intersection Setup

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Approach	Northbound			Southbound			Eastbound				Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0	120.00	100.00	400.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00				30.00		
Grade [%]	0.00			0.00			0.00				0.00		
Curb Present	No			No			No				No		
Crosswalk	Yes			Yes			Yes				No		

Volumes

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	59	7	20	114	11	203	0	243	569	62	55	729	205
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	-2	0	1	3	0	0	-5	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	6	0	0	60	0	0	0	19	0	0	62
Total Hourly Volume [veh/h]	59	7	14	114	11	141	0	244	572	43	55	724	143
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	1.000	0.910	0.910	0.910	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	2	4	31	3	39	0	67	157	12	15	199	39
Total Analysis Volume [veh/h]	65	8	15	125	12	155	0	268	629	47	60	796	157
Presence of On-Street Parking	No		No	No		No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0				0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0				0		
v_co, Outbound Pedestrian Volume crossing	0			0			0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0				0		
Bicycle Volume [bicycles/h]	0			0			0				0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	71.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups													
Maximum Green [s]	21	62	0	8	48	0	0	14	31	0	16	34	0
Amber [s]	3.5	5.0	0.0	3.5	5.0	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.7	1.0	0.0	1.0	1.0	0.0	0.0	2.0	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	32	0	0	0	21	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.2	4.0	0.0	2.5	4.0	0.0	0.0	3.5	2.5	0.0	3.0	2.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	100.0	0.0	100.0	100.0	0.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	0	13	54	0	0	20	36	0	21	39	0
Lead / Lag	Lead	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	3	7	0	3	7	0	0	3	3	0	3	3	0
Vehicle Extension [s]	1.0	3.6	0.0	1.0	3.6	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No			No	Yes		No	Yes	
Maximum Recall	No	No		No	No			No	No		No	No	
Pedestrian Recall	No	No		No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	5.20	6.00	4.50	6.00	5.50	4.50	4.50	5.00	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.20	4.00	2.50	4.00	3.50	2.50	2.50	3.00	2.50	2.50
g_i, Effective Green Time [s]	7	16	9	17	23	90	90	6	73	73
g / C, Green / Cycle	0.05	0.11	0.06	0.12	0.16	0.64	0.64	0.04	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.04	0.01	0.07	0.10	0.15	0.18	0.03	0.03	0.26	0.26
s, saturation flow rate [veh/h]	1781	1677	1781	1607	1781	3560	1589	1781	1870	1764
c, Capacity [veh/h]	83	188	108	195	289	2283	1019	77	969	915
d1, Uniform Delay [s]	66.05	55.95	65.75	60.32	57.82	10.95	9.29	66.32	22.00	22.01
k, delay calibration	0.04	0.13	0.40	0.13	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.95	0.36	125.62	12.51	5.42	0.30	0.09	6.24	1.88	2.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.12	1.16	0.86	0.93	0.28	0.05	0.78	0.51	0.51
d, Delay for Lane Group [s/veh]	72.00	56.31	191.37	72.83	63.23	11.25	9.37	72.56	23.89	24.00
Lane Group LOS	E	E	F	E	E	B	A	E	C	C
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.44	0.76	7.65	6.51	9.80	4.32	0.56	2.26	11.05	10.45
50th-Percentile Queue Length [ft/ln]	61.10	18.92	191.15	162.71	244.91	108.06	14.00	56.62	276.19	261.33
95th-Percentile Queue Length [veh/ln]	4.40	1.36	12.73	10.69	14.93	7.73	1.01	4.08	16.50	15.76
95th-Percentile Queue Length [ft/ln]	109.98	34.06	318.26	267.31	373.23	193.31	25.21	101.91	412.46	393.89

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	72.00	56.31	56.31	191.37	72.83	72.83	63.23	63.23	11.25	9.37	72.56	23.93	24.00
Movement LOS	E	E	E	F	E	E	E	E	B	A	E	C	C
d_A, Approach Delay [s/veh]	67.90			123.57			25.91				26.82		
Approach LOS	E			F			C				C		
d_I, Intersection Delay [s/veh]	40.09												
Intersection LOS	D												
Intersection V/C	0.625												

Emissions

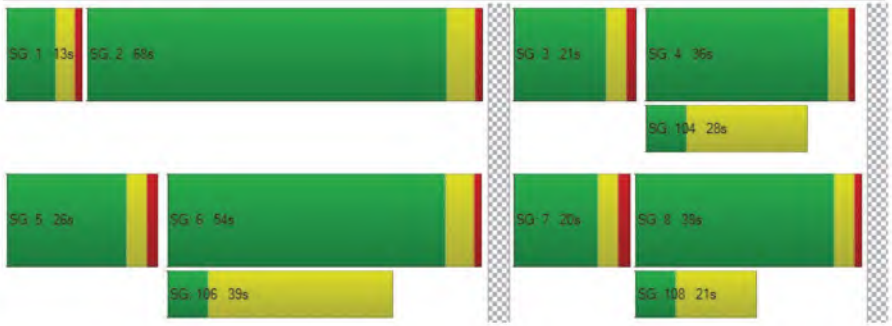
Vehicle Miles Traveled [mph]	3.25	1.15	5.81	7.76	28.10	65.94	4.93	21.01	171.69	162.01
Stops [stops/h]	62.85	19.46	196.61	167.36	251.90	222.30	14.40	58.24	284.08	268.79
Fuel consumption [US gal/h]	1.43	0.42	6.19	3.72	6.00	5.38	0.37	2.07	11.02	10.41
CO [g/h]	100.19	29.25	432.86	259.95	419.16	376.25	26.01	144.86	770.37	727.95
NOx [g/h]	19.49	5.69	84.22	50.58	81.55	73.20	5.06	28.18	149.89	141.63
VOC [g/h]	23.22	6.78	100.32	60.25	97.14	87.20	6.03	33.57	178.54	168.71

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	59.43	59.43	59.43	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.045	2.322	2.832	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	886	686	450	493
d_b, Bicycle Delay [s]	21.73	30.23	42.04	39.75
I_b,int, Bicycle LOS Score for Intersection	1.715	2.140	2.133	2.446
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	252.3
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.314

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	115	53	383	193	45	46	218	278	224	320	839	307
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	1	0	-1	0	0	3	0	-2	-5	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	115	0	0	14	0	0	67	0	0	92
Total Hourly Volume [veh/h]	115	54	269	193	44	32	218	281	157	318	834	215
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	16	77	55	13	9	63	81	45	91	240	62
Total Analysis Volume [veh/h]	132	62	309	222	51	37	251	323	180	366	959	247
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	0	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	35	0	0	40	0	25	45	0	25	45	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	18	0	0	17	0	0	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	0	0	44	0	29	50	0	29	51	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	0.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	138	138	138	138	138	138	138	138
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	3.50	5.30	3.50	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	1.50	3.30	1.50	4.00
g_i, Effective Green Time [s]	33	33	20	20	21	42	25	45
g / C, Green / Cycle	0.24	0.24	0.15	0.15	0.15	0.31	0.18	0.33
(v / s)_i Volume / Saturation Flow Rate	0.07	0.23	0.12	0.05	0.14	0.29	0.21	0.67
s, saturation flow rate [veh/h]	1781	1630	1781	1741	1781	1759	1781	1805
c, Capacity [veh/h]	432	396	259	253	276	537	323	590
d1, Uniform Delay [s]	42.65	51.13	57.47	52.99	57.24	46.54	56.39	46.38
k, delay calibration	0.13	0.39	0.13	0.13	0.25	0.36	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.49	26.79	9.77	1.02	21.57	20.44	90.88	476.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.94	0.86	0.35	0.91	0.94	1.13	2.05
d, Delay for Lane Group [s/veh]	43.14	77.92	67.24	54.01	78.81	66.98	147.26	522.77
Lane Group LOS	D	E	E	D	E	E	F	F
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.77	15.46	8.25	2.83	10.25	19.71	19.36	98.00
50th-Percentile Queue Length [ft/ln]	94.33	386.47	206.34	70.78	256.15	492.77	484.01	2449.97
95th-Percentile Queue Length [veh/ln]	6.79	21.91	12.97	5.10	15.50	26.99	28.31	154.37
95th-Percentile Queue Length [ft/ln]	169.79	547.67	324.13	127.40	387.39	674.80	707.79	3859.30

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.14	77.92	77.92	67.24	54.01	54.01	78.81	66.98	66.98	147.26	522.77	522.77
Movement LOS	D	E	E	E	D	D	E	E	E	F	F	F
d_A, Approach Delay [s/veh]	68.79			63.48			70.92			435.34		
Approach LOS	E			E			E			F		
d_I, Intersection Delay [s/veh]	252.35											
Intersection LOS	F											
Intersection V/C	1.314											

Emissions

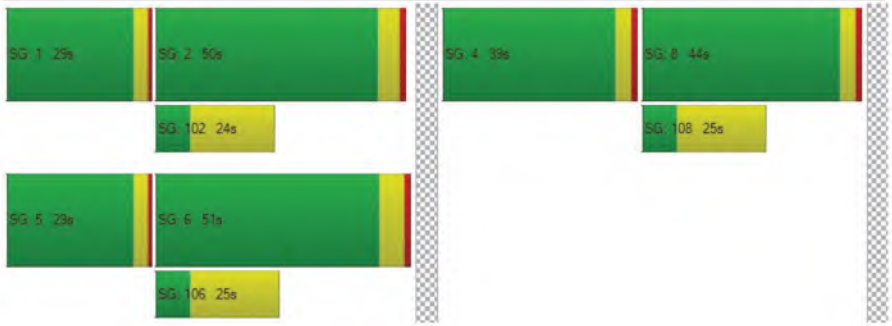
Vehicle Miles Traveled [mph]	227.13	638.36	45.01	17.84	87.89	176.13	165.15	544.18
Stops [stops/h]	98.77	404.65	216.05	74.11	268.20	515.95	506.78	2565.22
Fuel consumption [US gal/h]	11.05	34.40	6.08	2.11	9.12	16.96	20.56	164.84
CO [g/h]	772.70	2404.32	425.26	147.55	637.82	1185.23	1437.47	11522.41
NOx [g/h]	150.34	467.79	82.74	28.71	124.10	230.60	279.68	2241.84
VOC [g/h]	179.08	557.22	98.56	34.20	147.82	274.69	333.15	2670.43

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	58.21	58.21	58.21	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.541	2.298	2.694	0.000
Crosswalk LOS	B	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	506	579	650	654
d_b, Bicycle Delay [s]	38.37	34.72	31.33	31.13
I_b,int, Bicycle LOS Score for Intersection	2.579	2.094	2.914	4.305
Bicycle LOS	B	B	C	E

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 22: White Rock Rd/Clarksville Crossing

Control Type:	Signalized	Delay (sec / veh):	35.7
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.857

Intersection Setup

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	180.00	460.00	100.00	100.00	290.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	0	0	5	4	0	354	3	851	0	4	1112	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	5	0	0	-8	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	5	4	0	354	3	856	0	4	1104	31
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	2	1	0	113	1	274	0	1	354	10
Total Analysis Volume [veh/h]	0	0	6	5	0	454	4	1097	0	5	1415	40
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	20	0	0	20	0	20	50	0	20	50	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	5.0	0.0	4.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	5.0	0.0	3.0	5.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	R
C, Cycle Length [s]	82	82	82	82	82	82	82	82	82	82
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	7.00	7.00	5.00	7.00	7.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	5.00	5.00	3.00	5.00	5.00
g_i, Effective Green Time [s]	1	1	20	20	0	38	38	1	39	39
g / C, Green / Cycle	0.01	0.01	0.24	0.24	0.01	0.47	0.47	0.01	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.00	0.29	0.00	0.29	0.29	0.00	0.40	0.03
s, saturation flow rate [veh/h]	1870	1589	1781	1589	1781	1870	1870	1781	3560	1589
c, Capacity [veh/h]	15	13	435	389	10	882	882	12	1683	751
d1, Uniform Delay [s]	0.00	40.39	23.41	30.90	40.53	16.16	16.16	40.45	18.86	11.66
k, delay calibration	0.11	0.11	0.11	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	23.82	0.01	100.02	23.84	0.72	0.72	20.32	1.20	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.46	0.01	1.17	0.40	0.62	0.62	0.41	0.84	0.05
d, Delay for Lane Group [s/veh]	0.00	64.21	23.42	130.91	64.37	16.89	16.89	60.77	20.06	11.69
Lane Group LOS	A	E	C	F	E	B	B	E	C	B
Critical Lane Group	No	Yes	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.00	0.20	0.07	18.13	0.15	7.25	7.25	0.17	10.95	0.38
50th-Percentile Queue Length [ft/ln]	0.00	5.09	1.82	453.15	3.63	181.31	181.31	4.19	273.74	9.47
95th-Percentile Queue Length [veh/ln]	0.00	0.37	0.13	27.31	0.26	11.67	11.67	0.30	16.38	0.68
95th-Percentile Queue Length [ft/ln]	0.00	9.16	3.27	682.68	6.53	291.73	291.73	7.55	409.42	17.05

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	64.21	23.42	23.42	130.91	64.37	16.89	16.89	60.77	20.06	11.69
Movement LOS	A	A	E	C	C	F	E	B	B	E	C	B
d_A, Approach Delay [s/veh]	64.21			129.74			17.06			19.97		
Approach LOS	E			F			B			B		
d_I, Intersection Delay [s/veh]	35.65											
Intersection LOS	D											
Intersection V/C	0.857											

Emissions

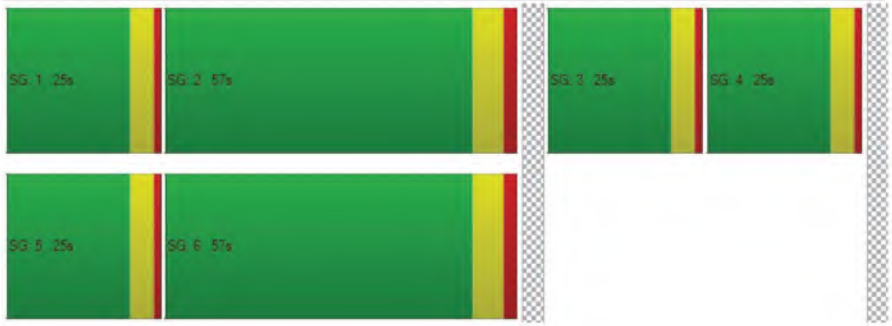
Vehicle Miles Traveled [mph]	0.00	0.30	2.37	215.36	1.80	247.50	247.50	0.87	246.84	6.98
Stops [stops/h]	0.00	8.97	3.20	798.99	6.40	319.69	319.69	7.39	965.32	16.70
Fuel consumption [US gal/h]	0.00	0.14	0.14	25.37	0.16	13.84	13.84	0.14	21.27	0.47
CO [g/h]	0.00	9.81	9.73	1773.59	11.33	967.40	967.40	9.69	1486.92	33.18
NOx [g/h]	0.00	1.91	1.89	345.08	2.20	188.22	188.22	1.88	289.30	6.46
VOC [g/h]	0.00	2.27	2.25	411.05	2.63	224.20	224.20	2.24	344.61	7.69

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	490	490	1224	1224
d_b, Bicycle Delay [s]	23.28	23.28	6.14	6.14
l_b,int, Bicycle LOS Score for Intersection	1.570	2.317	2.468	2.764
Bicycle LOS	A	B	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 23: White Rock Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	21.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.686

Intersection Setup

Name	White Rock Rd		White Rock Rd		US 50 EB	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	1	0	1
Entry Pocket Length [ft]	500.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	White Rock Rd		White Rock Rd		US 50 EB	
Base Volume Input [veh/h]	481	379	1054	278	213	93
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	1	-8	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	12
Total Hourly Volume [veh/h]	485	380	1046	278	213	81
Peak Hour Factor	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	146	114	315	84	64	24
Total Analysis Volume [veh/h]	584	458	1260	335	257	98
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	21	61	32	0	16	0
Amber [s]	3.7	4.8	4.8	0.0	4.8	0.0
All red [s]	0.5	2.0	2.0	0.0	1.0	0.0
Walk [s]	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.2	4.8	4.8	0.0	3.8	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	39	0	22	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	8	9	9	0	8	0
Vehicle Extension [s]	2.0	1.0	1.0	0.0	2.0	0.0
Minimum Recall	No	Yes	Yes		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80
g_i, Effective Green Time [s]	17	69	47	47	9	9	9
g / C, Green / Cycle	0.19	0.76	0.52	0.52	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.17	0.13	0.35	0.21	0.07	0.07	0.06
s, saturation flow rate [veh/h]	3459	3560	3560	1589	1781	1781	1589
c, Capacity [veh/h]	668	2716	1862	831	173	173	154
d1, Uniform Delay [s]	35.24	2.90	15.84	12.97	39.54	39.54	39.10
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.46	0.13	1.99	1.45	2.37	2.37	1.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.17	0.68	0.40	0.74	0.74	0.64
d, Delay for Lane Group [s/veh]	36.70	3.04	17.84	14.42	41.92	41.92	40.72
Lane Group LOS	D	A	B	B	D	D	D
Critical Lane Group	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.21	0.85	9.32	4.17	2.84	2.84	2.13
50th-Percentile Queue Length [ft/ln]	155.22	21.18	232.91	104.16	71.06	71.06	53.17
95th-Percentile Queue Length [veh/ln]	10.30	1.52	14.32	7.50	5.12	5.12	3.83
95th-Percentile Queue Length [ft/ln]	257.39	38.12	358.05	187.49	127.91	127.91	95.70

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.70	3.04	17.84	14.42	41.92	40.72
Movement LOS	D	A	B	B	D	D
d_A, Approach Delay [s/veh]	21.90		17.12		41.59	
Approach LOS	C		B		D	
d_I, Intersection Delay [s/veh]	21.69					
Intersection LOS	C					
Intersection V/C	0.686					

Emissions

Vehicle Miles Traveled [mph]	101.87	79.89	223.28	59.36	7.78	7.78	5.93
Stops [stops/h]	496.72	67.77	745.30	166.66	113.70	113.70	85.07
Fuel consumption [US gal/h]	11.30	3.95	17.88	4.35	2.04	2.04	1.53
CO [g/h]	789.81	275.86	1250.07	303.92	142.92	142.92	106.69
NOx [g/h]	153.67	53.67	243.22	59.13	27.81	27.81	20.76
VOC [g/h]	183.05	63.93	289.72	70.44	33.12	33.12	24.73

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1360	716	360
d_b, Bicycle Delay [s]	4.61	18.56	30.26
l_b,int, Bicycle LOS Score for Intersection	2.419	2.875	2.165
Bicycle LOS	B	C	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 24: Silva Valley Pkwy/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	69.7
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.021

Intersection Setup

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Approach	Northbound				Southbound			Westbound			Northeastbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	550.0	100.0	100.0	100.0	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No					
Crosswalk	No				No			No			No		

Volumes

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Base Volume Input [veh/h]	0	78	514	0	0	391	671	941	0	298	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	1	0	0	-1	0	-7	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	47	0	0	30	0	0	0
Total Hourly Volume [veh/h]	0	78	515	0	0	390	624	934	0	268	0	0	0
Peak Hour Factor	1.000	0.790	0.790	1.000	1.0000	0.7900	0.7900	0.7900	0.7900	0.7900	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	25	163	0	0	123	197	296	0	85	0	0	0
Total Analysis Volume [veh/h]	0	99	652	0	0	494	790	1182	0	339	0	0	0
Presence of On-Street Parking	No			No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	6	0	0	8	0	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	20	54	0	0	26	0	0	23	0	0	0	0
Amber [s]	0.0	3.7	4.8	0.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0
All red [s]	0.0	0.5	2.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	4.8	0.0	0.0	4.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	61	0	0	33	0	0	29	0	0	0	0
Lead / Lag	-	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	8	8	0	0	8	0	0	8	0	0	0	0
Vehicle Extension [s]	0.0	2.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No	Yes			Yes			No				
Maximum Recall		No	No			No			No				
Pedestrian Recall		No	No			No			No				

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	R	
C, Cycle Length [s]	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80	
g_i, Effective Green Time [s]	7	51	40	40	26	26	26	
g / C, Green / Cycle	0.08	0.57	0.44	0.44	0.29	0.29	0.29	
(v / s)_i Volume / Saturation Flow Rate	0.06	0.18	0.14	0.50	0.33	0.33	0.21	
s, saturation flow rate [veh/h]	1781	3560	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	147	2027	1567	699	518	518	462	
d1, Uniform Delay [s]	40.10	10.22	16.39	25.20	31.91	31.91	28.77	
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.17	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	2.00	0.42	0.53	75.64	84.51	84.51	3.51	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.67	0.32	0.32	1.13	1.14	1.14	0.73	
d, Delay for Lane Group [s/veh]	42.10	10.64	16.92	100.84	116.42	116.42	32.28	
Lane Group LOS	D	B	B	F	F	F	C	
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	2.18	3.27	3.30	28.56	22.99	22.99	6.85	
50th-Percentile Queue Length [ft/ln]	54.62	81.67	82.50	714.05	574.84	574.84	171.16	
95th-Percentile Queue Length [veh/ln]	3.93	5.88	5.94	40.69	33.40	33.40	11.14	
95th-Percentile Queue Length [ft/ln]	98.32	147.01	148.50	1017.24	835.03	835.03	278.44	

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.10	42.10	10.64	0.00	0.00	16.92	100.84	116.42	116.42	32.28	0.00	0.00	0.00
Movement LOS	D	D	B			B	F	F	F	C			
d_A, Approach Delay [s/veh]	14.79				68.55			97.67			0.00		
Approach LOS	B				E			F			A		
d_I, Intersection Delay [s/veh]	69.65												
Intersection LOS	E												
Intersection V/C	1.021												

Emissions

Vehicle Miles Traveled [mph]	17.54	115.54	67.55	108.02	20.47	20.47	11.74	
Stops [stops/h]	87.40	261.36	264.00	1142.49	919.75	919.75	273.86	
Fuel consumption [US gal/h]	2.05	7.61	5.94	26.97	19.92	19.92	4.22	
CO [g/h]	143.52	532.12	415.20	1885.09	1392.68	1392.68	295.22	
NOx [g/h]	27.92	103.53	80.78	366.77	270.96	270.96	57.44	
VOC [g/h]	33.26	123.32	96.23	436.89	322.77	322.77	68.42	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1204	582	516	0
d_b, Bicycle Delay [s]	7.12	22.61	24.79	45.00
l_b,int, Bicycle LOS Score for Intersection	2.179	2.658	4.119	4.132
Bicycle LOS	B	B	D	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 25: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Base Volume Input [veh/h]	0	658	328	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-3	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	655	330	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	164	83	0	0	0
Total Analysis Volume [veh/h]	0	655	330	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	10.06
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.06	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 26: Latrobe/Wetsl-Oviatt

Control Type:	Two-way stop	Delay (sec / veh):	13.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Base Volume Input [veh/h]	0	445	227	38	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-3	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	442	229	38	4	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	111	57	10	1	0
Total Analysis Volume [veh/h]	0	442	229	38	4	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.78	0.00	0.00	0.00	13.85	9.64
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.74	0.74
d_A, Approach Delay [s/veh]	0.00		0.00		13.85	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.08					
Intersection LOS	B					

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Intersection Level Of Service Report
Intersection 27: Latrobe/S. Shingle

Control Type:	Two-way stop	Delay (sec / veh):	20.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.142

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Base Volume Input [veh/h]	6	238	41	52	127	9	47	81	0	37	73	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-3	0	0	2	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	235	41	52	129	9	47	81	0	37	73	43
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	59	10	13	32	2	12	20	0	9	18	11
Total Analysis Volume [veh/h]	6	235	41	52	129	9	47	81	0	37	73	43
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free			Free			Stop			Stop		
Flared Lane							No			No		
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance							No			No		
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.00	0.00	0.14	0.19	0.00	0.11	0.16	0.05
d_M, Delay for Movement [s/veh]	7.50	0.00	0.00	7.86	0.00	0.00	20.32	17.72	13.38	18.90	16.74	13.23
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.09	0.09	0.09	1.41	1.41	1.41	1.39	1.39	1.39
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.26	2.26	2.26	2.26	35.13	35.13	35.13	34.85	34.85	34.85
d_A, Approach Delay [s/veh]	0.16			2.15			18.67			16.27		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	7.08											
Intersection LOS	C											

Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	655	344	39	0
2	635	334	38	0
3	622	327	37	0
4	583	306	35	0
5	517	272	31	0
6	511	268	30	0
7	504	265	30	0
8	458	241	27	0
9	452	237	27	0
10	445	234	27	0
11	386	203	23	0
12	360	189	21	0
13	354	186	21	0
14	262	138	16	0
15	262	138	16	0
16	183	96	11	0
17	105	55	6	0
18	105	55	6	0
19	59	31	4	0
20	33	17	2	0
21	20	10	1	0
22	7	3	0	0
23	7	3	0	0
24	7	3	0	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	999	1	39	No	No	No	No	No	No	No	No	No	No
2	1	969	1	38	No	No	No	No	No	No	No	No	No	No
3	1	949	1	37	No	No	No	No	No	No	No	No	No	No
4	1	889	1	35	No	No	No	No	No	No	No	No	No	No
5	1	789	1	31	No	No	No	No	No	No	No	No	No	No
6	1	779	1	30	No	No	No	No	No	No	No	No	No	No
7	1	769	1	30	No	No	No	No	No	No	No	No	No	No
8	1	699	1	27	No	No	No	No	No	No	No	No	No	No
9	1	689	1	27	No	No	No	No	No	No	No	No	No	No
10	1	679	1	27	No	No	No	No	No	No	No	No	No	No
11	1	589	1	23	No	No	No	No	No	No	No	No	No	No
12	1	549	1	21	No	No	No	No	No	No	No	No	No	No
13	1	540	1	21	No	No	No	No	No	No	No	No	No	No
14	1	400	1	16	No	No	No	No	No	No	No	No	No	No
15	1	400	1	16	No	No	No	No	No	No	No	No	No	No
16	1	279	1	11	No	No	No	No	No	No	No	No	No	No
17	1	160	1	6	No	No	No	No	No	No	No	No	No	No
18	1	160	1	6	No	No	No	No	No	No	No	No	No	No
19	1	90	1	4	No	No	No	No	No	No	No	No	No	No
20	1	50	1	2	No	No	No	No	No	No	No	No	No	No
21	1	30	1	1	No	No	No	No	No	No	No	No	No	No
22	1	10	1	0	No	No	No	No	No	No	No	No	No	No
23	1	10	1	0	No	No	No	No	No	No	No	No	No	No
24	1	10	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.1	19.8
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:09	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	39	0
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1038	1038
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 12: Latrobe Rd/Royal Oaks Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	446	330	261	0
2	433	320	253	0
3	424	314	248	0
4	397	294	232	0
5	352	261	206	0
6	348	257	204	0
7	343	254	201	0
8	312	231	183	0
9	308	228	180	0
10	303	224	177	0
11	263	195	154	0
12	245	182	144	0
13	241	178	141	0
14	178	132	104	0
15	178	132	104	0
16	125	92	73	0
17	71	53	42	0
18	71	53	42	0
19	40	30	23	0
20	22	17	13	0
21	13	10	8	0
22	4	3	3	0
23	4	3	3	0
24	4	3	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	776	1	261	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
2	2	753	1	253	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
3	2	738	1	248	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
4	2	691	1	232	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
5	2	613	1	206	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No
6	2	605	1	204	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No
7	2	597	1	201	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
8	2	543	1	183	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
9	2	536	1	180	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
10	2	527	1	177	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
11	2	458	1	154	No	No	Yes	Yes	No	No	No	No	No	No
12	2	427	1	144	No	No	Yes	Yes	No	No	No	No	No	No
13	2	419	1	141	No	No	No	Yes	No	No	No	No	No	No
14	2	310	1	104	No	No	No	No	No	No	No	No	No	No
15	2	310	1	104	No	No	No	No	No	No	No	No	No	No
16	2	217	1	73	No	No	No	No	No	No	No	No	No	No
17	2	124	1	42	No	No	No	No	No	No	No	No	No	No
18	2	124	1	42	No	No	No	No	No	No	No	No	No	No
19	2	70	1	23	No	No	No	No	No	No	No	No	No	No
20	2	39	1	13	No	No	No	No	No	No	No	No	No	No
21	2	23	1	8	No	No	No	No	No	No	No	No	No	No
22	2	7	1	3	No	No	No	No	No	No	No	No	No	No
23	2	7	1	3	No	No	No	No	No	No	No	No	No	No
24	2	7	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					6	10	12	13	0	3	4	10	10	4

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	17.4	22.3
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:15	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	261	0
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1037	1037
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

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Signal Warrants Report For Intersection 13: Golden Foothill/Robert J Mathews

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	1021	239	492
2	990	232	477
3	970	227	467
4	909	213	438
5	807	189	389
6	796	186	384
7	786	184	379
8	715	167	344
9	704	165	339
10	694	163	335
11	602	141	290
12	562	131	271
13	551	129	266
14	408	96	197
15	408	96	197
16	286	67	138
17	163	38	79
18	163	38	79
19	92	22	44
20	51	12	25
21	31	7	15
22	10	2	5
23	10	2	5
24	10	2	5

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1260	1	492	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1222	1	477	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1197	1	467	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1122	1	438	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	996	1	389	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	982	1	384	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1	970	1	379	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	1	882	1	344	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	1	869	1	339	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	1	857	1	335	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
11	1	743	1	290	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
12	1	693	1	271	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
13	1	680	1	266	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
14	1	504	1	197	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
15	1	504	1	197	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
16	1	353	1	138	No	No	Yes	Yes	No	No	No	No	No	No
17	1	201	1	79	No	No	No	No	No	No	No	No	No	No
18	1	201	1	79	No	No	No	No	No	No	No	No	No	No
19	1	114	1	44	No	No	No	No	No	No	No	No	No	No
20	1	63	1	25	No	No	No	No	No	No	No	No	No	No
21	1	38	1	15	No	No	No	No	No	No	No	No	No	No
22	1	12	1	5	No	No	No	No	No	No	No	No	No	No
23	1	12	1	5	No	No	No	No	No	No	No	No	No	No
24	1	12	1	5	No	No	No	No	No	No	No	No	No	No
Hours Met					15	15	16	16	10	13	13	15	13	9

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	939.5
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	128:23
Delay Condition Met	Yes
Volume on Minor Street Approach During Same Hour	492
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1752
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	Yes
Warrant Met for Intersection	**Yes**

Signal Warrants Report For Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	238	812	321	63
2	231	788	311	61
3	226	771	305	60
4	212	723	286	56
5	188	641	254	50
6	186	633	250	49
7	183	625	247	49
8	167	568	225	44
9	164	560	221	43
10	162	552	218	43
11	140	479	189	37
12	131	447	177	35
13	129	438	173	34
14	95	325	128	25
15	95	325	128	25
16	67	227	90	18
17	38	130	51	10
18	38	130	51	10
19	21	73	29	6
20	12	41	16	3
21	7	24	10	2
22	2	8	3	1
23	2	8	3	1
24	2	8	3	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1050	1	321	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1019	1	311	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	997	1	305	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	935	1	286	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
5	1	829	1	254	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
6	1	819	1	250	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
7	1	808	1	247	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
8	1	735	1	225	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
9	1	724	1	221	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
10	1	714	1	218	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
11	1	619	1	189	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
12	1	578	1	177	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
13	1	567	1	173	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
14	1	420	1	128	No	Yes	Yes	Yes	No	No	No	Yes	No	No
15	1	420	1	128	No	Yes	Yes	Yes	No	No	No	Yes	No	No
16	1	294	1	90	No	No	No	Yes	No	No	No	No	No	No
17	1	168	1	51	No	No	No	No	No	No	No	No	No	No
18	1	168	1	51	No	No	No	No	No	No	No	No	No	No
19	1	94	1	29	No	No	No	No	No	No	No	No	No	No
20	1	53	1	16	No	No	No	No	No	No	No	No	No	No
21	1	31	1	10	No	No	No	No	No	No	No	No	No	No
22	1	10	1	3	No	No	No	No	No	No	No	No	No	No
23	1	10	1	3	No	No	No	No	No	No	No	No	No	No
24	1	10	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					13	15	15	16	7	11	13	15	10	3

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	26	12.5
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2:19	0:13
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	321	63
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1434	1434
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

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Signal Warrants Report For Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	203	201	223
2	197	195	216
3	193	191	212
4	181	179	198
5	160	159	176
6	158	157	174
7	156	155	172
8	142	141	156
9	140	139	154
10	138	137	152
11	120	119	132
12	112	111	123
13	110	109	120
14	81	80	89
15	81	80	89
16	57	56	62
17	32	32	36
18	32	32	36
19	18	18	20
20	10	10	11
21	6	6	7
22	2	2	2
23	2	2	2
24	2	2	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	404	2	223	No	No	No	Yes	No	No	No	No	No	No
2	2	392	2	216	No	No	No	Yes	No	No	No	No	No	No
3	2	384	2	212	No	No	No	Yes	No	No	No	No	No	No
4	2	360	2	198	No	No	No	Yes	No	No	No	No	No	No
5	2	319	2	176	No	No	No	No	No	No	No	No	No	No
6	2	315	2	174	No	No	No	No	No	No	No	No	No	No
7	2	311	2	172	No	No	No	No	No	No	No	No	No	No
8	2	283	2	156	No	No	No	No	No	No	No	No	No	No
9	2	279	2	154	No	No	No	No	No	No	No	No	No	No
10	2	275	2	152	No	No	No	No	No	No	No	No	No	No
11	2	239	2	132	No	No	No	No	No	No	No	No	No	No
12	2	223	2	123	No	No	No	No	No	No	No	No	No	No
13	2	219	2	120	No	No	No	No	No	No	No	No	No	No
14	2	161	2	89	No	No	No	No	No	No	No	No	No	No
15	2	161	2	89	No	No	No	No	No	No	No	No	No	No
16	2	113	2	62	No	No	No	No	No	No	No	No	No	No
17	2	64	2	36	No	No	No	No	No	No	No	No	No	No
18	2	64	2	36	No	No	No	No	No	No	No	No	No	No
19	2	36	2	20	No	No	No	No	No	No	No	No	No	No
20	2	20	2	11	No	No	No	No	No	No	No	No	No	No
21	2	12	2	7	No	No	No	No	No	No	No	No	No	No
22	2	4	2	2	No	No	No	No	No	No	No	No	No	No
23	2	4	2	2	No	No	No	No	No	No	No	No	No	No
24	2	4	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	4	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	11.7
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:43
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	223
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	627
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

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Signal Warrants Report For Intersection 16: Carson Crossing Rd/Calypso Cir.

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	223	189	163
2	216	183	158
3	212	180	155
4	198	168	145
5	176	149	129
6	174	147	127
7	172	146	126
8	156	132	114
9	154	130	112
10	152	129	111
11	132	112	96
12	123	104	90
13	120	102	88
14	89	76	65
15	89	76	65
16	62	53	46
17	36	30	26
18	36	30	26
19	20	17	15
20	11	9	8
21	7	6	5
22	2	2	2
23	2	2	2
24	2	2	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	412	1	163	No	No	No	Yes	No	No	No	No	No	No
2	2	399	1	158	No	No	No	Yes	No	No	No	No	No	No
3	2	392	1	155	No	No	No	Yes	No	No	No	No	No	No
4	2	366	1	145	No	No	No	Yes	No	No	No	No	No	No
5	2	325	1	129	No	No	No	No	No	No	No	No	No	No
6	2	321	1	127	No	No	No	No	No	No	No	No	No	No
7	2	318	1	126	No	No	No	No	No	No	No	No	No	No
8	2	288	1	114	No	No	No	No	No	No	No	No	No	No
9	2	284	1	112	No	No	No	No	No	No	No	No	No	No
10	2	281	1	111	No	No	No	No	No	No	No	No	No	No
11	2	244	1	96	No	No	No	No	No	No	No	No	No	No
12	2	227	1	90	No	No	No	No	No	No	No	No	No	No
13	2	222	1	88	No	No	No	No	No	No	No	No	No	No
14	2	165	1	65	No	No	No	No	No	No	No	No	No	No
15	2	165	1	65	No	No	No	No	No	No	No	No	No	No
16	2	115	1	46	No	No	No	No	No	No	No	No	No	No
17	2	66	1	26	No	No	No	No	No	No	No	No	No	No
18	2	66	1	26	No	No	No	No	No	No	No	No	No	No
19	2	37	1	15	No	No	No	No	No	No	No	No	No	No
20	2	20	1	8	No	No	No	No	No	No	No	No	No	No
21	2	13	1	5	No	No	No	No	No	No	No	No	No	No
22	2	4	1	2	No	No	No	No	No	No	No	No	No	No
23	2	4	1	2	No	No	No	No	No	No	No	No	No	No
24	2	4	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	4	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	13.2
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:35
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	163
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	575
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 17: Carson Crossing Rd/Four Seasons Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	84	163	37
2	81	158	36
3	80	155	35
4	75	145	33
5	66	129	29
6	66	127	29
7	65	126	28
8	59	114	26
9	58	112	26
10	57	111	25
11	50	96	22
12	46	90	20
13	45	88	20
14	34	65	15
15	34	65	15
16	24	46	10
17	13	26	6
18	13	26	6
19	8	15	3
20	4	8	2
21	3	5	1
22	1	2	0
23	1	2	0
24	1	2	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	247	1	37	No	No	No	No	No	No	No	No	No	No
2	3	239	1	36	No	No	No	No	No	No	No	No	No	No
3	3	235	1	35	No	No	No	No	No	No	No	No	No	No
4	3	220	1	33	No	No	No	No	No	No	No	No	No	No
5	3	195	1	29	No	No	No	No	No	No	No	No	No	No
6	3	193	1	29	No	No	No	No	No	No	No	No	No	No
7	3	191	1	28	No	No	No	No	No	No	No	No	No	No
8	3	173	1	26	No	No	No	No	No	No	No	No	No	No
9	3	170	1	26	No	No	No	No	No	No	No	No	No	No
10	3	168	1	25	No	No	No	No	No	No	No	No	No	No
11	3	146	1	22	No	No	No	No	No	No	No	No	No	No
12	3	136	1	20	No	No	No	No	No	No	No	No	No	No
13	3	133	1	20	No	No	No	No	No	No	No	No	No	No
14	3	99	1	15	No	No	No	No	No	No	No	No	No	No
15	3	99	1	15	No	No	No	No	No	No	No	No	No	No
16	3	70	1	10	No	No	No	No	No	No	No	No	No	No
17	3	39	1	6	No	No	No	No	No	No	No	No	No	No
18	3	39	1	6	No	No	No	No	No	No	No	No	No	No
19	3	23	1	3	No	No	No	No	No	No	No	No	No	No
20	3	12	1	2	No	No	No	No	No	No	No	No	No	No
21	3	8	1	1	No	No	No	No	No	No	No	No	No	No
22	3	3	1	0	No	No	No	No	No	No	No	No	No	No
23	3	3	1	0	No	No	No	No	No	No	No	No	No	No
24	3	3	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	8.2
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:05
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	37
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	284
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 18: White Rock Rd/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	601	412	90	75
2	583	400	87	73
3	571	391	86	71
4	535	367	80	67
5	475	325	71	59
6	469	321	70	59
7	463	317	69	58
8	421	288	63	53
9	415	284	62	52
10	409	280	61	51
11	355	243	53	44
12	331	227	50	41
13	325	222	49	41
14	240	165	36	30
15	240	165	36	30
16	168	115	25	21
17	96	66	14	12
18	96	66	14	12
19	54	37	8	7
20	30	21	5	4
21	18	12	3	2
22	6	4	1	1
23	6	4	1	1
24	6	4	1	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1013	1	90	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
2	2	983	1	87	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
3	2	962	1	86	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
4	2	902	1	80	No	No	No	No	Yes	Yes	Yes	Yes	No	No
5	2	800	1	71	No	No	No	No	No	Yes	Yes	Yes	No	No
6	2	790	1	70	No	No	No	No	No	Yes	Yes	Yes	No	No
7	2	780	1	69	No	No	No	No	No	Yes	Yes	Yes	No	No
8	2	709	1	63	No	No	No	No	No	No	Yes	Yes	No	No
9	2	699	1	62	No	No	No	No	No	No	Yes	Yes	No	No
10	2	689	1	61	No	No	No	No	No	No	Yes	Yes	No	No
11	2	598	1	53	No	No	No	No	No	No	No	Yes	No	No
12	2	558	1	50	No	No	No	No	No	No	No	Yes	No	No
13	2	547	1	49	No	No	No	No	No	No	No	Yes	No	No
14	2	405	1	36	No	No	No	No	No	No	No	No	No	No
15	2	405	1	36	No	No	No	No	No	No	No	No	No	No
16	2	283	1	25	No	No	No	No	No	No	No	No	No	No
17	2	162	1	14	No	No	No	No	No	No	No	No	No	No
18	2	162	1	14	No	No	No	No	No	No	No	No	No	No
19	2	91	1	8	No	No	No	No	No	No	No	No	No	No
20	2	51	1	5	No	No	No	No	No	No	No	No	No	No
21	2	30	1	3	No	No	No	No	No	No	No	No	No	No
22	2	10	1	1	No	No	No	No	No	No	No	No	No	No
23	2	10	1	1	No	No	No	No	No	No	No	No	No	No
24	2	10	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	3	4	7	10	13	0	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	29.6	32.2
Number of Lanes on Minor Street Approach	2	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:44	0:40
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	90	75
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1178	1178
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

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Signal Warrants Report For Intersection 25: New Intersection

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	655	330	0
2	635	320	0
3	622	314	0
4	583	294	0
5	517	261	0
6	511	257	0
7	504	254	0
8	458	231	0
9	452	228	0
10	445	224	0
11	386	195	0
12	360	182	0
13	354	178	0
14	262	132	0
15	262	132	0
16	183	92	0
17	105	53	0
18	105	53	0
19	59	30	0
20	33	17	0
21	20	10	0
22	7	3	0
23	7	3	0
24	7	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	985	1	0	No	No	No	No	No	No	No	No	No	No
2	1	955	1	0	No	No	No	No	No	No	No	No	No	No
3	1	936	1	0	No	No	No	No	No	No	No	No	No	No
4	1	877	1	0	No	No	No	No	No	No	No	No	No	No
5	1	778	1	0	No	No	No	No	No	No	No	No	No	No
6	1	768	1	0	No	No	No	No	No	No	No	No	No	No
7	1	758	1	0	No	No	No	No	No	No	No	No	No	No
8	1	689	1	0	No	No	No	No	No	No	No	No	No	No
9	1	680	1	0	No	No	No	No	No	No	No	No	No	No
10	1	669	1	0	No	No	No	No	No	No	No	No	No	No
11	1	581	1	0	No	No	No	No	No	No	No	No	No	No
12	1	542	1	0	No	No	No	No	No	No	No	No	No	No
13	1	532	1	0	No	No	No	No	No	No	No	No	No	No
14	1	394	1	0	No	No	No	No	No	No	No	No	No	No
15	1	394	1	0	No	No	No	No	No	No	No	No	No	No
16	1	275	1	0	No	No	No	No	No	No	No	No	No	No
17	1	158	1	0	No	No	No	No	No	No	No	No	No	No
18	1	158	1	0	No	No	No	No	No	No	No	No	No	No
19	1	89	1	0	No	No	No	No	No	No	No	No	No	No
20	1	50	1	0	No	No	No	No	No	No	No	No	No	No
21	1	30	1	0	No	No	No	No	No	No	No	No	No	No
22	1	10	1	0	No	No	No	No	No	No	No	No	No	No
23	1	10	1	0	No	No	No	No	No	No	No	No	No	No
24	1	10	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	10.1
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	985
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 26: Latrobe/Wetsl-Oviatt

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	442	267	4
2	429	259	4
3	420	254	4
4	393	238	4
5	349	211	3
6	345	208	3
7	340	206	3
8	309	187	3
9	305	184	3
10	301	182	3
11	261	158	2
12	243	147	2
13	239	144	2
14	177	107	2
15	177	107	2
16	124	75	1
17	71	43	1
18	71	43	1
19	40	24	0
20	22	13	0
21	13	8	0
22	4	3	0
23	4	3	0
24	4	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	709	1	4	No	No	No	No	No	No	No	No	No	No
2	1	688	1	4	No	No	No	No	No	No	No	No	No	No
3	1	674	1	4	No	No	No	No	No	No	No	No	No	No
4	1	631	1	4	No	No	No	No	No	No	No	No	No	No
5	1	560	1	3	No	No	No	No	No	No	No	No	No	No
6	1	553	1	3	No	No	No	No	No	No	No	No	No	No
7	1	546	1	3	No	No	No	No	No	No	No	No	No	No
8	1	496	1	3	No	No	No	No	No	No	No	No	No	No
9	1	489	1	3	No	No	No	No	No	No	No	No	No	No
10	1	483	1	3	No	No	No	No	No	No	No	No	No	No
11	1	419	1	2	No	No	No	No	No	No	No	No	No	No
12	1	390	1	2	No	No	No	No	No	No	No	No	No	No
13	1	383	1	2	No	No	No	No	No	No	No	No	No	No
14	1	284	1	2	No	No	No	No	No	No	No	No	No	No
15	1	284	1	2	No	No	No	No	No	No	No	No	No	No
16	1	199	1	1	No	No	No	No	No	No	No	No	No	No
17	1	114	1	1	No	No	No	No	No	No	No	No	No	No
18	1	114	1	1	No	No	No	No	No	No	No	No	No	No
19	1	64	1	0	No	No	No	No	No	No	No	No	No	No
20	1	35	1	0	No	No	No	No	No	No	No	No	No	No
21	1	21	1	0	No	No	No	No	No	No	No	No	No	No
22	1	7	1	0	No	No	No	No	No	No	No	No	No	No
23	1	7	1	0	No	No	No	No	No	No	No	No	No	No
24	1	7	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	13.8
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	4
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	713
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 27: Latrobe/S. Shingle

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	282	190	153	128
2	274	184	148	124
3	268	181	145	122
4	251	169	136	114
5	223	150	121	101
6	220	148	119	100
7	217	146	118	99
8	197	133	107	90
9	195	131	106	88
10	192	129	104	87
11	166	112	90	76
12	155	105	84	70
13	152	103	83	69
14	113	76	61	51
15	113	76	61	51
16	79	53	43	36
17	45	30	24	20
18	45	30	24	20
19	25	17	14	12
20	14	10	8	6
21	8	6	5	4
22	3	2	2	1
23	3	2	2	1
24	3	2	2	1

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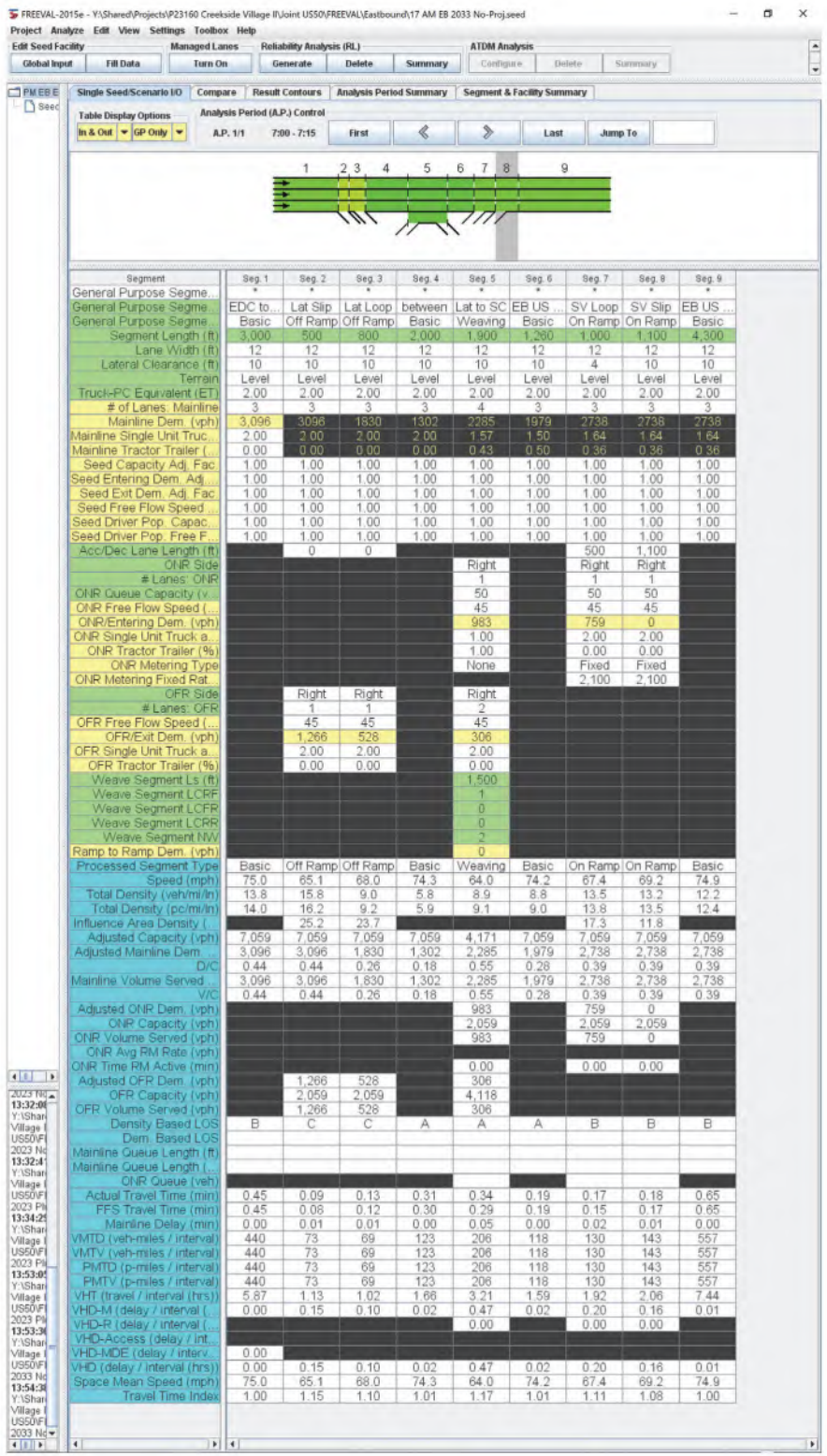
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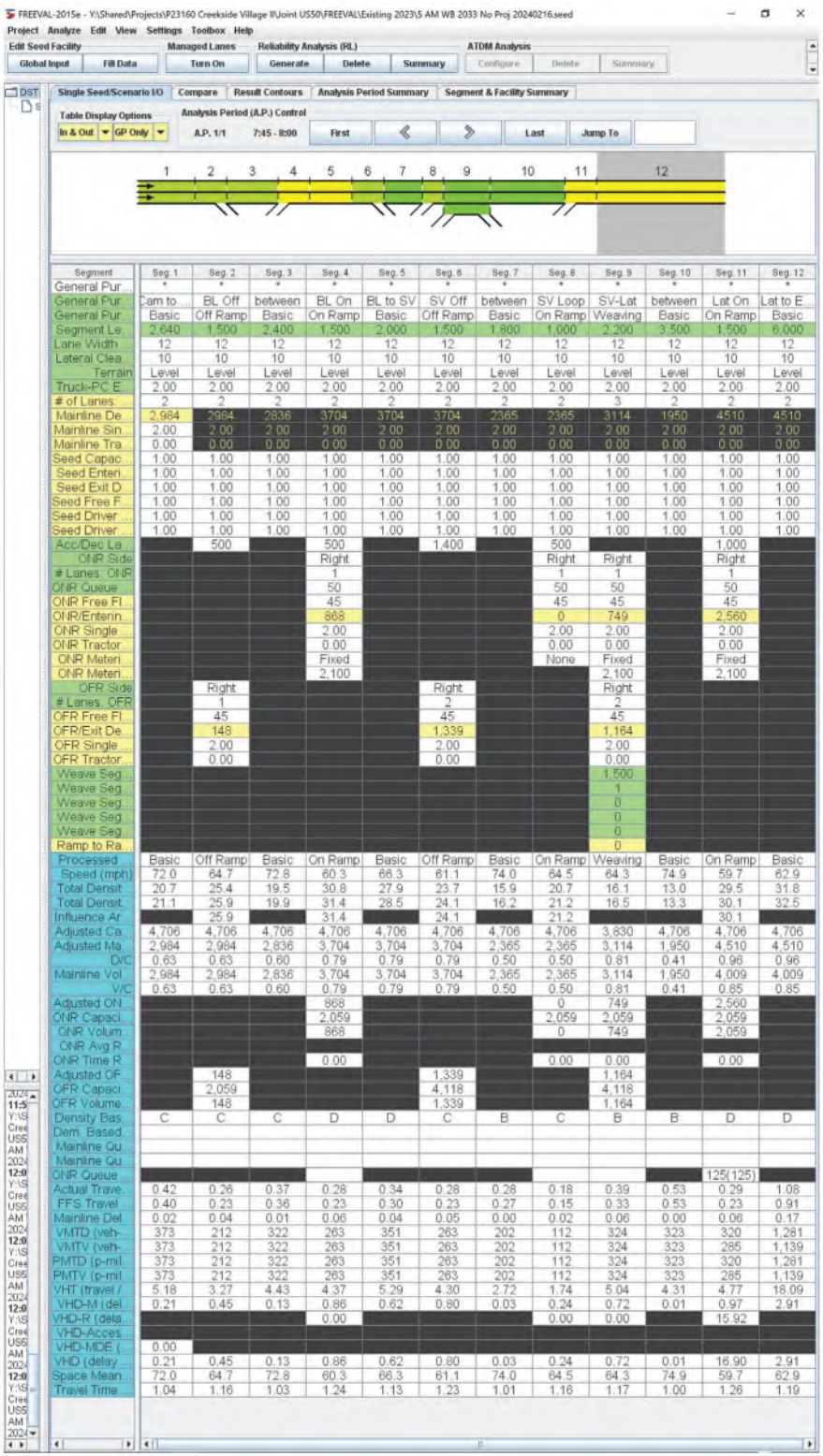
Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	472	1	153	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
2	1	458	1	148	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
3	1	449	1	145	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
4	1	420	1	136	No	Yes	Yes	Yes	No	No	No	Yes	No	No
5	1	373	1	121	No	No	Yes	Yes	No	No	No	No	No	No
6	1	368	1	119	No	No	Yes	Yes	No	No	No	No	No	No
7	1	363	1	118	No	No	Yes	Yes	No	No	No	No	No	No
8	1	330	1	107	No	No	No	Yes	No	No	No	No	No	No
9	1	326	1	106	No	No	No	Yes	No	No	No	No	No	No
10	1	321	1	104	No	No	No	Yes	No	No	No	No	No	No
11	1	278	1	90	No	No	No	No	No	No	No	No	No	No
12	1	260	1	84	No	No	No	No	No	No	No	No	No	No
13	1	255	1	83	No	No	No	No	No	No	No	No	No	No
14	1	189	1	61	No	No	No	No	No	No	No	No	No	No
15	1	189	1	61	No	No	No	No	No	No	No	No	No	No
16	1	132	1	43	No	No	No	No	No	No	No	No	No	No
17	1	75	1	24	No	No	No	No	No	No	No	No	No	No
18	1	75	1	24	No	No	No	No	No	No	No	No	No	No
19	1	42	1	14	No	No	No	No	No	No	No	No	No	No
20	1	24	1	8	No	No	No	No	No	No	No	No	No	No
21	1	14	1	5	No	No	No	No	No	No	No	No	No	No
22	1	5	1	2	No	No	No	No	No	No	No	No	No	No
23	1	5	1	2	No	No	No	No	No	No	No	No	No	No
24	1	5	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	10	0	0	0	4	3	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.3	18.7
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:41	0:39
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	153	128
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	753	753
Number of Approaches on Intersection	4	4
Total Volume Condition Met	No	No
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	





EPAP PM no Project

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Scenario 2 2033 PM with CCSP, No Project
2/14/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	El Dorado Hills Blvd/Serrano Pkwy	Signalized	HCM 7th Edition	NB Thru	0.974	55.7	E
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	EB Right	1.242	112.0	F
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	WB Right	0.985	50.7	D
4	Latrobe Rd/US 50 EB	Signalized	HCM 7th Edition	EB Right	0.938	58.1	E
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	SB Left	1.016	52.3	D
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	WB Left	0.786	79.6	E
7	Latrobe Rd/Golden Foothill Pkwy N	Signalized	HCM 7th Edition	SB Right	1.069	80.0	E
8	Latrobe Rd/Suncast Ln	Signalized	HCM 7th Edition	EB Left	0.875	22.6	C
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	EB Left	1.102	132.3	F
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	NB Left	0.785	19.1	B
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	WB Left	0.011	24.9	C
12	Latrobe Rd/Royal Oaks Dr	Two-way stop	HCM 7th Edition	WB Left	0.355	35.9	E
13	Golden Foothill/Robert J Mathews	Two-way stop	HCM 7th Edition	NB Left	27.742	10,000.0	F
14	Investment Blvd/Robert J Mathews Pkwy	All-way stop	HCM 7th Edition	NB Thru	1.351	135.9	F
15	Golden Foothill Pkwy/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.374	21.4	C
16	Carson Crossing Rd/Calypso Cir.	Two-way stop	HCM 7th Edition	NB Left	0.308	20.2	C
17	Carson Crossing Rd/Four Seasons Dr	All-way stop	HCM 7th Edition	NB Thru	0.147	8.2	A
	White Rock Rd/Carson		HCM 7th				

18	White Rock Rd/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	1.659	411.5	F
19	White Rock Rd/Windfield Way	Signalized	HCM 7th Edition	SB Thru	0.581	32.9	C
20	White Rock Rd/Post St	Signalized	HCM 7th Edition	SB Left	0.603	67.2	E
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 6th Edition	EB Thru	1.375	259.5	F
22	White Rock Rd/Clarksville Crossing	Signalized	HCM 7th Edition	SB Right	0.901	37.9	D
23	White Rock Rd/US 50 EB	Signalized	HCM 7th Edition	NB Left	0.775	49.9	D
24	Silva Valley Pkwy/US 50 WB	Signalized	HCM 7th Edition	WB Left	0.686	23.0	C
25	New Intersection	Two-way stop	HCM 6th Edition	SB Thru	0.005	0.0	A
26	Latrobe/Wetsl-Oviatt	Two-way stop	HCM 7th Edition	EB Left	0.074	15.7	C
27	Latrobe/S. Shingle	Two-way stop	HCM 7th Edition	WB Left	0.147	19.2	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: El Dorado Hills Blvd/Serrano Pkwy

Control Type:	Signalized	Delay (sec / veh):	55.7
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.974

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	260.0	100.0	100.0	100.0	110.00	100.00	100.00	100.00	100.00	100.00	430.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No			No		
Crosswalk	No				Yes			Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Base Volume Input [veh/h]	3	113	1766	404	35	1126	67	53	25	85	339	61	22
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-7	0	0	1	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	20	0	0	26	0	0	7
Total Hourly Volume [veh/h]	3	113	1759	404	35	1127	47	53	25	59	339	61	15
Peak Hour Factor	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	32	505	116	10	324	14	15	7	17	97	18	4
Total Analysis Volume [veh/h]	3	130	2022	464	40	1295	54	61	29	68	390	70	17
Presence of On-Street Parking	No			No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	1	6	0	7	7	0	0	8	0
Auxiliary Signal Groups													
Maximum Green [s]	0	25	40	0	25	40	0	35	35	0	0	35	0
Amber [s]	0.0	3.0	4.7	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	12	0	0	12	0	0	0	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	100.0	245.0	0.0	100.0	100.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	29	46	0	29	46	0	39	39	0	0	39	0
Lead / Lag	-	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	3	6	0	3	3	0	3	3	0	0	3	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	4.0	0.0
Minimum Recall		No	No		No	No			No			No	
Maximum Recall		No	No		No	No			No			No	
Pedestrian Recall		No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C
C, Cycle Length [s]	81	81	81	81	81	81	81	81	81	81
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	40	40	2	35	35	7	7	15	15
g / C, Green / Cycle	0.10	0.49	0.49	0.03	0.43	0.43	0.08	0.08	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.07	0.57	0.29	0.02	0.36	0.36	0.03	0.06	0.13	0.13
s, saturation flow rate [veh/h]	1781	3560	1589	1781	1870	1844	1781	1664	1781	1791
c, Capacity [veh/h]	170	1750	781	51	794	783	147	137	321	322
d1, Uniform Delay [s]	36.03	20.72	14.88	39.32	21.16	21.19	35.52	36.43	31.62	31.62
k, delay calibration	0.04	0.07	0.08	0.04	0.20	0.20	0.04	0.04	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.96	70.96	0.54	9.24	4.99	5.17	0.70	2.48	4.77	4.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	1.16	0.59	0.78	0.85	0.86	0.42	0.71	0.74	0.74
d, Delay for Lane Group [s/veh]	38.99	91.68	15.42	48.56	26.15	26.37	36.21	38.91	36.39	36.36
Lane Group LOS	D	F	B	D	C	C	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.57	30.85	5.30	0.88	11.12	11.04	1.16	1.93	4.72	4.74
50th-Percentile Queue Length [ft/ln]	64.15	771.29	132.47	22.09	277.97	276.07	28.90	48.34	118.03	118.61
95th-Percentile Queue Length [veh/ln]	4.62	44.37	9.07	1.59	16.59	16.49	2.08	3.48	8.28	8.32
95th-Percentile Queue Length [ft/ln]	115.47	1109.21	226.85	39.76	414.68	412.31	52.02	87.01	207.11	207.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.99	38.99	91.68	15.42	48.56	26.25	26.37	36.21	38.91	38.91	36.38	36.36	36.36
Movement LOS	D	D	F	B	D	C	C	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	75.49				26.90			37.87			36.37		
Approach LOS	E				C			D			D		
d_I, Intersection Delay [s/veh]	55.66												
Intersection LOS	E												
Intersection V/C	0.974												

Emissions

Vehicle Miles Traveled [mph]	31.76	482.92	110.82	5.88	99.74	98.60	2.61	4.14	12.45	12.51
Stops [stops/h]	113.59	2731.39	234.57	39.11	492.19	488.82	51.17	85.59	208.99	210.02
Fuel consumption [US gal/h]	3.56	88.23	8.17	1.08	13.15	13.06	0.84	1.41	3.43	3.44
CO [g/h]	248.59	6167.45	571.19	75.71	919.11	912.58	58.68	98.66	239.63	240.80
NOx [g/h]	48.37	1199.96	111.13	14.73	178.83	177.56	11.42	19.20	46.62	46.85
VOC [g/h]	57.61	1429.37	132.38	17.55	213.01	211.50	13.60	22.87	55.54	55.81

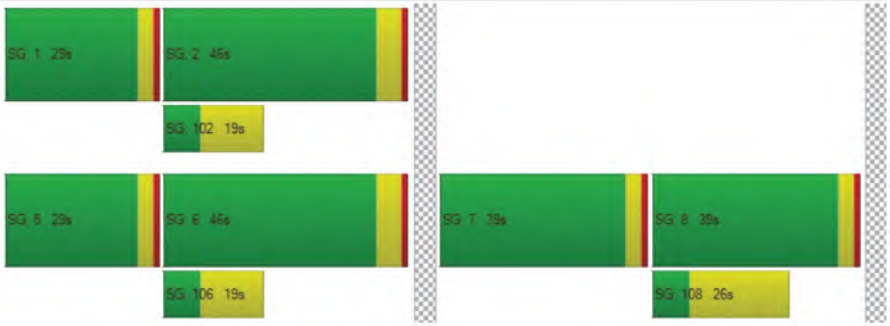
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	30.41	30.41	30.41
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.351	2.120	2.275
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	991	991	861	861
d_b, Bicycle Delay [s]	10.35	10.35	13.19	13.19
l_b,int, Bicycle LOS Score for Intersection	3.718	2.722	1.863	2.358
Bicycle LOS	D	B	A	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	112.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.242

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	500.0	100.0	100.0	100.0	500.0	100.0	100.0	300.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	5	442	1616	173	4	218	1133	198	380	48	581	63	107	286
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-3	-7	0	0	0	1	0	0	0	1	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	52	0	0	0	59	0	0	175	0	0	86
Total Hourly Volume [veh/h]	5	439	1609	121	4	218	1134	139	380	48	407	63	107	200
Peak Hour Factor	0.930	0.930	0.930	0.930	0.930	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	118	433	33	1	59	305	37	102	13	109	17	29	54
Total Analysis Volume [veh/h]	5	472	1730	130	4	234	1219	149	409	52	438	68	115	215
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	0	3	8	0
Auxiliary Signal Groups														
Maximum Green [s]	0	20	50	0	0	20	50	0	20	20	0	0	20	0
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	14	0	0	0	18	0	0	0	0	0	28	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	0	24	56	0	24	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Cycle Length [s]	125	125	125	125	125	125	125	125	125	125	125
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	48	48	18	47	47	20	20	20	20	20
g / C, Green / Cycle	0.16	0.39	0.39	0.15	0.38	0.38	0.16	0.16	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.27	0.35	0.35	0.13	0.34	0.09	0.13	0.13	0.28	0.04	0.20
s, saturation flow rate [veh/h]	1781	3560	1804	1781	3560	1589	1781	1800	1589	1781	1677
c, Capacity [veh/h]	286	1383	701	264	1340	598	286	289	255	286	269
d1, Uniform Delay [s]	52.30	35.58	35.82	52.14	36.84	26.73	50.42	50.36	52.30	45.65	52.30
k, delay calibration	0.50	0.13	0.36	0.28	0.13	0.13	0.25	0.25	0.50	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	315.82	2.58	12.95	22.60	3.27	0.26	11.63	10.96	338.60	0.16	129.97
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.67	0.89	0.90	0.90	0.91	0.25	0.81	0.80	1.72	0.24	1.23
d, Delay for Lane Group [s/veh]	368.11	38.16	48.77	74.75	40.11	26.99	62.05	61.32	390.89	45.80	182.27
Lane Group LOS	F	D	D	E	D	C	E	E	F	D	F
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	33.75	17.00	19.58	8.78	17.31	3.01	7.84	7.81	31.95	1.86	18.11
50th-Percentile Queue Length [ft/ln]	843.85	425.08	489.60	219.39	432.68	75.14	195.91	195.15	798.67	46.54	452.69
95th-Percentile Queue Length [veh/ln]	52.48	23.77	26.84	13.63	24.13	5.41	12.43	12.39	50.21	3.35	27.52
95th-Percentile Queue Length [ft/ln]	1311.97	594.15	671.04	340.85	603.25	135.25	310.68	309.70	1255.13	83.78	687.93

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	368.1	368.1	41.23	48.77	74.75	74.75	40.11	26.99	61.73	61.32	390.89	45.80	182.27	182.27
Movement LOS	F	F	D	D	E	E	D	C	E	E	F	D	F	F
d_A, Approach Delay [s/veh]	108.37				44.02				222.08			158.95		
Approach LOS	F				D				F			F		
d_I, Intersection Delay [s/veh]	112.00													
Intersection LOS	F													
Intersection V/C	1.242													

Emissions

Vehicle Miles Traveled [mph]	89.45	230.49	118.31	56.84	291.14	35.59	14.35	14.40	27.32	3.32	16.09
Stops [stops/h]	975.70	982.99	566.09	253.67	1000.57	86.88	226.52	225.64	923.46	53.81	523.42
Fuel consumption [US gal/h]	50.92	29.67	17.35	8.72	32.37	3.12	4.75	4.72	41.06	1.07	15.79
CO [g/h]	3559.45	2073.67	1213.11	609.69	2262.56	217.98	331.88	329.91	2870.09	74.62	1103.87
NOx [g/h]	692.54	403.46	236.03	118.62	440.21	42.41	64.57	64.19	558.42	14.52	214.77
VOC [g/h]	824.94	480.59	281.15	141.30	524.37	50.52	76.92	76.46	665.17	17.29	255.83

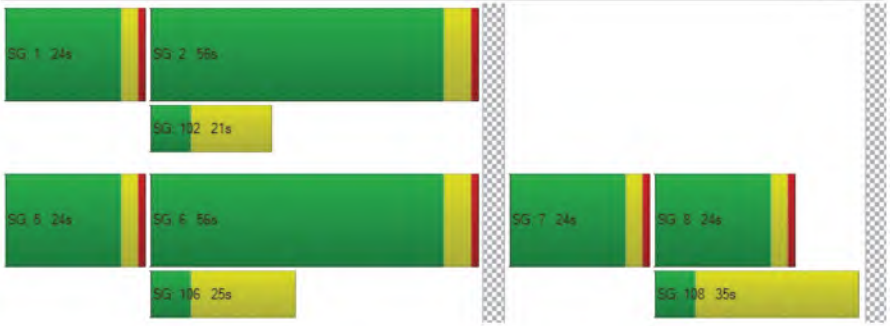
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.76	51.76	51.76
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.551	2.851	2.388
Crosswalk LOS	F	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	808	808	321	321
d_b, Bicycle Delay [s]	22.13	22.13	43.88	43.88
l_b,int, Bicycle LOS Score for Intersection	2.871	2.740	3.332	2.358
Bicycle LOS	C	B	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	50.7
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.985

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	500.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1224	1679	414	0	37	1252	493	306	130	404	236	88	251
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-10	-10	-2	0	0	2	0	0	0	1	1	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	124	0	0	0	148	0	0	122	0	0	75
Total Hourly Volume [veh/h]	1	1214	1669	288	0	37	1254	345	306	130	283	237	88	176
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	304	417	72	0	9	314	86	77	33	71	59	22	44
Total Analysis Volume [veh/h]	1	1214	1669	288	0	37	1254	345	306	130	283	237	88	176
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	136
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	45	62	0	0	14	29	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	50	68	0	0	19	35	28	0	28	0	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	45	74	74	6	34	59	19	19	17	17	17
g / C, Green / Cycle	0.33	0.54	0.54	0.04	0.25	0.43	0.14	0.14	0.12	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.35	0.36	0.39	0.02	0.25	0.22	0.12	0.12	0.09	0.09	0.11
s, saturation flow rate [veh/h]	3459	3532	1725	1781	5053	1589	1781	1832	1781	1828	1589
c, Capacity [veh/h]	1155	1914	935	81	1279	685	249	257	223	228	199
d1, Uniform Delay [s]	45.28	22.41	23.41	63.30	50.45	28.15	57.19	57.19	57.24	57.21	58.55
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.16	0.16	0.12	0.11	0.24
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	25.55	1.89	4.79	1.51	20.87	2.64	12.22	11.90	4.77	4.44	23.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.05	0.67	0.72	0.46	0.98	0.50	0.86	0.86	0.72	0.72	0.89
d, Delay for Lane Group [s/veh]	70.83	24.29	28.20	64.81	71.32	30.79	69.41	69.09	62.01	61.65	81.74
Lane Group LOS	F	C	C	E	E	C	E	E	E	E	F
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	23.42	15.01	17.17	1.26	16.17	8.41	8.08	8.29	5.63	5.72	7.25
50th-Percentile Queue Length [ft/ln]	585.62	375.18	429.14	31.57	404.27	210.14	202.10	207.28	140.79	143.07	181.28
95th-Percentile Queue Length [veh/ln]	32.44	21.36	23.96	2.27	22.77	13.16	12.75	13.01	9.52	9.65	11.67
95th-Percentile Queue Length [ft/ln]	811.09	534.01	599.01	56.82	569.14	329.01	318.67	325.34	238.08	241.15	291.68

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	70.83	70.83	25.20	28.20	64.81	64.81	71.32	30.79	69.32	69.09	0.00	61.90	61.65	81.74
Movement LOS	E	F	C	C	E	E	E	C	E	E		E	E	F
d_A, Approach Delay [s/veh]	42.95				62.62				41.99			68.82		
Approach LOS	D				E				D			E		
d_I, Intersection Delay [s/veh]	50.74													
Intersection LOS	D													
Intersection V/C	0.985													

Emissions

Vehicle Miles Traveled [mph]	208.99	220.70	115.91	6.94	235.16	64.70	9.94	10.23	5.11	5.22	5.60
Stops [stops/h]	1240.14	794.49	454.38	33.42	1284.14	222.51	213.99	219.48	149.07	151.48	191.94
Fuel consumption [US gal/h]	32.97	19.82	11.15	1.14	42.22	7.15	4.63	4.74	3.06	3.11	4.22
CO [g/h]	2304.35	1385.29	779.37	79.78	2951.48	499.48	323.44	331.40	214.18	217.42	294.84
NOx [g/h]	448.34	269.53	151.64	15.52	574.25	97.18	62.93	64.48	41.67	42.30	57.36
VOC [g/h]	534.06	321.05	180.63	18.49	684.03	115.76	74.96	76.80	49.64	50.39	68.33

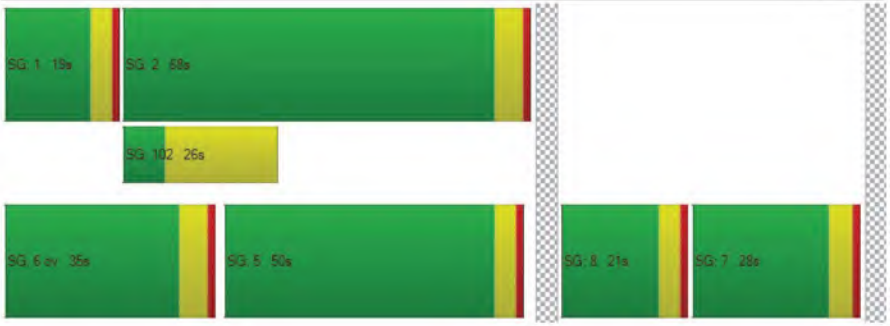
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	57.44
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.539
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	915	429	337	241
d_b, Bicycle Delay [s]	20.02	41.93	47.03	52.59
l_b,int, Bicycle LOS Score for Intersection	3.372	2.520	2.279	2.035
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 4: Latrobe Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	58.1
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.938

Intersection Setup

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	200.00	570.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No			No		
Crosswalk	No			No				No			Yes		

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Volumes

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Base Volume Input [veh/h]	0	2456	609	1	388	1504	0	0	0	1591	0	0	861
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-22	-4	0	0	4	0	0	0	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	182	0	0	0	0	0	0	478	0	0	258
Total Hourly Volume [veh/h]	0	2434	423	1	388	1508	0	0	0	1115	0	0	603
Peak Hour Factor	1.0000	0.9500	0.8400	1.000	0.840	0.950	1.000	1.0000	1.0000	0.8400	1.0000	1.0000	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	641	126	0	115	397	0	0	0	332	0	0	179
Total Analysis Volume [veh/h]	0	2562	504	1	462	1587	0	0	0	1327	0	0	718
Presence of On-Street Parking	No		No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0				0			0	
v_co, Outbound Pedestrian Volume crossing		0			0				0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0	
Bicycle Volume [bicycles/h]		0			0				0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	26.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	30	0	0	26	34	0	0	0	22	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No				No			
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	4.2	0.0	0.0	2.6	4.2	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	2.5	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Minimum Recall		Yes			No	Yes				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	C	L	C	R	
C, Cycle Length [s]	68	68	68	68	68	
L, Total Lost Time per Cycle [s]	6.20	6.20	4.60	6.20	4.60	
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	4.20	4.20	2.60	4.20	2.60	
g_i, Effective Green Time [s]	38	38	20	35	22	
g / C, Green / Cycle	0.55	0.55	0.29	0.51	0.33	
(v / s)_i Volume / Saturation Flow Rate	0.45	0.46	0.26	0.23	0.47	
s, saturation flow rate [veh/h]	5094	1676	1781	6792	2813	
c, Capacity [veh/h]	2809	924	516	3476	927	
d1, Uniform Delay [s]	12.47	12.61	23.17	10.58	22.80	
k, delay calibration	0.50	0.50	0.17	0.50	0.17	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	2.80	8.54	8.80	0.43	196.51	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.82	0.83	0.90	0.46	1.43	
d, Delay for Lane Group [s/veh]	15.27	21.15	31.97	11.01	219.31	
Lane Group LOS	B	C	C	B	F	
Critical Lane Group	No	Yes	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	7.57	9.11	7.43	3.03	32.05	
50th-Percentile Queue Length [ft/ln]	189.14	227.63	185.84	75.84	801.34	
95th-Percentile Queue Length [veh/ln]	12.08	14.05	11.90	5.46	50.02	
95th-Percentile Queue Length [ft/ln]	301.91	351.35	297.62	136.52	1250.55	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	15.88	21.15	31.97	31.97	11.01	0.00	0.00	0.00	219.31	0.00	0.00	0.00
Movement LOS		B	C	C	C	B				F			
d_A, Approach Delay [s/veh]		16.74			15.74			219.31			0.00		
Approach LOS		B			B			F			A		
d_I, Intersection Delay [s/veh]	58.15												
Intersection LOS	E												
Intersection V/C	0.938												

Emissions

Vehicle Miles Traveled [mph]	332.73	110.91	79.64	272.97	94.96	
Stops [stops/h]	1201.60	482.04	393.53	642.43	3393.91	
Fuel consumption [US gal/h]	33.49	13.09	10.64	20.90	81.87	
CO [g/h]	2341.14	915.31	743.40	1460.96	5722.94	
NOx [g/h]	455.50	178.09	144.64	284.25	1113.48	
VOC [g/h]	542.58	212.13	172.29	338.59	1326.35	

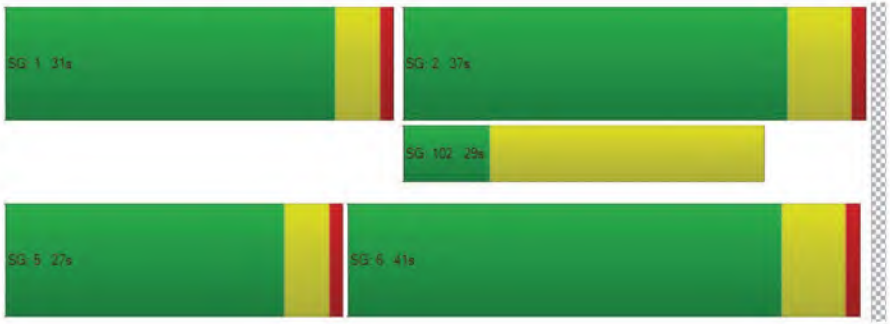
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	23.89
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.259
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	906	1024	659	0
d_b, Bicycle Delay [s]	10.18	8.10	15.29	34.00
l_b,int, Bicycle LOS Score for Intersection	2.899	2.215	1.560	1.560
Bicycle LOS	C	B	A	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Vistro File: C:\...\PM 918 DU 20240212.vistro 26

Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	52.3
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.016

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	24	1987	233	3	570	1937	585	460	37	83	1	92	6	615
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-26	-2	0	0	6	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	69	0	0	0	176	0	0	25	0	0	0	185
Total Hourly Volume [veh/h]	1	24	1961	162	3	570	1943	409	460	37	58	1	92	6	430
Peak Hour Factor	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.9600	0.9600	0.9600	0.960	0.960	0.960	0.960
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	6	511	42	1	148	506	107	120	10	15	0	24	2	112
Total Analysis Volume [veh/h]	1	25	2043	169	3	594	2024	426	479	39	60	1	96	6	448
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	138
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	0	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	40	0	0	12	65	0	15	20	0	0	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	0.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.0	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	0.0	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	46	0	0	16	71	0	19	24	0	0	19	19	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	0	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	Yes			No	Yes			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	101	101	101	101	101	101	101	101	101	101	101	101
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	2	42	42	12	51	51	16	16	16	15	15	15
g / C, Green / Cycle	0.02	0.41	0.41	0.12	0.51	0.51	0.16	0.16	0.16	0.15	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.01	0.40	0.11	0.17	0.40	0.27	0.14	0.02	0.04	0.05	0.14	0.14
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	1870	1589	1781	1596	1589
c, Capacity [veh/h]	72	2100	655	411	2599	811	561	304	258	264	237	236
d1, Uniform Delay [s]	48.83	29.15	19.53	44.54	20.11	16.56	41.16	36.22	36.85	38.76	42.74	42.74
k, delay calibration	0.04	0.04	0.04	0.17	0.04	0.04	0.08	0.08	0.08	0.08	0.39	0.39
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.15	2.10	0.08	209.05	0.20	0.20	2.86	0.14	0.34	0.63	42.70	42.82
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.97	0.26	1.45	0.78	0.53	0.85	0.13	0.23	0.37	0.96	0.96
d, Delay for Lane Group [s/veh]	49.98	31.25	19.61	253.59	20.31	16.75	44.03	36.36	37.19	39.39	85.45	85.56
Lane Group LOS	D	C	B	F	C	B	D	D	D	D	F	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.33	15.88	2.59	17.01	12.19	6.36	5.95	0.83	1.31	2.20	8.38	8.35
50th-Percentile Queue Length [ft/ln]	8.33	396.99	64.67	425.16	304.87	158.99	148.83	20.82	32.74	54.99	209.42	208.78
95th-Percentile Queue Length [veh/ln]	0.60	22.41	4.66	27.16	17.92	10.50	9.95	1.50	2.36	3.96	13.12	13.09
95th-Percentile Queue Length [ft/ln]	15.00	560.37	116.41	679.10	448.04	262.38	248.87	37.47	58.92	98.98	328.08	327.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.98	49.98	31.25	19.61	253.5	253.5	20.31	16.75	44.03	36.36	37.19	39.39	39.39	85.45	85.50
Movement LOS	D	D	C	B	F	F	C	B	D	D	D	D	D	F	F
d_A, Approach Delay [s/veh]	30.59				65.52				42.80			77.39			
Approach LOS	C				E				D			E			
d_I, Intersection Delay [s/veh]	52.30														
Intersection LOS	D														
Intersection V/C	1.016														

Emissions

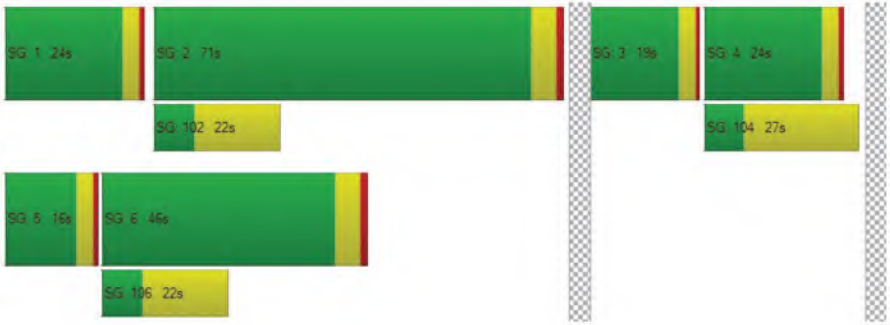
Vehicle Miles Traveled [mph]	5.80	456.07	37.73	86.38	292.87	61.64	61.10	4.97	7.65	34.04	79.83	79.51
Stops [stops/h]	23.78	1698.92	92.26	1212.97	1304.68	226.79	424.61	29.70	46.70	78.45	298.73	297.83
Fuel consumption [US gal/h]	0.63	41.15	2.74	41.06	27.63	5.24	9.15	0.66	1.03	2.61	8.89	8.86
CO [g/h]	44.37	2876.65	191.33	2870.09	1931.22	366.49	639.76	45.95	71.80	182.61	621.47	619.52
NOx [g/h]	8.63	559.69	37.23	558.42	375.75	71.31	124.47	8.94	13.97	35.53	120.92	120.54
VOC [g/h]	10.28	666.69	44.34	665.17	447.58	84.94	148.27	10.65	16.64	42.32	144.03	143.58

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	40.07	0.00	40.07	40.07
l_p,int, Pedestrian LOS Score for Intersectio	3.441	0.000	2.695	2.882
Crosswalk LOS	C	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	802	1298	406	307
d_b, Bicycle Delay [s]	18.10	6.22	32.05	36.16
l_b,int, Bicycle LOS Score for Intersection	2.828	3.006	2.057	2.616
Bicycle LOS	C	C	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	79.6
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.786

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	3	2	0	0	1	2	0	0	0	3	0	0
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	260.0	100.0	100.0	260.0	360.0	100.0	100.0	100.0	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	6	125	1673	518	2	253	1422	436	2	376	472	124	516	223	194
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-28	-8	0	0	6	0	0	0	0	0	1	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	153	0	0	0	131	0	0	0	37	0	0	58
Total Hourly Volume [veh/h]	6	125	1645	357	2	253	1428	305	2	376	472	87	517	223	136
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	34	442	96	1	68	384	82	1	101	127	23	139	60	37
Total Analysis Volume [veh/h]	6	134	1769	384	2	272	1535	328	2	404	508	94	556	240	146
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	158
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups															
Maximum Green [s]	0	25	50	0	0	35	50	0	0	25	15	0	15	25	0
Amber [s]	0.0	4.0	4.7	0.0	0.0	4.0	4.7	0.0	0.0	4.5	4.7	0.0	4.5	4.7	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	39	0	0	0	37	0	0	0	48	0	0	50	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	3.7	0.0	0.0	3.0	3.7	0.0	0.0	4.0	3.7	0.0	4.0	3.7	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	30	56	0	0	40	56	0	0	31	21	0	21	31	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	7	0	0	10	7	0	0	10	10	0	10	10	0
Vehicle Extension [s]	0.0	1.5	3.0	0.0	0.0	1.5	3.0	0.0	0.0	1.5	2.0	0.0	1.5	2.0	0.0
Minimum Recall		No	Yes			No	Yes			No	No		No	No	
Maximum Recall		No	No			No	No			No	No		No	No	
Pedestrian Recall		No	No			No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	158	158	158	158	158	158	158	158	158	158	158	158
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	6.00	5.70	5.70	6.00	5.70	5.70
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	4.00	3.70	3.70	4.00	3.70	3.70
g_i, Effective Green Time [s]	14	84	84	15	84	84	21	22	22	15	17	17
g / C, Green / Cycle	0.09	0.53	0.53	0.09	0.53	0.53	0.13	0.14	0.14	0.09	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.08	0.26	0.24	0.08	0.30	0.21	0.12	0.17	0.17	0.16	0.07	0.09
s, saturation flow rate [veh/h]	1781	6792	1589	3459	5094	1589	3459	1870	1770	3459	3560	1589
c, Capacity [veh/h]	162	3588	840	321	2702	843	453	266	252	328	378	169
d1, Uniform Delay [s]	70.88	23.77	23.18	70.60	24.94	21.95	67.60	67.77	67.77	71.50	67.68	69.50
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.50	0.50	0.19	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.29	0.49	1.79	2.50	0.87	1.35	2.61	106.79	108.24	317.14	0.66	5.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.49	0.46	0.85	0.57	0.39	0.90	1.16	1.16	1.69	0.64	0.87
d, Delay for Lane Group [s/veh]	76.17	24.26	24.98	73.10	25.81	23.31	70.21	174.56	176.01	388.64	68.34	74.58
Lane Group LOS	E	C	C	E	C	C	E	F	F	F	E	E
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.86	10.77	9.43	5.51	12.69	7.36	8.27	18.66	17.76	21.14	4.71	6.08
50th-Percentile Queue Length [ft/ln]	146.59	269.16	235.79	137.66	317.31	183.91	206.85	466.50	444.01	528.62	117.80	152.05
95th-Percentile Queue Length [veh/ln]	9.84	16.15	14.47	9.35	18.54	11.80	12.99	27.59	26.43	33.61	8.27	10.13
95th-Percentile Queue Length [ft/ln]	245.88	403.69	361.70	233.87	463.38	295.11	324.78	689.78	660.77	840.33	206.80	253.16

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	76.17	76.17	24.26	24.98	73.10	73.10	25.81	23.31	70.21	70.21	175.1	176.0	388.64	68.34	74.58
Movement LOS	E	E	C	C	E	E	C	C	E	E	F	F	F	E	E
d_A, Approach Delay [s/veh]	27.55				31.49				132.95				258.36		
Approach LOS	C				C				F				F		
d_I, Intersection Delay [s/veh]	79.60														
Intersection LOS	E														
Intersection V/C	0.786														

Emissions

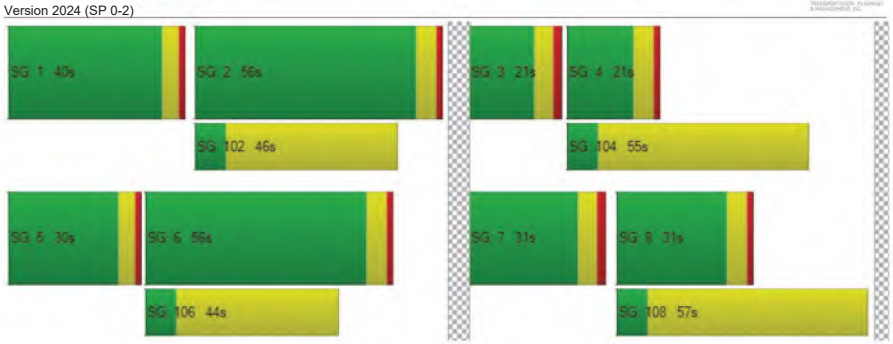
Vehicle Miles Traveled [mph]	55.74	704.35	152.89	61.17	342.67	73.22	101.33	77.19	73.05	58.09	25.08	15.25
Stops [stops/h]	133.60	981.26	214.89	250.93	867.59	167.61	377.04	425.16	404.67	963.56	214.73	138.58
Fuel consumption [US gal/h]	5.20	43.15	9.43	9.29	30.60	6.15	12.05	16.51	15.73	51.68	5.56	3.61
CO [g/h]	363.67	3016.20	659.37	649.50	2138.63	429.85	842.60	1154.14	1099.23	3612.24	388.37	252.27
NOx [g/h]	70.76	586.84	128.29	126.37	416.10	83.63	163.94	224.55	213.87	702.81	75.56	49.08
VOC [g/h]	84.28	699.03	152.81	150.53	495.65	99.62	195.28	267.48	254.76	837.17	90.01	58.47

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	68.38	68.38	68.38	68.38
l_p,int, Pedestrian LOS Score for Intersectio	3.599	3.859	2.837	3.026
Crosswalk LOS	D	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	637	637	194	320
d_b, Bicycle Delay [s]	36.71	36.71	64.44	55.73
l_b,int, Bicycle LOS Score for Intersection	2.566	2.657	2.088	2.385
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	80.0
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.069

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	11	1588	30	0	34	1590	454	703	9	27	1	6	19
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-36	0	0	0	7	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	9	0	0	0	136	0	0	8	0	0	6
Total Hourly Volume [veh/h]	1	11	1552	21	0	34	1597	318	703	9	19	1	6	13
Peak Hour Factor	1.000	0.890	0.890	0.870	1.000	0.870	0.890	0.890	0.8900	0.8700	0.8900	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	436	6	0	10	449	89	197	3	5	0	2	4
Total Analysis Volume [veh/h]	1	12	1744	24	0	39	1794	357	790	10	21	1	7	15
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	112
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	12	40	0	0	15	40	0	0	20	0	0	20	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	12	0	0	0	20	0	0	20	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	0	0	18	46	0	0	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	82	82	82	82	82	82	82	82	82
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	40	40	2	41	41	20	20	2
g / C, Green / Cycle	0.02	0.49	0.49	0.03	0.50	0.50	0.24	0.24	0.03
(v / s)_i Volume / Saturation Flow Rate	0.01	0.47	0.47	0.02	0.58	0.61	0.23	0.23	0.01
s, saturation flow rate [veh/h]	1781	1870	1861	1781	1870	1767	1781	1772	1674
c, Capacity [veh/h]	30	905	901	52	928	877	431	429	45
d1, Uniform Delay [s]	40.22	20.86	20.92	39.82	20.81	20.81	30.85	30.87	39.66
k, delay calibration	0.04	0.42	0.42	0.04	0.50	0.50	0.40	0.40	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.61	22.50	23.28	8.10	83.61	112.17	28.58	29.15	3.31
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.98	0.98	0.76	1.16	1.23	0.95	0.96	0.51
d, Delay for Lane Group [s/veh]	43.83	43.36	44.20	47.92	104.42	132.98	59.43	60.02	42.97
Lane Group LOS	D	D	D	D	F	F	E	E	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.29	20.62	20.81	0.84	35.37	40.37	11.15	11.19	0.49
50th-Percentile Queue Length [ft/ln]	7.19	515.47	520.19	21.08	884.31	1009.23	278.83	279.72	12.36
95th-Percentile Queue Length [veh/ln]	0.52	28.07	28.29	1.52	50.29	58.69	16.63	16.67	0.89
95th-Percentile Queue Length [ft/ln]	12.94	701.64	707.21	37.95	1257.32	1467.16	415.76	416.86	22.25

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.83	43.83	43.77	44.20	47.92	47.92	115.8	132.9	59.71	60.02	60.02	42.97	42.97	42.97
Movement LOS	D	D	D	D	D	D	F	F	E	E	E	D	D	D
d_A, Approach Delay [s/veh]	43.78				117.44				59.72			42.97		
Approach LOS	D				F				E			D		
d_I, Intersection Delay [s/veh]	80.00													
Intersection LOS	E													
Intersection V/C	1.069													

Emissions

Vehicle Miles Traveled [mph]	4.60	312.98	312.52	15.53	428.22	428.22	99.04	98.78	0.44
Stops [stops/h]	12.55	900.19	908.43	36.82	1544.31	1762.46	486.94	488.48	21.59
Fuel consumption [US gal/h]	0.37	25.66	25.83	1.58	65.86	76.16	11.74	11.77	0.34
CO [g/h]	26.19	1793.88	1805.41	110.69	4603.67	5323.69	820.51	822.84	23.65
NOx [g/h]	5.09	349.02	351.27	21.54	895.71	1035.80	159.64	160.10	4.60
VOC [g/h]	6.07	415.75	418.42	25.65	1066.94	1233.82	190.16	190.70	5.48

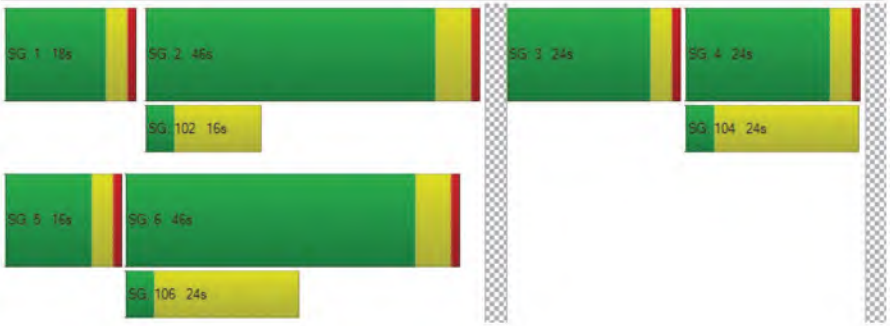
Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	33.62	0.00	33.62	33.62
l_p,int, Pedestrian LOS Score for Intersectio	3.016	0.000	2.386	1.776
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	970	970	485	485
d_b, Bicycle Delay [s]	10.93	10.93	23.65	23.65
l_b,int, Bicycle LOS Score for Intersection	3.036	3.446	2.927	1.607
Bicycle LOS	C	C	C	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 8: Latrobe Rd/Suncast Ln

Control Type:	Signalized	Delay (sec / veh):	22.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.875

Intersection Setup

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Approach	Northbound			Southbound		Eastbound	
Lane Configuration							
Turning Movement	U-turn	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			No		Yes	

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Volumes

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Base Volume Input [veh/h]	0	90	1321	1429	190	309	178
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-1	-36	7	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	57	0	53
Total Hourly Volume [veh/h]	0	89	1285	1436	133	309	125
Peak Hour Factor	1.0000	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	25	361	403	37	87	35
Total Analysis Volume [veh/h]	0	100	1444	1613	149	347	140
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permissive	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	5	2	6	0	3	0
Auxiliary Signal Groups							
Maximum Green [s]	0	12	40	40	0	20	0
Amber [s]	0.0	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No	No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	46	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-
Minimum Green [s]	0	5	5	5	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall		No	No	No		No	
Maximum Recall		No	No	No		No	
Pedestrian Recall		No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	C	L	R
C, Cycle Length [s]	76	76	76	76	76	76
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	6	49	39	39	17	17
g / C, Green / Cycle	0.07	0.64	0.52	0.52	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.06	0.41	0.47	0.49	0.19	0.09
s, saturation flow rate [veh/h]	1781	3560	1870	1816	1781	1589
c, Capacity [veh/h]	131	2295	970	942	399	356
d1, Uniform Delay [s]	34.58	8.08	16.66	17.12	28.44	25.11
k, delay calibration	0.04	0.15	0.37	0.39	0.24	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.48	0.41	10.84	14.41	12.21	0.71
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.63	0.91	0.94	0.87	0.39
d, Delay for Lane Group [s/veh]	38.06	8.49	27.50	31.52	40.66	25.82
Lane Group LOS	D	A	C	C	D	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.89	5.72	15.00	16.17	7.16	2.14
50th-Percentile Queue Length [ft/ln]	47.25	143.00	374.90	404.37	178.99	53.46
95th-Percentile Queue Length [veh/ln]	3.40	9.64	21.35	22.77	11.55	3.85
95th-Percentile Queue Length [ft/ln]	85.05	241.05	533.68	569.26	288.69	96.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.06	38.06	8.49	29.33	31.52	40.66	25.82
Movement LOS	D	D	A	C	C	D	C
d_A, Approach Delay [s/veh]	10.40			29.51		36.39	
Approach LOS	B			C		D	
d_I, Intersection Delay [s/veh]	22.62						
Intersection LOS	C						
Intersection V/C	0.875						

Emissions

Vehicle Miles Traveled [mph]	69.56	1004.38	311.69	311.69	117.08	47.24
Stops [stops/h]	89.71	543.04	711.87	767.82	339.86	101.51
Fuel consumption [US gal/h]	4.13	46.84	21.69	22.72	9.57	3.24
CO [g/h]	288.94	3274.22	1516.44	1588.47	668.81	226.54
NOx [g/h]	56.22	637.04	295.04	309.06	130.13	44.08
VOC [g/h]	66.96	758.83	351.45	368.14	155.00	52.50

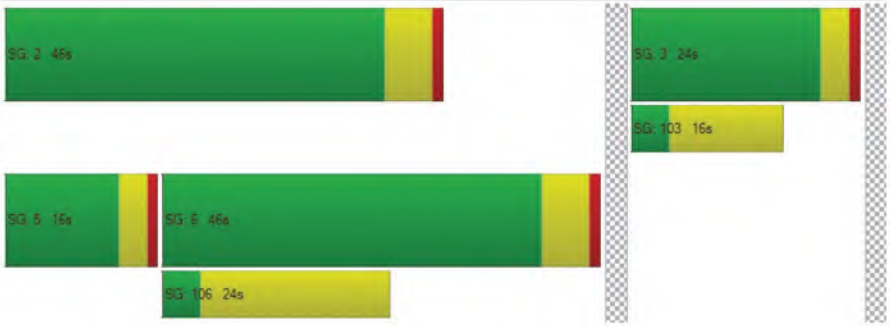
Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	30.34	0.00	30.34
l_p,int, Pedestrian LOS Score for Intersectio	2.947	0.000	2.285
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1055	1055	527
d_b, Bicycle Delay [s]	8.47	8.47	20.56
l_b,int, Bicycle LOS Score for Intersection	2.833	3.060	1.560
Bicycle LOS	C	C	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	132.3
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.102

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

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Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	108	575	28	352	446	809	686	216	57	68	155	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-5	-15	-3	0	3	4	-22	-4	1	1	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	244	0	0	17	0	0	45
Total Hourly Volume [veh/h]	103	560	17	352	449	569	664	212	41	69	156	105
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	154	5	97	123	156	182	58	11	19	43	29
Total Analysis Volume [veh/h]	113	615	19	387	493	625	730	233	45	76	171	115
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Cycle Length [s]	77	77	77	77	77	77	77	77	77	77
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	6	19	19	12	25	25	15	15	12	12
g / C, Green / Cycle	0.08	0.25	0.25	0.16	0.32	0.32	0.19	0.19	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.06	0.17	0.17	0.22	0.26	0.39	0.28	0.28	0.13	0.07
s, saturation flow rate [veh/h]	1781	1870	1850	1781	1870	1589	1781	1801	1842	1589
c, Capacity [veh/h]	145	467	462	276	604	513	345	349	293	253
d1, Uniform Delay [s]	34.86	26.28	26.28	32.71	24.10	26.21	31.21	31.21	31.63	29.52
k, delay calibration	0.04	0.04	0.04	0.50	0.24	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.34	0.66	0.67	201.35	6.02	114.74	222.72	215.48	2.57	0.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.68	0.68	1.40	0.82	1.22	1.46	1.44	0.84	0.46
d, Delay for Lane Group [s/veh]	38.20	26.94	26.95	234.06	30.12	140.95	253.93	246.69	34.20	30.00
Lane Group LOS	D	C	C	F	C	F	F	F	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.17	5.17	5.12	20.05	8.05	24.33	27.52	27.13	4.54	1.92
50th-Percentile Queue Length [ft/ln]	54.20	129.24	127.99	501.30	201.21	608.16	688.01	678.30	113.57	47.92
95th-Percentile Queue Length [veh/ln]	3.90	8.90	8.83	31.44	12.70	36.41	42.64	41.96	8.04	3.45
95th-Percentile Queue Length [ft/ln]	97.56	222.46	220.76	786.08	317.52	910.33	1065.99	1048.91	200.95	86.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.20	26.94	26.95	234.06	30.12	140.95	251.69	246.69	246.69	34.20	34.20	30.00
Movement LOS	D	C	C	F	C	F	F	F	F	C	C	C
d_A, Approach Delay [s/veh]	28.65			128.59			250.31			32.86		
Approach LOS	C			F			F			C		
d_I, Intersection Delay [s/veh]	132.29											
Intersection LOS	F											
Intersection V/C	1.102											

Emissions

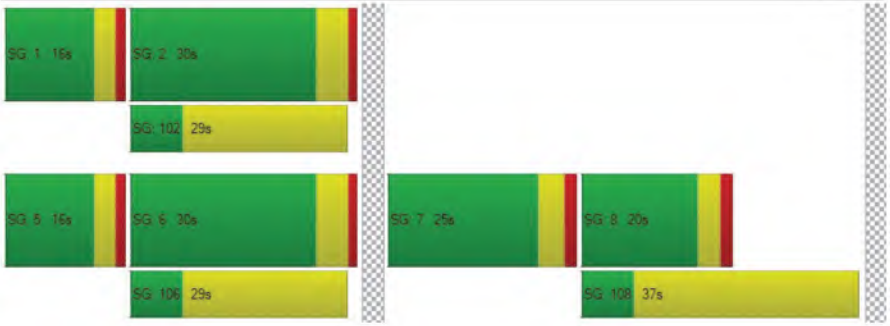
Vehicle Miles Traveled [mph]	65.26	183.99	182.16	269.18	342.91	434.72	37.92	37.92	27.32	12.72
Stops [stops/h]	100.94	240.70	238.37	933.60	374.73	1132.63	1281.33	1263.24	211.50	89.24
Fuel consumption [US gal/h]	4.12	10.65	10.55	44.78	21.45	53.50	34.68	33.84	4.01	1.72
CO [g/h]	288.18	744.48	737.14	3129.83	1499.59	3740.00	2424.11	2365.23	280.44	120.14
NOx [g/h]	56.07	144.85	143.42	608.95	291.77	727.67	471.64	460.19	54.56	23.37
VOC [g/h]	66.79	172.54	170.84	725.37	347.55	866.78	561.81	548.16	64.99	27.84

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	28.44	0.00	28.44	28.44
l_p,int, Pedestrian LOS Score for Intersectio	2.573	0.000	2.664	2.338
Crosswalk LOS	B	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	639	639	401	517
d_b, Bicycle Delay [s]	17.91	17.91	24.71	21.25
l_b,int, Bicycle LOS Score for Intersection	2.182	3.003	3.251	2.231
Bicycle LOS	B	C	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	19.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.785

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

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Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	148	314	452	119	397	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	0	0	4	-23	-3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	37	0	0
Total Hourly Volume [veh/h]	149	314	452	86	374	117
Peak Hour Factor	0.9000	0.9000	0.9000	0.7900	0.7900	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	87	126	27	118	33
Total Analysis Volume [veh/h]	166	349	502	109	473	130
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	164
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	50	50	50	0	50	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	54	56	56	0	54	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	7	31	20	20	19	19
g / C, Green / Cycle	0.12	0.52	0.33	0.33	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.09	0.19	0.27	0.07	0.27	0.08
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1589
c, Capacity [veh/h]	213	969	620	527	560	500
d1, Uniform Delay [s]	25.58	8.54	18.28	14.35	19.14	15.31
k, delay calibration	0.04	0.15	0.15	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.32	0.32	3.64	0.27	3.57	0.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.36	0.81	0.21	0.84	0.26
d, Delay for Lane Group [s/veh]	27.90	8.86	21.92	14.63	22.72	15.58
Lane Group LOS	C	A	C	B	C	B
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.07	1.79	5.48	0.87	6.02	1.24
50th-Percentile Queue Length [ft/ln]	51.87	44.78	136.94	21.68	150.57	30.99
95th-Percentile Queue Length [veh/ln]	3.73	3.22	9.32	1.56	10.05	2.23
95th-Percentile Queue Length [ft/ln]	93.37	80.61	232.90	39.03	251.19	55.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.90	8.86	21.92	14.63	22.72	15.58
Movement LOS	C	A	C	B	C	B
d_A, Approach Delay [s/veh]	15.00		20.62		21.18	
Approach LOS	B		C		C	
d_I, Intersection Delay [s/veh]	19.14					
Intersection LOS	B					
Intersection V/C	0.785					

Emissions

Vehicle Miles Traveled [mph]	20.48	43.06	289.92	62.95	111.09	30.53
Stops [stops/h]	125.08	107.99	330.21	52.28	363.08	74.73
Fuel consumption [US gal/h]	3.95	4.08	18.07	3.40	8.77	2.08
CO [g/h]	276.16	284.89	1263.14	237.76	612.75	145.54
NOx [g/h]	53.73	55.43	245.76	46.26	119.22	28.32
VOC [g/h]	64.00	66.03	292.75	55.10	142.01	33.73

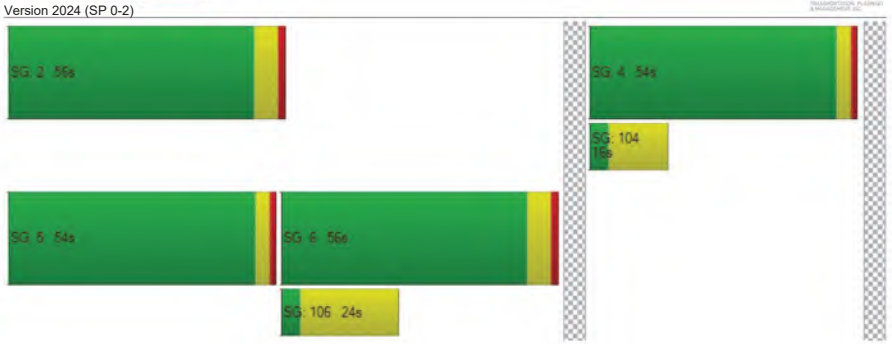
Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.39	0.00	22.39
l_p,int, Pedestrian LOS Score for Intersectio	2.606	0.000	2.220
Crosswalk LOS	B	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1675	1675	1675
d_b, Bicycle Delay [s]	0.79	0.79	0.79
l_b,int, Bicycle LOS Score for Intersection	2.409	2.629	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	24.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	413	0	25	547	0	0	0	0	2	0	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	0	0	-3	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	414	0	25	544	0	0	0	0	2	0	49
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	113	0	6	148	0	0	0	0	1	0	12
Total Analysis Volume [veh/h]	0	450	0	25	591	0	0	0	0	2	0	49
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Free		Free		Stop		Stop	
Flared Lane					Yes		Yes	
Storage Area [veh]	0		0		1		1	
Two-Stage Gap Acceptance					No		No	
Number of Storage Spaces in Median	0		0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.08
d_M, Delay for Movement [s/veh]	8.66	0.00	0.00	8.27	0.00	0.00	26.89	22.34	12.10	24.87	22.85	11.42
Movement LOS	A	A	A	A	A	A	D	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.04	0.04	0.04	0.00	0.00	0.00	0.26	0.26	0.26
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	1.06	1.06	1.06	0.00	0.00	0.00	6.60	6.60	6.60
d_A, Approach Delay [s/veh]	0.00			0.34			20.44			11.94		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	0.73											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Two-way stop	Delay (sec / veh):	35.9
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.355

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	314	19	123	426	0	0	0	0	59	0	99
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	0	0	-3	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	315	19	123	423	0	0	0	0	59	0	99
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	85	5	33	114	0	0	0	0	16	0	27
Total Analysis Volume [veh/h]	0	339	20	132	455	0	0	0	0	63	0	106
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.35	0.00	0.15
d_M, Delay for Movement [s/veh]	8.26	0.00	0.00	8.37	0.00	0.00	31.02	23.50	10.95	35.92	33.89	20.83
Movement LOS	A	A	A	A	A	A	D	C	B	E	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.00	2.73	2.73	2.73
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	9.25	0.00	0.00	0.00	0.00	0.00	68.24	68.24	68.24
d_A, Approach Delay [s/veh]	0.00			1.88			21.82			26.45		
Approach LOS	A			A			C			D		
d_I, Intersection Delay [s/veh]	5.00											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	27.742

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	114	790	168	55	1	886	185
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-9	-26	1	1	0	5	-5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	105	764	169	56	1	891	180
Peak Hour Factor	1.0000	0.8800	0.8800	0.8800	0.8800	1.0000	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	30	217	48	16	0	253	51
Total Analysis Volume [veh/h]	0	119	868	192	64	1	1013	205
Pedestrian Volume [ped/h]	0			0		0		

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Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	27.74	1.06	0.00	0.00	0.00	0.77	0.00
d_M, Delay for Movement [s/veh]	10000.00	10000.00	10000.00	0.00	0.00	10000.00	14.29	0.00
Movement LOS	F	F	F	A	A	F	B	A
95th-Percentile Queue Length [veh/ln]	122.12	122.12	122.12	0.00	0.00	6.98	6.98	6.98
95th-Percentile Queue Length [ft/ln]	3053.07	3053.07	3053.07	0.00	0.00	174.39	174.39	174.39
d_A, Approach Delay [s/veh]	10000.00			0.00		20.08		
Approach LOS	F			A		C		
d_I, Intersection Delay [s/veh]	4018.88							
Intersection LOS	F							

Intersection Level Of Service Report
Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Control Type:	All-way stop	Delay (sec / veh):	135.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.351

Intersection Setup

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Base Volume Input [veh/h]	49	466	87	0	33	476	32	39	34	32	218	16	66
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	7	-37	-26	0	0	5	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	49	466	87	0	33	476	39	2	8	32	218	21	66
Peak Hour Factor	0.8300	0.8300	0.8300	1.000	0.790	0.830	0.830	0.8300	0.8300	0.8300	0.8300	0.8300	0.7900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	140	26	0	10	143	12	1	2	10	66	6	21
Total Analysis Volume [veh/h]	59	561	105	0	42	573	47	2	10	39	263	25	84
Pedestrian Volume [ped/h]	0			0				0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	725	662	423	491
Degree of Utilization, x	1.35	1.24	0.12	0.76

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	32.01	25.71	0.41	6.53
95th-Percentile Queue Length [ft]	800.34	642.71	10.21	163.15
Approach Delay [s/veh]	190.04	145.74	12.69	29.82
Approach LOS	F	F	B	D
Intersection Delay [s/veh]	135.91			
Intersection LOS	F			

Intersection Level Of Service Report
Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	21.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.374

Intersection Setup

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00			30.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	No		No			No		

Volumes

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Base Volume Input [veh/h]	109	80	0	143	180	2	109	195
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	0	0	0	0	-13	-1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	109	82	0	143	180	2	96	194
Peak Hour Factor	0.8400	0.8400	1.0000	0.8400	0.8400	1.0000	0.8400	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	24	0	43	54	1	29	58
Total Analysis Volume [veh/h]	130	98	0	170	214	2	114	231
Pedestrian Volume [ped/h]	0		0			0		

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Intersection Settings

Priority Scheme	Stop		Free			Free		
Flared Lane								
Storage Area [veh]	0		0			0		
Two-Stage Gap Acceptance	No							
Number of Storage Spaces in Median	0		0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.37	0.13	0.00	0.00	0.00	0.00	0.10	0.00
d_M, Delay for Movement [s/veh]	21.42	10.42	9.41	0.00	0.00	11.72	8.41	0.00
Movement LOS	C	B	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	1.69	0.44	0.00	0.00	0.00	0.33	0.33	0.00
95th-Percentile Queue Length [ft/ln]	42.21	11.01	0.00	0.00	0.00	8.37	8.37	0.00
d_A, Approach Delay [s/veh]	16.69		0.00			2.83		
Approach LOS	C		A			A		
d_I, Intersection Delay [s/veh]	4.99							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 16: Carson Crossing Rd/Calypso Cir.

Control Type:	Two-way stop	Delay (sec / veh):	20.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.308

Intersection Setup

Name			Carson Crossing Rd		Carson Crossing Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	190.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			Carson Crossing Rd		Carson Crossing Rd	
Base Volume Input [veh/h]	107	158	87	152	170	174
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	2	0	0	-13
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	107	158	89	152	170	161
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	43	24	41	46	44
Total Analysis Volume [veh/h]	116	172	97	165	185	175
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.31	0.18	0.00	0.00	0.14	0.00
d_M, Delay for Movement [s/veh]	20.23	14.42	0.00	0.00	8.22	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.67	2.67	0.00	0.00	0.49	0.00
95th-Percentile Queue Length [ft/ln]	66.69	66.69	0.00	0.00	12.37	0.00
d_A, Approach Delay [s/veh]	16.76		0.00		4.22	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	6.98					
Intersection LOS	C					

Scenario 2: 2 2033 PM with CCSP, No Project
Vistro File: C:\...\PM 918 DU 20240212.vistro
Report File: C:\...\8 2033 PM no Proj.pdf
2/14/2024

Intersection Level Of Service Report
Intersection 17: Carson Crossing Rd/Four Seasons Dr

Control Type:	All-way stop	Delay (sec / veh):	8.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.147

Intersection Setup

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	500.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	500.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Base Volume Input [veh/h]	199	12	27	171	0	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-13	0	0	2	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	186	12	27	173	0	3
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	3	7	47	0	1
Total Analysis Volume [veh/h]	202	13	29	188	0	3
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	730	743	692	766	766	744
Degree of Utilization, x	0.15	0.14	0.04	0.12	0.12	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.51	0.50	0.13	0.42	0.42	0.01
95th-Percentile Queue Length [ft]	12.86	12.61	3.27	10.44	10.44	0.30
Approach Delay [s/veh]	8.42		8.07			7.86
Approach LOS	A		A			A
Intersection Delay [s/veh]	8.24					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	411.5
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.659

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	172	0	29	7	1	21	5	578	115	81	536	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-13	0	0	0	0	0	0	0	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	159	0	29	7	1	21	5	578	117	81	536	11
Peak Hour Factor	0.9700	1.0000	0.9300	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9300	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	0	8	2	0	5	1	149	30	22	138	3
Total Analysis Volume [veh/h]	164	0	31	7	1	22	5	596	121	87	553	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	1.66	0.00	0.07	0.07	0.01	0.04	0.00	0.01	0.00	0.10	0.01	0.00
d_M, Delay for Movement [s/veh]	411.55	34.33	13.29	43.43	38.07	13.80	8.59	0.00	0.00	9.52	0.00	0.00
Movement LOS	F	D	B	E	E	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	12.91	0.21	0.21	0.41	0.41	0.41	0.01	0.00	0.00	0.33	0.00	0.00
95th-Percentile Queue Length [ft/ln]	322.72	5.33	5.33	10.18	10.18	10.18	0.37	0.00	0.00	8.16	0.00	0.00
d_A, Approach Delay [s/veh]	348.24			21.52			0.06			1.27		
Approach LOS	F			C			A			A		
d_I, Intersection Delay [s/veh]	43.44											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 19: White Rock Rd/Windfield Way

Control Type:	Signalized	Delay (sec / veh):	32.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.581

Intersection Setup

Name	Windfield Way						White Rock Rd			White Rock Rd			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00			
Grade [%]	0.00			0.00			0.00			0.00			
Curb Present	No			No			No			No			
Crosswalk	Yes			Yes			Yes			No			

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Volumes

Name	Windfield Way						White Rock Rd			White Rock Rd			
Base Volume Input [veh/h]	278	5	310	5	5	5	5	663	84	14	225	542	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	93	0	0	0	0	0	25	0	0	0	0
Total Hourly Volume [veh/h]	278	5	217	5	5	5	5	663	59	14	225	542	5
Peak Hour Factor	0.9400	1.0000	0.9400	1.0000	1.0000	1.0000	1.0000	0.9400	0.9400	1.000	0.940	0.940	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	74	1	58	1	1	1	1	176	16	4	60	144	1
Total Analysis Volume [veh/h]	296	5	231	5	5	5	5	705	63	14	239	577	5
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0		
v_co, Outbound Pedestrian Volume crossing		0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0		
Bicycle Volume [bicycles/h]		0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	73.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi
Signal Group	3	8	0	7	4	0	5	2	0	0	1	6	0
Auxiliary Signal Groups													
Maximum Green [s]	25	25	0	10	10	0	9	19	0	0	44	54	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	2.0	1.0	0.0	0.0	2.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	26	0	0	13	0	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	245.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	15	15	0	15	25	0	0	50	60	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	3	3	0	5	3	0	5	7	0	0	3	7	0
Vehicle Extension [s]	1.0	1.0	0.0	3.0	1.0	0.0	3.0	3.6	0.0	0.0	1.0	3.6	0.0
Minimum Recall	No	No		No	No		No	Yes			No	Yes	
Maximum Recall	No	No		No	No		No	No			No	No	
Pedestrian Recall	No	No		No	No		No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	22	22	1	1	1	57	57	19	75	75
g / C, Green / Cycle	0.18	0.18	0.01	0.01	0.01	0.47	0.47	0.16	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.17	0.15	0.00	0.01	0.00	0.21	0.21	0.14	0.16	0.16
s, saturation flow rate [veh/h]	1781	1595	1781	1718	1781	1870	1817	1781	1870	1864
c, Capacity [veh/h]	321	289	12	13	12	881	856	280	1162	1159
d1, Uniform Delay [s]	48.33	47.22	59.33	59.43	59.34	21.19	21.20	49.66	10.18	10.18
k, delay calibration	0.24	0.04	0.11	0.04	0.11	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	19.74	2.17	19.50	27.26	19.95	1.61	1.66	4.34	0.52	0.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.82	0.40	0.76	0.40	0.44	0.44	0.90	0.25	0.25
d, Delay for Lane Group [s/veh]	68.07	49.39	78.83	86.69	79.29	22.80	22.86	53.99	10.70	10.70
Lane Group LOS	E	D	E	F	E	C	C	D	B	B
Critical Lane Group	Yes	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	10.44	6.94	0.22	0.40	0.22	7.63	7.44	7.77	3.52	3.51
50th-Percentile Queue Length [ft/ln]	260.93	173.40	5.48	10.09	5.50	190.84	185.96	194.31	87.98	87.74
95th-Percentile Queue Length [veh/ln]	15.74	11.25	0.39	0.73	0.40	12.16	11.91	12.34	6.33	6.32
95th-Percentile Queue Length [ft/ln]	393.38	281.37	9.86	18.17	9.90	304.11	297.78	308.62	158.37	157.93

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	68.07	49.39	49.39	78.83	86.69	86.69	79.29	22.83	22.86	53.99	53.99	10.70	10.70
Movement LOS	E	D	D	E	F	F	E	C	C	D	D	B	B
d_A, Approach Delay [s/veh]	59.78			84.07			23.20			23.81			
Approach LOS	E			F			C			C			
d_I, Intersection Delay [s/veh]	32.89												
Intersection LOS	C												
Intersection V/C	0.581												

Emissions

Vehicle Miles Traveled [mph]	114.05	90.93	0.23	0.46	4.21	327.63	318.66	63.14	72.73	72.52
Stops [stops/h]	313.11	208.08	6.57	12.11	6.60	229.00	223.15	233.18	105.58	105.28
Fuel consumption [US gal/h]	10.53	7.26	0.13	0.26	0.29	16.56	16.11	6.67	4.21	4.20
CO [g/h]	735.70	507.80	8.80	18.32	20.29	1157.47	1126.28	466.03	294.41	293.55
NOx [g/h]	143.14	98.80	1.71	3.56	3.95	225.20	219.13	90.67	57.28	57.11
VOC [g/h]	170.51	117.69	2.04	4.25	4.70	268.25	261.03	108.01	68.23	68.03

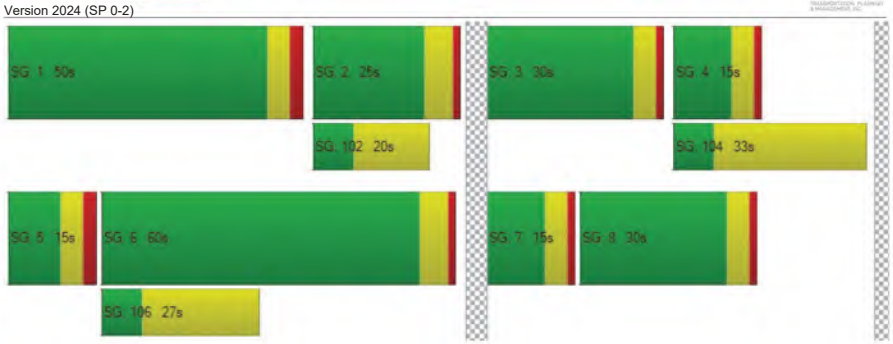
Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.397	1.964	2.676	0.000
Crosswalk LOS	B	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	417	167	317	900
d_b, Bicycle Delay [s]	37.60	50.42	42.50	18.15
l_b,int, Bicycle LOS Score for Intersection	2.591	1.584	2.218	2.051
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 20: White Rock Rd/Post St

Control Type:	Signalized	Delay (sec / veh):	67.2
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.603

Intersection Setup

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Approach	Northbound			Southbound			Eastbound				Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0	120.00	100.00	400.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00				30.00		
Grade [%]	0.00			0.00			0.00				0.00		
Curb Present	No			No			No				No		
Crosswalk	Yes			Yes			Yes				No		

Volumes

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	69	16	29	189	15	238	3	218	967	55	86	623	178
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	-2	-6	0	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	9	0	0	71	0	0	0	17	0	0	53
Total Hourly Volume [veh/h]	69	16	20	189	15	167	3	216	961	38	86	624	125
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	1.000	0.910	0.860	0.910	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	4	5	52	4	46	1	59	279	10	24	171	34
Total Analysis Volume [veh/h]	76	18	22	208	16	184	3	237	1117	42	95	686	137
Presence of On-Street Parking	No		No	No		No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0				0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0				0		
v_co, Outbound Pedestrian Volume crossing	0			0			0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0				0		
Bicycle Volume [bicycles/h]	0			0			0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	55.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups													
Maximum Green [s]	21	62	0	8	48	0	0	14	31	0	16	34	0
Amber [s]	3.5	5.0	0.0	3.5	5.0	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.7	1.0	0.0	1.0	1.0	0.0	0.0	2.0	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	32	0	0	0	21	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.2	4.0	0.0	2.5	4.0	0.0	0.0	3.5	2.5	0.0	3.0	2.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	100.0	0.0	100.0	100.0	0.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	0	13	54	0	0	20	36	0	21	39	0
Lead / Lag	Lead	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	3	7	0	3	7	0	0	3	3	0	3	3	0
Vehicle Extension [s]	1.0	3.6	0.0	1.0	3.6	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No			No	Yes		No	Yes	
Maximum Recall	No	No		No	No			No	No		No	No	
Pedestrian Recall	No	No		No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	5.20	6.00	4.50	6.00	5.50	4.50	4.50	5.00	4.50	4.50
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.20	4.00	2.50	4.00	3.50	2.50	2.50	3.00	2.50	2.50
g_i, Effective Green Time [s]	8	20	9	20	21	83	83	9	71	71
g / C, Green / Cycle	0.05	0.14	0.06	0.14	0.15	0.59	0.59	0.07	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.04	0.02	0.12	0.12	0.13	0.31	0.03	0.05	0.23	0.23
s, saturation flow rate [veh/h]	1781	1705	1781	1609	1781	3560	1589	1781	1870	1763
c, Capacity [veh/h]	96	240	108	229	261	2101	938	117	945	891
d1, Uniform Delay [s]	65.45	52.93	65.75	58.78	58.90	17.13	12.08	64.56	22.14	22.14
k, delay calibration	0.04	0.13	0.50	0.13	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.39	0.40	447.82	11.99	5.39	0.97	0.09	5.05	1.54	1.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.17	1.92	0.87	0.92	0.53	0.04	0.81	0.45	0.45
d, Delay for Lane Group [s/veh]	70.84	53.34	513.57	70.77	64.28	18.10	12.17	69.61	23.67	23.77
Lane Group LOS	E	D	F	E	E	B	B	E	C	C
Critical Lane Group	Yes	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.84	1.28	17.32	7.72	8.79	10.90	0.59	3.52	9.36	8.85
50th-Percentile Queue Length [ft/ln]	70.90	31.95	433.09	193.05	219.75	272.39	14.65	88.04	234.01	221.28
95th-Percentile Queue Length [veh/ln]	5.11	2.30	28.06	12.28	13.65	16.31	1.05	6.34	14.38	13.73
95th-Percentile Queue Length [ft/ln]	127.63	57.52	701.52	306.99	341.30	407.73	26.37	158.46	359.45	343.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	70.84	53.34	53.34	513.57	70.77	70.77	64.28	64.28	18.10	12.17	69.61	23.71	23.77
Movement LOS	E	D	D	F	E	E	E	E	B	B	E	C	C
d_A, Approach Delay [s/veh]	64.81			296.51			25.85				28.47		
Approach LOS	E			F			C				C		
d_I, Intersection Delay [s/veh]	67.15												
Intersection LOS	E												
Intersection V/C	0.603												

Emissions

Vehicle Miles Traveled [mph]	3.80	2.00	9.67	9.30	25.08	116.71	4.39	33.26	148.31	139.87
Stops [stops/h]	72.93	32.87	445.46	198.57	226.03	560.35	15.07	90.55	240.70	227.61
Fuel consumption [US gal/h]	1.65	0.70	24.59	4.36	5.42	12.01	0.37	3.22	9.48	8.95
CO [g/h]	115.68	48.80	1719.00	304.74	378.88	839.85	25.72	224.75	662.35	625.43
NOx [g/h]	22.51	9.49	334.45	59.29	73.72	163.40	5.00	43.73	128.87	121.69
VOC [g/h]	26.81	11.31	398.39	70.63	87.81	194.64	5.96	52.09	153.51	144.95

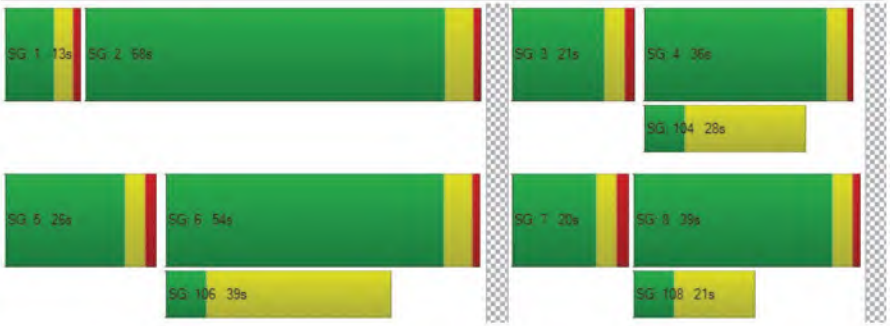
Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	59.43	59.43	59.43	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.070	2.363	2.894	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	886	686	450	493
d_b, Bicycle Delay [s]	21.73	30.23	42.04	39.75
l_b,int, Bicycle LOS Score for Intersection	1.766	2.350	2.532	2.361
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	259.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.375

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

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Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	102	74	453	315	125	60	66	907	231	350	734	187
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-1	-3	0	0	0	0	-6	0	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	135	0	0	18	0	0	69	0	0	56
Total Hourly Volume [veh/h]	102	73	315	315	125	42	66	901	162	350	735	131
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	19	81	81	32	11	17	232	42	90	189	34
Total Analysis Volume [veh/h]	105	75	325	325	129	43	68	929	167	361	758	135
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	0	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	35	0	0	40	0	25	45	0	25	45	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	18	0	0	17	0	0	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	0	0	44	0	29	50	0	29	51	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	0.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	153	153	153	153	153	153	153	153
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	3.50	5.30	3.50	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	1.50	3.30	1.50	4.00
g_i, Effective Green Time [s]	35	35	31	31	7	45	25	62
g / C, Green / Cycle	0.23	0.23	0.20	0.20	0.05	0.29	0.16	0.40
(v / s)_i Volume / Saturation Flow Rate	0.06	0.24	0.18	0.10	0.04	0.60	0.20	0.49
s, saturation flow rate [veh/h]	1781	1635	1781	1791	1781	1821	1781	1821
c, Capacity [veh/h]	407	374	359	361	88	535	291	735
d1, Uniform Delay [s]	48.39	59.04	59.67	53.96	71.94	54.04	64.04	45.65
k, delay calibration	0.13	0.50	0.25	0.13	0.04	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.41	66.30	17.22	1.22	5.44	477.68	134.26	108.96
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.26	1.07	0.90	0.48	0.78	2.05	1.24	1.21
d, Delay for Lane Group [s/veh]	48.81	125.34	76.88	55.18	77.38	531.71	198.30	154.61
Lane Group LOS	D	F	E	E	E	F	F	F
Critical Lane Group	No	Yes	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.38	21.38	14.07	6.03	2.79	91.61	22.21	49.91
50th-Percentile Queue Length [ft/ln]	84.58	534.59	351.64	150.80	69.68	2290.25	555.21	1247.85
95th-Percentile Queue Length [veh/ln]	6.09	30.12	20.22	10.06	5.02	143.54	33.09	70.23
95th-Percentile Queue Length [ft/ln]	152.25	753.06	505.41	251.50	125.43	3588.62	827.37	1755.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.81	125.34	125.34	76.88	55.18	55.18	77.38	531.71	531.71	198.30	154.61	154.61
Movement LOS	D	F	F	E	E	E	E	F	F	F	F	F
d_A, Approach Delay [s/veh]	109.43			69.37			505.17			167.18		
Approach LOS	F			E			F			F		
d_I, Intersection Delay [s/veh]	259.48											
Intersection LOS	F											
Intersection V/C	1.375											

Emissions

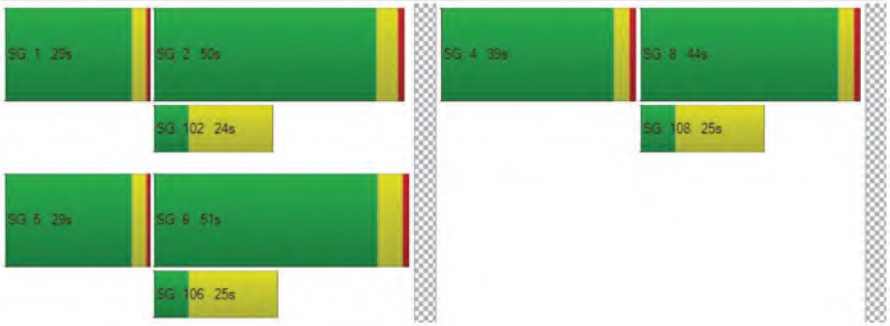
Vehicle Miles Traveled [mph]	180.67	688.26	65.89	34.87	23.81	383.77	162.89	402.94
Stops [stops/h]	79.59	503.03	330.89	141.90	65.57	2155.06	522.44	1174.19
Fuel consumption [US gal/h]	8.92	41.31	9.62	4.15	2.41	146.27	24.16	51.17
CO [g/h]	623.50	2887.78	672.77	290.12	168.68	10224.02	1688.57	3576.44
NOx [g/h]	121.31	561.86	130.90	56.45	32.82	1989.22	328.53	695.85
VOC [g/h]	144.50	669.27	155.92	67.24	39.09	2369.52	391.34	828.87

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	65.91	65.91	65.91	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.601	2.267	2.765	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	455	520	584	588
d_b, Bicycle Delay [s]	45.67	41.89	38.34	38.13
l_b,int, Bicycle LOS Score for Intersection	2.616	2.409	3.594	3.721
Bicycle LOS	B	B	D	D

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 22: White Rock Rd/Clarksville Crossing

Control Type:	Signalized	Delay (sec / veh):	37.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.901

Intersection Setup

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	180.00	460.00	100.00	100.00	290.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	0	0	2	80	0	334	8	1666	1	0	937	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	-9	0	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	2	80	0	334	8	1657	1	0	938	2
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.9600	0.7800	0.7800	0.9600	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	26	0	107	3	432	0	0	244	1
Total Analysis Volume [veh/h]	0	0	3	103	0	428	10	1726	1	0	977	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	20	0	0	20	0	20	50	0	20	50	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	5.0	0.0	4.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	5.0	0.0	3.0	5.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	R
C, Cycle Length [s]	86	86	86	86	86	86	86	86	86	86
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	7.00	7.00	5.00	7.00	7.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	5.00	5.00	3.00	5.00	5.00
g_i, Effective Green Time [s]	0	0	20	20	1	44	44	0	42	42
g / C, Green / Cycle	0.00	0.00	0.23	0.23	0.01	0.51	0.51	0.00	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.06	0.27	0.01	0.46	0.46	0.00	0.27	0.00
s, saturation flow rate [veh/h]	1870	1589	1781	1589	1781	1870	1870	1781	3560	1589
c, Capacity [veh/h]	8	7	414	370	22	948	948	0	1761	786
d1, Uniform Delay [s]	0.00	42.69	26.85	32.97	42.13	19.40	19.41	0.00	15.13	11.00
k, delay calibration	0.11	0.11	0.11	0.50	0.11	0.28	0.28	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	41.72	0.31	96.82	13.39	8.94	8.95	0.00	0.27	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.45	0.25	1.16	0.45	0.91	0.91	0.00	0.55	0.00
d, Delay for Lane Group [s/veh]	0.00	84.41	27.16	129.79	55.52	28.34	28.35	0.00	15.40	11.00
Lane Group LOS	A	F	C	F	E	C	C	A	B	B
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.00	0.14	1.72	17.38	0.29	16.60	16.61	0.00	6.25	0.03
50th-Percentile Queue Length [ft/ln]	0.00	3.48	43.02	434.50	7.27	415.08	415.16	0.00	156.14	0.70
95th-Percentile Queue Length [veh/ln]	0.00	0.25	3.10	26.17	0.52	23.29	23.29	0.00	10.34	0.05
95th-Percentile Queue Length [ft/ln]	0.00	6.27	77.43	654.34	13.09	582.15	582.24	0.00	258.61	1.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	84.41	27.16	27.16	129.79	55.52	28.35	28.35	0.00	15.40	11.00
Movement LOS	A	A	F	C	C	F	E	C	C	A	B	B
d_A, Approach Delay [s/veh]	84.41			109.88			28.50			15.39		
Approach LOS	F			F			C			B		
d_I, Intersection Delay [s/veh]	37.89											
Intersection LOS	D											
Intersection V/C	0.901											

Emissions

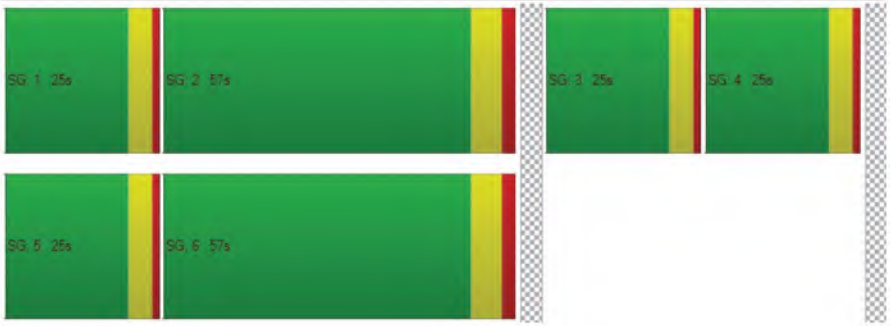
Vehicle Miles Traveled [mph]	0.00	0.15	48.86	203.03	4.51	389.65	389.62	0.00	170.43	0.52
Stops [stops/h]	0.00	5.84	72.14	728.64	12.20	696.08	696.22	0.00	523.70	1.17
Fuel consumption [US gal/h]	0.00	0.09	2.98	23.69	0.37	24.87	24.87	0.00	12.97	0.03
CO [g/h]	0.00	6.29	208.25	1655.70	25.59	1738.16	1738.28	0.00	906.75	2.43
NOx [g/h]	0.00	1.22	40.52	322.14	4.98	338.18	338.21	0.00	176.42	0.47
VOC [g/h]	0.00	1.46	48.26	383.72	5.93	402.84	402.86	0.00	210.15	0.56

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	466	466	1165	1165
d_b, Bicycle Delay [s]	25.26	25.26	7.49	7.49
l_b,int, Bicycle LOS Score for Intersection	1.565	2.436	2.993	2.368
Bicycle LOS	A	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 23: White Rock Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	49.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.775

Intersection Setup

Name	White Rock Rd		White Rock Rd		US 50 EB	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	1	0	1
Entry Pocket Length [ft]	500.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

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Volumes

Name	White Rock Rd		White Rock Rd		US 50 EB	
Base Volume Input [veh/h]	995	753	861	261	511	78
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-7	-2	1	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	12
Total Hourly Volume [veh/h]	988	751	862	261	511	66
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	247	188	216	65	128	17
Total Analysis Volume [veh/h]	988	751	862	261	511	66
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	21	61	32	0	16	0
Amber [s]	3.7	4.8	4.8	0.0	4.8	0.0
All red [s]	0.5	2.0	2.0	0.0	1.0	0.0
Walk [s]	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.2	4.8	4.8	0.0	3.8	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	39	0	22	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	8	9	9	0	8	0
Vehicle Extension [s]	2.0	1.0	1.0	0.0	2.0	0.0
Minimum Recall	No	Yes	Yes		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80
g_i, Effective Green Time [s]	22	63	37	37	15	15	15
g / C, Green / Cycle	0.24	0.70	0.41	0.41	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.29	0.21	0.24	0.16	0.14	0.14	0.04
s, saturation flow rate [veh/h]	3459	3560	3560	1589	1781	1781	1589
c, Capacity [veh/h]	838	2476	1447	646	293	293	262
d1, Uniform Delay [s]	34.10	5.29	20.92	18.97	36.66	36.66	32.76
k, delay calibration	0.07	0.50	0.50	0.50	0.17	0.17	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	82.72	0.32	1.81	1.88	11.98	11.98	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.18	0.30	0.60	0.40	0.87	0.87	0.25
d, Delay for Lane Group [s/veh]	116.82	5.61	22.73	20.84	48.64	48.64	32.95
Lane Group LOS	F	A	C	C	D	D	C
Critical Lane Group	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	18.50	2.36	7.16	4.07	6.35	6.35	1.25
50th-Percentile Queue Length [ft/ln]	462.56	58.98	179.03	101.72	158.65	158.65	31.33
95th-Percentile Queue Length [veh/ln]	27.92	4.25	11.55	7.32	10.48	10.48	2.26
95th-Percentile Queue Length [ft/ln]	697.92	106.16	288.75	183.09	261.94	261.94	56.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	116.82	5.61	22.73	20.84	48.64	32.95
Movement LOS	F	A	C	C	D	C
d_A, Approach Delay [s/veh]	68.79		22.29		46.85	
Approach LOS	E		C		D	
d_I, Intersection Delay [s/veh]	49.93					
Intersection LOS	D					
Intersection V/C	0.775					

Emissions

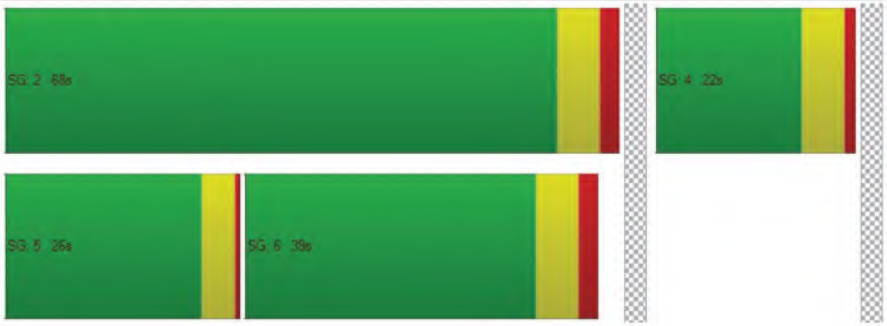
Vehicle Miles Traveled [mph]	172.35	131.01	152.75	46.25	15.47	15.47	4.00
Stops [stops/h]	1480.19	188.74	572.89	162.75	253.85	253.85	50.13
Fuel consumption [US gal/h]	38.76	7.29	13.44	3.91	4.57	4.57	0.88
CO [g/h]	2709.12	509.80	939.53	273.33	319.34	319.34	61.79
NOx [g/h]	527.10	99.19	182.80	53.18	62.13	62.13	12.02
VOC [g/h]	627.86	118.15	217.74	63.35	74.01	74.01	14.32

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1360	716	360
d_b, Bicycle Delay [s]	4.61	18.56	30.26
l_b,int, Bicycle LOS Score for Intersection	2.994	2.486	2.531
Bicycle LOS	C	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 24: Silva Valley Pkwy/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	23.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.686

Intersection Setup

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Approach	Northbound				Southbound			Westbound			Northeastbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	550.0	100.0	100.0	100.0	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No					
Crosswalk	No				No			No			No		

Volumes

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Base Volume Input [veh/h]	1	152	1111	0	0	559	236	562	1	263	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-2	0	0	0	0	1	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	47	0	0	30	0	0	0
Total Hourly Volume [veh/h]	1	152	1109	0	0	559	189	563	1	233	0	0	0
Peak Hour Factor	1.000	0.790	0.790	1.000	1.0000	0.7900	0.7900	0.7900	0.7900	0.7900	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	48	351	0	0	177	60	178	0	74	0	0	0
Total Analysis Volume [veh/h]	1	192	1404	0	0	708	239	713	1	295	0	0	0
Presence of On-Street Parking	No			No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	6	0	0	8	0	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	20	54	0	0	26	0	0	23	0	0	0	0
Amber [s]	0.0	3.7	4.8	0.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0
All red [s]	0.0	0.5	2.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	4.8	0.0	0.0	4.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	61	0	0	33	0	0	29	0	0	0	0
Lead / Lag	-	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	8	8	0	0	8	0	0	8	0	0	0	0
Vehicle Extension [s]	0.0	2.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No	Yes			Yes			No				
Maximum Recall		No	No			No			No				
Pedestrian Recall		No	No			No			No				

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	R	L	C	R	
C, Cycle Length [s]	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80	
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80	
g_i, Effective Green Time [s]	12	57	42	42	20	20	20	
g / C, Green / Cycle	0.13	0.64	0.46	0.46	0.22	0.22	0.22	
(v / s)_i Volume / Saturation Flow Rate	0.11	0.39	0.20	0.15	0.20	0.20	0.19	
s, saturation flow rate [veh/h]	1781	3560	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	231	2274	1646	735	394	394	352	
d1, Uniform Delay [s]	38.24	9.70	16.24	15.31	34.12	34.12	33.50	
k, delay calibration	0.04	0.50	0.50	0.50	0.13	0.13	0.09	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	3.07	1.27	0.82	1.18	9.52	9.50	4.60	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.84	0.62	0.43	0.33	0.91	0.91	0.84	
d, Delay for Lane Group [s/veh]	41.30	10.97	17.06	16.49	43.63	43.62	38.10	
Lane Group LOS	D	B	B	B	D	D	D	
Critical Lane Group	No	Yes	No	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	4.28	7.53	4.85	3.21	8.45	8.44	6.46	
50th-Percentile Queue Length [ft/ln]	107.12	188.20	121.19	80.16	211.16	211.12	161.41	
95th-Percentile Queue Length [veh/ln]	7.68	12.03	8.46	5.77	13.21	13.21	10.62	
95th-Percentile Queue Length [ft/ln]	191.99	300.69	211.47	144.29	330.32	330.26	265.58	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.30	41.30	10.97	0.00	0.00	17.06	16.49	43.63	43.62	38.10	0.00	0.00	0.00
Movement LOS	D	D	B			B	B	D	D	D			
d_A, Approach Delay [s/veh]	14.64				16.92			42.01			0.00		
Approach LOS	B				B			D			A		
d_I, Intersection Delay [s/veh]	23.02												
Intersection LOS	C												
Intersection V/C	0.686												

Emissions

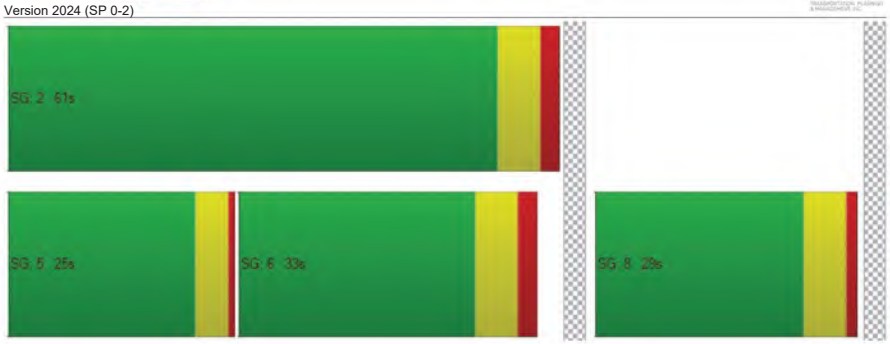
Vehicle Miles Traveled [mph]	34.20	248.80	96.81	32.68	12.37	12.37	10.22
Stops [stops/h]	171.39	602.24	387.82	128.26	337.85	337.78	258.25
Fuel consumption [US gal/h]	3.98	16.71	8.59	2.86	5.55	5.54	4.13
CO [g/h]	277.99	1167.68	600.17	199.63	387.63	387.52	288.99
NOx [g/h]	54.09	227.19	116.77	38.84	75.42	75.40	56.23
VOC [g/h]	64.43	270.62	139.10	46.27	89.84	89.81	66.98

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1204	582	516	0
d_b, Bicycle Delay [s]	7.12	22.61	24.79	45.00
l_b,int, Bicycle LOS Score for Intersection	2.876	2.380	3.274	4.132
Bicycle LOS	C	B	C	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 25: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Base Volume Input [veh/h]	0	413	549	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	-3	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	414	546	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	104	137	0	0	0
Total Analysis Volume [veh/h]	0	414	546	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	11.70
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		11.70	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Scenario 2: 2 2033 PM with CCSP, No Project
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Intersection Level Of Service Report
Intersection 26: Latrobe/Wetsl-Oviatt

Control Type:	Two-way stop	Delay (sec / veh):	15.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.074

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Base Volume Input [veh/h]	0	306	465	20	27	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	-3	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	307	462	20	27	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	77	116	5	7	0
Total Analysis Volume [veh/h]	0	307	462	20	27	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.07	0.00
d_M, Delay for Movement [s/veh]	8.33	0.00	0.00	0.00	15.67	11.87
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.24	0.24
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	5.97	5.97
d_A, Approach Delay [s/veh]	0.00		0.00		15.67	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.52					
Intersection LOS	C					

Scenario 2: 2 2033 PM with CCSP, No Project
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Intersection Level Of Service Report
Intersection 27: Latrobe/S. Shingle

Control Type:	Two-way stop	Delay (sec / veh):	19.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.147

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Base Volume Input [veh/h]	0	185	66	45	288	40	10	37	2	47	20	84
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	0	0	-3	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	186	66	45	285	40	10	37	2	47	20	84
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	48	17	12	73	10	3	10	1	12	5	22
Total Analysis Volume [veh/h]	0	192	68	46	294	41	10	38	2	48	21	87
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.00	0.00	0.03	0.10	0.00	0.15	0.06	0.11
d_M, Delay for Movement [s/veh]	7.94	0.00	0.00	7.81	0.00	0.00	19.01	16.58	11.63	19.22	17.93	12.62
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.08	0.08	0.08	0.49	0.49	0.49	1.31	1.31	1.31
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.02	2.02	2.02	12.22	12.22	12.22	32.81	32.81	32.81
d_A, Approach Delay [s/veh]	0.00			0.94			16.87			15.37		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	4.25											
Intersection LOS	C											

Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	414	569	51	0
2	402	552	49	0
3	393	541	48	0
4	368	506	45	0
5	327	450	40	0
6	323	444	40	0
7	319	438	39	0
8	290	398	36	0
9	286	393	35	0
10	282	387	35	0
11	244	336	30	0
12	228	313	28	0
13	224	307	28	0
14	166	228	20	0
15	166	228	20	0
16	116	159	14	0
17	66	91	8	0
18	66	91	8	0
19	37	51	5	0
20	21	28	3	0
21	12	17	2	0
22	4	6	1	0
23	4	6	1	0
24	4	6	1	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	983	1	51	No	No	No	No	No	No	No	Yes	No	No
2	1	954	1	49	No	No	No	No	No	No	No	Yes	No	No
3	1	934	1	48	No	No	No	No	No	No	No	Yes	No	No
4	1	874	1	45	No	No	No	No	No	No	No	Yes	No	No
5	1	777	1	40	No	No	No	No	No	No	No	No	No	No
6	1	767	1	40	No	No	No	No	No	No	No	No	No	No
7	1	757	1	39	No	No	No	No	No	No	No	No	No	No
8	1	688	1	36	No	No	No	No	No	No	No	No	No	No
9	1	679	1	35	No	No	No	No	No	No	No	No	No	No
10	1	669	1	35	No	No	No	No	No	No	No	No	No	No
11	1	580	1	30	No	No	No	No	No	No	No	No	No	No
12	1	541	1	28	No	No	No	No	No	No	No	No	No	No
13	1	531	1	28	No	No	No	No	No	No	No	No	No	No
14	1	394	1	20	No	No	No	No	No	No	No	No	No	No
15	1	394	1	20	No	No	No	No	No	No	No	No	No	No
16	1	275	1	14	No	No	No	No	No	No	No	No	No	No
17	1	157	1	8	No	No	No	No	No	No	No	No	No	No
18	1	157	1	8	No	No	No	No	No	No	No	No	No	No
19	1	88	1	5	No	No	No	No	No	No	No	No	No	No
20	1	49	1	3	No	No	No	No	No	No	No	No	No	No
21	1	29	1	2	No	No	No	No	No	No	No	No	No	No
22	1	10	1	1	No	No	No	No	No	No	No	No	No	No
23	1	10	1	1	No	No	No	No	No	No	No	No	No	No
24	1	10	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	4	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	11.9	20.4
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:10	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	51	0
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1034	1034
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 12: Latrobe Rd/Royal Oaks Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	334	546	158	0
2	324	530	153	0
3	317	519	150	0
4	297	486	141	0
5	264	431	125	0
6	261	426	123	0
7	257	420	122	0
8	234	382	111	0
9	230	377	109	0
10	227	371	107	0
11	197	322	93	0
12	184	300	87	0
13	180	295	85	0
14	134	218	63	0
15	134	218	63	0
16	94	153	44	0
17	53	87	25	0
18	53	87	25	0
19	30	49	14	0
20	17	27	8	0
21	10	16	5	0
22	3	5	2	0
23	3	5	2	0
24	3	5	2	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	880	1	158	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
2	2	854	1	153	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
3	2	836	1	150	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
4	2	783	1	141	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
5	2	695	1	125	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
6	2	687	1	123	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
7	2	677	1	122	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
8	2	616	1	111	No	No	Yes	Yes	No	No	No	Yes	No	No
9	2	607	1	109	No	No	Yes	Yes	No	No	No	Yes	No	No
10	2	598	1	107	No	No	Yes	Yes	No	No	No	Yes	No	No
11	2	519	1	93	No	No	No	Yes	No	No	No	Yes	No	No
12	2	484	1	87	No	No	No	Yes	No	No	No	No	No	No
13	2	475	1	85	No	No	No	Yes	No	No	No	No	No	No
14	2	352	1	63	No	No	No	No	No	No	No	No	No	No
15	2	352	1	63	No	No	No	No	No	No	No	No	No	No
16	2	247	1	44	No	No	No	No	No	No	No	No	No	No
17	2	140	1	25	No	No	No	No	No	No	No	No	No	No
18	2	140	1	25	No	No	No	No	No	No	No	No	No	No
19	2	79	1	14	No	No	No	No	No	No	No	No	No	No
20	2	44	1	8	No	No	No	No	No	No	No	No	No	No
21	2	26	1	5	No	No	No	No	No	No	No	No	No	No
22	2	8	1	2	No	No	No	No	No	No	No	No	No	No
23	2	8	1	2	No	No	No	No	No	No	No	No	No	No
24	2	8	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					3	7	10	13	0	4	7	11	7	2

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	26.5	21.8
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:09	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	158	0
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1038	1038
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 13: Golden Foothill/Robert J Mathews

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	1072	225	869
2	1040	218	843
3	1018	214	826
4	954	200	773
5	847	178	687
6	836	176	678
7	825	173	669
8	750	158	608
9	740	155	600
10	729	153	591
11	632	133	513
12	590	124	478
13	579	122	469
14	429	90	348
15	429	90	348
16	300	63	243
17	172	36	139
18	172	36	139
19	96	20	78
20	54	11	43
21	32	7	26
22	11	2	9
23	11	2	9
24	11	2	9

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1297	1	869	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1258	1	843	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1232	1	826	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1154	1	773	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	1025	1	687	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	1012	1	678	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1	998	1	669	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	1	908	1	608	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	1	895	1	600	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	1	882	1	591	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	1	765	1	513	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	1	714	1	478	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
13	1	701	1	469	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
14	1	519	1	348	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No
15	1	519	1	348	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No
16	1	363	1	243	No	No	Yes	Yes	No	No	No	No	No	No
17	1	208	1	139	No	No	No	No	No	No	No	No	No	No
18	1	208	1	139	No	No	No	No	No	No	No	No	No	No
19	1	116	1	78	No	No	No	No	No	No	No	No	No	No
20	1	65	1	43	No	No	No	No	No	No	No	No	No	No
21	1	39	1	26	No	No	No	No	No	No	No	No	No	No
22	1	13	1	9	No	No	No	No	No	No	No	No	No	No
23	1	13	1	9	No	No	No	No	No	No	No	No	No	No
24	1	13	1	9	No	No	No	No	No	No	No	No	No	No
Hours Met					15	15	16	16	11	13	13	15	15	13

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	10000
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2413:53
Delay Condition Met	Yes
Volume on Minor Street Approach During Same Hour	869
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	2166
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	Yes
Warrant Met for Intersection	**Yes**

Signal Warrants Report For Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	602	548	305	42
2	584	532	296	41
3	572	521	290	40
4	536	488	271	37
5	476	433	241	33
6	470	427	238	33
7	464	422	235	32
8	421	384	214	29
9	415	378	210	29
10	409	373	207	29
11	355	323	180	25
12	331	301	168	23
13	325	296	165	23
14	241	219	122	17
15	241	219	122	17
16	169	153	85	12
17	96	88	49	7
18	96	88	49	7
19	54	49	27	4
20	30	27	15	2
21	18	16	9	1
22	6	5	3	0
23	6	5	3	0
24	6	5	3	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1150	1	305	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1116	1	296	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1093	1	290	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1024	1	271	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
5	1	909	1	241	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
6	1	897	1	238	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
7	1	886	1	235	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
8	1	805	1	214	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
9	1	793	1	210	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
10	1	782	1	207	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
11	1	678	1	180	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
12	1	632	1	168	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
13	1	621	1	165	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
14	1	460	1	122	No	Yes	Yes	Yes	No	No	No	Yes	No	No
15	1	460	1	122	No	Yes	Yes	Yes	No	No	No	Yes	No	No
16	1	322	1	85	No	No	No	Yes	No	No	No	No	No	No
17	1	184	1	49	No	No	No	No	No	No	No	No	No	No
18	1	184	1	49	No	No	No	No	No	No	No	No	No	No
19	1	103	1	27	No	No	No	No	No	No	No	No	No	No
20	1	57	1	15	No	No	No	No	No	No	No	No	No	No
21	1	34	1	9	No	No	No	No	No	No	No	No	No	No
22	1	11	1	3	No	No	No	No	No	No	No	No	No	No
23	1	11	1	3	No	No	No	No	No	No	No	No	No	No
24	1	11	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					13	15	15	16	10	13	13	15	10	3

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	29.8	12.7
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2:31	0:08
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	305	42
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1497	1497
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	292	323	191
2	283	313	185
3	277	307	181
4	260	287	170
5	231	255	151
6	228	252	149
7	225	249	147
8	204	226	134
9	201	223	132
10	199	220	130
11	172	191	113
12	161	178	105
13	158	174	103
14	117	129	76
15	117	129	76
16	82	90	53
17	47	52	31
18	47	52	31
19	26	29	17
20	15	16	10
21	9	10	6
22	3	3	2
23	3	3	2
24	3	3	2

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	615	2	191	No	Yes	Yes	Yes	No	No	No	Yes	No	No
2	2	596	2	185	No	Yes	Yes	Yes	No	No	No	Yes	No	No
3	2	584	2	181	No	Yes	Yes	Yes	No	No	No	Yes	No	No
4	2	547	2	170	No	Yes	Yes	Yes	No	No	No	Yes	No	No
5	2	486	2	151	No	No	Yes	Yes	No	No	No	No	No	No
6	2	480	2	149	No	No	Yes	Yes	No	No	No	No	No	No
7	2	474	2	147	No	No	Yes	Yes	No	No	No	No	No	No
8	2	430	2	134	No	No	No	Yes	No	No	No	No	No	No
9	2	424	2	132	No	No	No	Yes	No	No	No	No	No	No
10	2	419	2	130	No	No	No	Yes	No	No	No	No	No	No
11	2	363	2	113	No	No	No	Yes	No	No	No	No	No	No
12	2	339	2	105	No	No	No	No	No	No	No	No	No	No
13	2	332	2	103	No	No	No	No	No	No	No	No	No	No
14	2	246	2	76	No	No	No	No	No	No	No	No	No	No
15	2	246	2	76	No	No	No	No	No	No	No	No	No	No
16	2	172	2	53	No	No	No	No	No	No	No	No	No	No
17	2	99	2	31	No	No	No	No	No	No	No	No	No	No
18	2	99	2	31	No	No	No	No	No	No	No	No	No	No
19	2	55	2	17	No	No	No	No	No	No	No	No	No	No
20	2	31	2	10	No	No	No	No	No	No	No	No	No	No
21	2	19	2	6	No	No	No	No	No	No	No	No	No	No
22	2	6	2	2	No	No	No	No	No	No	No	No	No	No
23	2	6	2	2	No	No	No	No	No	No	No	No	No	No
24	2	6	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	11	0	0	0	4	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.7
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:53
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	191
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	806
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 16: Carson Crossing Rd/Calypso Cir.

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	331	241	265
2	321	234	257
3	314	229	252
4	295	214	236
5	261	190	209
6	258	188	207
7	255	186	204
8	232	169	186
9	228	166	183
10	225	164	180
11	195	142	156
12	182	133	146
13	179	130	143
14	132	96	106
15	132	96	106
16	93	67	74
17	53	39	42
18	53	39	42
19	30	22	24
20	17	12	13
21	10	7	8
22	3	2	3
23	3	2	3
24	3	2	3

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	572	1	265	No	Yes	Yes	Yes	No	No	No	Yes	No	No
2	2	555	1	257	No	Yes	Yes	Yes	No	No	No	Yes	No	No
3	2	543	1	252	No	Yes	Yes	Yes	No	No	No	Yes	No	No
4	2	509	1	236	No	Yes	Yes	Yes	No	No	No	Yes	No	No
5	2	451	1	209	No	No	Yes	Yes	No	No	No	No	No	No
6	2	446	1	207	No	No	Yes	Yes	No	No	No	No	No	No
7	2	441	1	204	No	No	Yes	Yes	No	No	No	No	No	No
8	2	401	1	186	No	No	No	Yes	No	No	No	No	No	No
9	2	394	1	183	No	No	No	Yes	No	No	No	No	No	No
10	2	389	1	180	No	No	No	Yes	No	No	No	No	No	No
11	2	337	1	156	No	No	No	Yes	No	No	No	No	No	No
12	2	315	1	146	No	No	No	No	No	No	No	No	No	No
13	2	309	1	143	No	No	No	No	No	No	No	No	No	No
14	2	228	1	106	No	No	No	No	No	No	No	No	No	No
15	2	228	1	106	No	No	No	No	No	No	No	No	No	No
16	2	160	1	74	No	No	No	No	No	No	No	No	No	No
17	2	92	1	42	No	No	No	No	No	No	No	No	No	No
18	2	92	1	42	No	No	No	No	No	No	No	No	No	No
19	2	52	1	24	No	No	No	No	No	No	No	No	No	No
20	2	29	1	13	No	No	No	No	No	No	No	No	No	No
21	2	17	1	8	No	No	No	No	No	No	No	No	No	No
22	2	5	1	3	No	No	No	No	No	No	No	No	No	No
23	2	5	1	3	No	No	No	No	No	No	No	No	No	No
24	2	5	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	11	0	0	0	4	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.8
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:14
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	265
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	837
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 17: Carson Crossing Rd/Four Seasons Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	198	200	3
2	192	194	3
3	188	190	3
4	176	178	3
5	156	158	2
6	154	156	2
7	152	154	2
8	139	140	2
9	137	138	2
10	135	136	2
11	117	118	2
12	109	110	2
13	107	108	2
14	79	80	1
15	79	80	1
16	55	56	1
17	32	32	0
18	32	32	0
19	18	18	0
20	10	10	0
21	6	6	0
22	2	2	0
23	2	2	0
24	2	2	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	398	1	3	No	No	No	No	No	No	No	No	No	No
2	3	386	1	3	No	No	No	No	No	No	No	No	No	No
3	3	378	1	3	No	No	No	No	No	No	No	No	No	No
4	3	354	1	3	No	No	No	No	No	No	No	No	No	No
5	3	314	1	2	No	No	No	No	No	No	No	No	No	No
6	3	310	1	2	No	No	No	No	No	No	No	No	No	No
7	3	306	1	2	No	No	No	No	No	No	No	No	No	No
8	3	279	1	2	No	No	No	No	No	No	No	No	No	No
9	3	275	1	2	No	No	No	No	No	No	No	No	No	No
10	3	271	1	2	No	No	No	No	No	No	No	No	No	No
11	3	235	1	2	No	No	No	No	No	No	No	No	No	No
12	3	219	1	2	No	No	No	No	No	No	No	No	No	No
13	3	215	1	2	No	No	No	No	No	No	No	No	No	No
14	3	159	1	1	No	No	No	No	No	No	No	No	No	No
15	3	159	1	1	No	No	No	No	No	No	No	No	No	No
16	3	111	1	1	No	No	No	No	No	No	No	No	No	No
17	3	64	1	0	No	No	No	No	No	No	No	No	No	No
18	3	64	1	0	No	No	No	No	No	No	No	No	No	No
19	3	36	1	0	No	No	No	No	No	No	No	No	No	No
20	3	20	1	0	No	No	No	No	No	No	No	No	No	No
21	3	12	1	0	No	No	No	No	No	No	No	No	No	No
22	3	4	1	0	No	No	No	No	No	No	No	No	No	No
23	3	4	1	0	No	No	No	No	No	No	No	No	No	No
24	3	4	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	7.9
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	3
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	401
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 18: White Rock Rd/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	628	700	188	29
2	609	679	182	28
3	597	665	179	28
4	559	623	167	26
5	496	553	149	23
6	490	546	147	23
7	484	539	145	22
8	440	490	132	20
9	433	483	130	20
10	427	476	128	20
11	371	413	111	17
12	345	385	103	16
13	339	378	102	16
14	251	280	75	12
15	251	280	75	12
16	176	196	53	8
17	100	112	30	5
18	100	112	30	5
19	57	63	17	3
20	31	35	9	1
21	19	21	6	1
22	6	7	2	0
23	6	7	2	0
24	6	7	2	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1328	2	188	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
2	2	1288	2	182	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
3	2	1262	2	179	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
4	2	1182	2	167	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
5	2	1049	2	149	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
6	2	1036	2	147	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
7	2	1023	2	145	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
8	2	930	2	132	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
9	2	916	2	130	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
10	2	903	2	128	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
11	2	784	2	111	No	No	No	No	No	Yes	Yes	Yes	No	No
12	2	730	2	103	No	No	No	No	No	Yes	Yes	Yes	No	No
13	2	717	2	102	No	No	No	No	No	No	Yes	Yes	No	No
14	2	531	2	75	No	No	No	No	No	No	No	Yes	No	No
15	2	531	2	75	No	No	No	No	No	No	No	Yes	No	No
16	2	372	2	53	No	No	No	No	No	No	No	No	No	No
17	2	212	2	30	No	No	No	No	No	No	No	No	No	No
18	2	212	2	30	No	No	No	No	No	No	No	No	No	No
19	2	120	2	17	No	No	No	No	No	No	No	No	No	No
20	2	66	2	9	No	No	No	No	No	No	No	No	No	No
21	2	40	2	6	No	No	No	No	No	No	No	No	No	No
22	2	13	2	2	No	No	No	No	No	No	No	No	No	No
23	2	13	2	2	No	No	No	No	No	No	No	No	No	No
24	2	13	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	10	10	12	13	15	4	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	348.2	21.5
Number of Lanes on Minor Street Approach	2	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	18:11	0:10
Delay Condition Met	Yes	No
Volume on Minor Street Approach During Same Hour	188	29
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1545	1545
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	Yes	No
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 25: New Intersection

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	414	546	0
2	402	530	0
3	393	519	0
4	368	486	0
5	327	431	0
6	323	426	0
7	319	420	0
8	290	382	0
9	286	377	0
10	282	371	0
11	244	322	0
12	228	300	0
13	224	295	0
14	166	218	0
15	166	218	0
16	116	153	0
17	66	87	0
18	66	87	0
19	37	49	0
20	21	27	0
21	12	16	0
22	4	5	0
23	4	5	0
24	4	5	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	960	1	0	No	No	No	No	No	No	No	No	No	No
2	1	932	1	0	No	No	No	No	No	No	No	No	No	No
3	1	912	1	0	No	No	No	No	No	No	No	No	No	No
4	1	854	1	0	No	No	No	No	No	No	No	No	No	No
5	1	758	1	0	No	No	No	No	No	No	No	No	No	No
6	1	749	1	0	No	No	No	No	No	No	No	No	No	No
7	1	739	1	0	No	No	No	No	No	No	No	No	No	No
8	1	672	1	0	No	No	No	No	No	No	No	No	No	No
9	1	663	1	0	No	No	No	No	No	No	No	No	No	No
10	1	653	1	0	No	No	No	No	No	No	No	No	No	No
11	1	566	1	0	No	No	No	No	No	No	No	No	No	No
12	1	528	1	0	No	No	No	No	No	No	No	No	No	No
13	1	519	1	0	No	No	No	No	No	No	No	No	No	No
14	1	384	1	0	No	No	No	No	No	No	No	No	No	No
15	1	384	1	0	No	No	No	No	No	No	No	No	No	No
16	1	269	1	0	No	No	No	No	No	No	No	No	No	No
17	1	153	1	0	No	No	No	No	No	No	No	No	No	No
18	1	153	1	0	No	No	No	No	No	No	No	No	No	No
19	1	86	1	0	No	No	No	No	No	No	No	No	No	No
20	1	48	1	0	No	No	No	No	No	No	No	No	No	No
21	1	28	1	0	No	No	No	No	No	No	No	No	No	No
22	1	9	1	0	No	No	No	No	No	No	No	No	No	No
23	1	9	1	0	No	No	No	No	No	No	No	No	No	No
24	1	9	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	11.7
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	960
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 26: Latrobe/Wetsl-Oviatt

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	307	482	27
2	298	468	26
3	292	458	26
4	273	429	24
5	243	381	21
6	239	376	21
7	236	371	21
8	215	337	19
9	212	333	19
10	209	328	18
11	181	284	16
12	169	265	15
13	166	260	15
14	123	193	11
15	123	193	11
16	86	135	8
17	49	77	4
18	49	77	4
19	28	43	2
20	15	24	1
21	9	14	1
22	3	5	0
23	3	5	0
24	3	5	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	789	1	27	No	No	No	No	No	No	No	No	No	No
2	1	766	1	26	No	No	No	No	No	No	No	No	No	No
3	1	750	1	26	No	No	No	No	No	No	No	No	No	No
4	1	702	1	24	No	No	No	No	No	No	No	No	No	No
5	1	624	1	21	No	No	No	No	No	No	No	No	No	No
6	1	615	1	21	No	No	No	No	No	No	No	No	No	No
7	1	607	1	21	No	No	No	No	No	No	No	No	No	No
8	1	552	1	19	No	No	No	No	No	No	No	No	No	No
9	1	545	1	19	No	No	No	No	No	No	No	No	No	No
10	1	537	1	18	No	No	No	No	No	No	No	No	No	No
11	1	465	1	16	No	No	No	No	No	No	No	No	No	No
12	1	434	1	15	No	No	No	No	No	No	No	No	No	No
13	1	426	1	15	No	No	No	No	No	No	No	No	No	No
14	1	316	1	11	No	No	No	No	No	No	No	No	No	No
15	1	316	1	11	No	No	No	No	No	No	No	No	No	No
16	1	221	1	8	No	No	No	No	No	No	No	No	No	No
17	1	126	1	4	No	No	No	No	No	No	No	No	No	No
18	1	126	1	4	No	No	No	No	No	No	No	No	No	No
19	1	71	1	2	No	No	No	No	No	No	No	No	No	No
20	1	39	1	1	No	No	No	No	No	No	No	No	No	No
21	1	23	1	1	No	No	No	No	No	No	No	No	No	No
22	1	8	1	0	No	No	No	No	No	No	No	No	No	No
23	1	8	1	0	No	No	No	No	No	No	No	No	No	No
24	1	8	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	15.7
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:07
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	27
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	816
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 27: Latrobe/S. Shingle

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	252	370	151	49
2	244	359	146	48
3	239	352	143	47
4	224	329	134	44
5	199	292	119	39
6	197	289	118	38
7	194	285	116	38
8	176	259	106	34
9	174	255	104	34
10	171	252	103	33
11	149	218	89	29
12	139	204	83	27
13	136	200	82	26
14	101	148	60	20
15	101	148	60	20
16	71	104	42	14
17	40	59	24	8
18	40	59	24	8
19	23	33	14	4
20	13	19	8	2
21	8	11	5	1
22	3	4	2	0
23	3	4	2	0
24	3	4	2	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	622	1	151	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
2	1	603	1	146	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
3	1	591	1	143	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
4	1	553	1	134	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
5	1	491	1	119	No	No	Yes	Yes	No	No	No	Yes	No	No
6	1	486	1	118	No	No	Yes	Yes	No	No	No	Yes	No	No
7	1	479	1	116	No	No	Yes	Yes	No	No	No	Yes	No	No
8	1	435	1	106	No	No	Yes	Yes	No	No	No	Yes	No	No
9	1	429	1	104	No	No	No	Yes	No	No	No	Yes	No	No
10	1	423	1	103	No	No	No	Yes	No	No	No	Yes	No	No
11	1	367	1	89	No	No	No	Yes	No	No	No	No	No	No
12	1	343	1	83	No	No	No	No	No	No	No	No	No	No
13	1	336	1	82	No	No	No	No	No	No	No	No	No	No
14	1	249	1	60	No	No	No	No	No	No	No	No	No	No
15	1	249	1	60	No	No	No	No	No	No	No	No	No	No
16	1	175	1	42	No	No	No	No	No	No	No	No	No	No
17	1	99	1	24	No	No	No	No	No	No	No	No	No	No
18	1	99	1	24	No	No	No	No	No	No	No	No	No	No
19	1	56	1	14	No	No	No	No	No	No	No	No	No	No
20	1	32	1	8	No	No	No	No	No	No	No	No	No	No
21	1	19	1	5	No	No	No	No	No	No	No	No	No	No
22	1	7	1	2	No	No	No	No	No	No	No	No	No	No
23	1	7	1	2	No	No	No	No	No	No	No	No	No	No
24	1	7	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					1	4	8	11	0	2	4	10	4	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	15.4	16.9
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:38	0:13
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	151	49
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	822	822
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

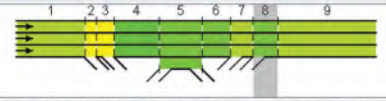
FREEVAL-2015e - Y:\Shared\Projects\P23160 Creekside Village II\Joint US50\FREEVAL\Eastbound\18 PM EB 2033 No-Proj.seed

Project Analyze Edit View Settings Toolbox Help

Edit Seed Facility: Global Input | Fill Data
Managed Lanes: Turn On
Reliability Analysis (RL): Generate | Delete | Summary
ATDM Analysis: Configure | Delete | Summary

Single Seed/Scenario I/O | Compare | Result Contours | Analysis Period Summary | Segment & Facility Summary

Table Display Options: In & Out | GP Only
Analysis Period (A.P.) Control: A.P. 1/1 7:00 - 7:15 | First | Last | Jump To



Segment	Seg. 1	Seg. 2	Seg. 3	Seg. 4	Seg. 5	Seg. 6	Seg. 7	Seg. 8	Seg. 9
General Purpose Segme...	*	*	*	*	*	*	*	*	*
General Purpose Segme...	EDC to...	Lat Slip	Lat Loop	between	Lat to SC	EB US ...	SV Loop	SV Slip	EB US ...
General Purpose Segme...	Basic	Off Ramp	Off Ramp	Basic	Weaving	Basic	On Ramp	On Ramp	Basic
Segment Length (ft)	3,000	500	800	2,000	1,900	1,260	1,000	1,100	4,300
Lane Width (ft)	12	12	12	12	12	12	12	12	12
Lateral Clearance (ft)	10	10	10	10	10	10	4	10	10
Terrain	Level	Level	Level	Level	Level	Level	Level	Level	Level
Truck-PC Equivalent (ET)	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
# of Lanes: Mainline	3	3	3	3	4	3	3	3	3
Mainline Dem. (vph)	4,752	4752	3161	2300	3297	2708	3964	3964	3964
Mainline Single Unit Truc...	2.00	2.00	2.00	2.00	1.70	1.63	1.75	1.75	1.75
Mainline Tractor Trailer (...	0.00	0.00	0.00	0.00	0.30	0.37	0.25	0.25	0.25
Seed Capacity Adj. Fac.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Entering Dem. Adj....	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Exit Dem. Adj. Fac.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Free Flow Speed ...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Driver Pop. Capac...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Driver Pop. Free F...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Acc/Dec Lane Length (ft)		0	0				500	1,100	
ONR Side					Right		Right	Right	
# Lanes: ONR					1		1	1	
ONR Queue Capacity (v...					50		50	50	
ONR Free Flow Speed (...					45		45	45	
ONR/Entering Dem. (vph)					997		1,256	0	
ONR Single Unit Truck a...					1.00		2.00	2.00	
ONR Tractor Trailer (%)					1.00		0.00	0.00	
ONR Metering Type					None		Fixed	Fixed	
ONR Metering Fixed Rat...							2,100	2,100	
OFR Side		Right	Right		Right				
# Lanes: OFR		1	1		2				
OFR Free Flow Speed (...		45	45		45				
OFR/Exit Dem. (vph)		1,591	861		589				
OFR Single Unit Truck a...		2.00	2.00		2.00				
OFR Tractor Trailer (%)		0.00	0.00		0.00				
Weave Segment Ls (ft)					1,500				
Weave Segment LCRF					1				
Weave Segment LCFR					0				
Weave Segment LCRR					0				
Weave Segment NW					2				
Ramp to Ramp Dem. (vph)					0				
Processed Segment Type	Basic	Off Ramp	Off Ramp	Basic	Weaving	Basic	On Ramp	On Ramp	Basic
Speed (mph)	70.8	64.7	67.4	74.2	63.1	74.1	65.8	68.0	73.7
Total Density (veh/mi/ln)	22.4	24.5	15.6	10.2	13.1	12.0	20.1	19.4	17.9
Total Density (pc/mi/ln)	22.8	25.0	16.0	10.4	13.3	12.3	20.5	19.8	18.3
Influence Area Density (...		34.9	32.2				24.5	17.8	
Adjusted Capacity (vph)	7,059	7,059	7,059	7,059	4,891	7,059	7,059	7,059	7,059
Adjusted Mainline Dem. ...	4,752	4,752	3,161	2,300	3,297	2,708	3,964	3,964	3,964
D/C	0.67	0.67	0.45	0.33	0.67	0.38	0.56	0.56	0.56
Mainline Volume Served ...	4,752	4,752	3,161	2,300	3,297	2,708	3,964	3,964	3,964
V/C	0.67	0.67	0.45	0.33	0.67	0.38	0.56	0.56	0.56
Adjusted ONR Dem. (vph)					997		1,256	0	
ONR Capacity (vph)					2,059		2,059	2,059	
ONR Volume Served (vph)					997		1,256	0	
ONR Avg RM Rate (vph)									
ONR Time RM Active (min)					0.00		0.00	0.00	
Adjusted OFR Dem. (vph)		1,591	861		589				
OFR Capacity (vph)		2,059	2,059		4,118				
OFR Volume Served (vph)		1,591	861		589				
Density Based LOS	C	D	D	A	B	B	C	B	C
Dem. Based LOS									
Mainline Queue Length (ft)									
Mainline Queue Length (...									
ONR Queue (veh)									
Actual Travel Time (min)	0.48	0.09	0.13	0.31	0.34	0.19	0.17	0.18	0.66
FFS Travel Time (min)	0.45	0.08	0.12	0.30	0.29	0.19	0.15	0.17	0.65
Mainline Delay (min)	0.03	0.01	0.01	0.00	0.05	0.00	0.02	0.02	0.01
VMTD (veh-miles / interval)	675	112	120	218	297	162	188	206	807
VMTV (veh-miles / interval)	675	112	120	218	297	162	188	206	807
PMTD (p-miles / interval)	675	112	120	218	297	162	188	206	807
PMTV (p-miles / interval)	675	112	120	218	297	162	188	206	807
VHT (travel / interval (hrs))	9.53	1.74	1.78	2.93	4.70	2.18	2.85	3.04	10.96
VHD-M (delay / interval (...	0.53	0.24	0.18	0.03	0.74	0.03	0.35	0.28	0.20
VHD-R (delay / interval (...					0.00		0.00	0.00	
VHD-Access (delay / int...									
VHD-MDE (delay / interv...	0.00								
VHD (delay / interval (hrs))	0.53	0.24	0.18	0.03	0.74	0.03	0.35	0.28	0.20
Space Mean Speed (mph)	70.8	64.7	67.4	74.2	63.1	74.1	65.8	68.0	73.7
Travel Time Index	1.06	1.16	1.11	1.01	1.19	1.01	1.14	1.10	1.02

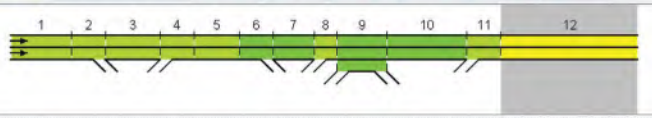
FREEVAL-2015e - Y:\Shared\Projects\P23160 Creekside Village II\Joint US50\FREEVAL\Existing 2023\6 PM WB 2033 No Proj 20240216.seed

Project Analyze Edit View Settings Toolbox Help

Edit Seed Facility: Global Input | Fill Data
Managed Lanes: Turn On
Reliability Analysis (RL): Generate | Delete | Summary
ATDM Analysis: Configure | Delete | Summary

Single Seed/Scenario I/O | Compare | Result Contours | Analysis Period Summary | Segment & Facility Summary

Table Display Options: In & Out | GP Only
Analysis Period (A.P.) Control: A.P. 1/1 7:45 - 8:00 | First | Last | Jump To



Segment	Seg. 1	Seg. 2	Seg. 3	Seg. 4	Seg. 5	Seg. 6	Seg. 7	Seg. 8	Seg. 9	Seg. 10	Seg. 11	Seg. 12
General Pur...	*	*	*	*	*	*	*	*	*	*	*	*
General Pur...	Cam to ...	BL Off	between	BL On	BL to SV	SV Off	between	SV Loop	SV-Lat	between	Lat On	Lat to E...
General Pur...	Basic	Off Ramp	Basic	On Ramp	Basic	Off Ramp	Basic	On Ramp	Weaving	Basic	On Ramp	Basic
Segment Le...	2,640	1,500	2,400	1,500	2,000	1,500	1,800	1,000	2,200	3,500	1,500	6,000
Lane Width ...	12	12	12	12	12	12	12	12	12	12	12	12
Lateral Clea...	10	10	10	10	10	10	10	10	10	10	10	10
Terrain	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
Truck-PC E...	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
# of Lanes: ...	2	2	2	2	2	2	2	2	3	2	2	2
Mainline De...	2,878	2878	2652	3132	3132	3132	2306	2306	2695	1855	3660	3660
Mainline Sin...	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Mainline Tra...	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Seed Capac...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Enteri...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Exit D...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Free F...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Driver ...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Driver ...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Acc/Dec La...		500		500		1,400		500			1,000	
ONR Side				Right				Right	Right		Right	
# Lanes: ONR				1				1	1		1	
ONR Queue ...				50				50	50		50	
ONR Free Fl...				45				45	45		45	
ONR/Enterin...				480				0	389		1,805	
ONR Single ...				2.00				2.00	2.00		2.00	
ONR Tractor...				0.00				0.00	0.00		0.00	
ONR Meteri...				Fixed				None	Fixed		Fixed	
ONR Meteri...				2,100					2,100		2,100	
OFR Side		Right				Right			Right			
# Lanes: OFR		1				2			2			
OFR Free Fl...		45				45			45			
OFR/Exit De...		226				826			840			
OFR Single ...		2.00				2.00			2.00			
OFR Tractor...		0.00				0.00			0.00			
Weave Seg...									1,500			
Weave Seg...									1			
Weave Seg...									0			
Weave Seg...									0			
Weave Seg...									0			
Ramp to Ra...									0			
Processed ...	Basic	Off Ramp	Basic	On Ramp	Basic	Off Ramp	Basic	On Ramp	Weaving	Basic	On Ramp	Basic
Speed (mph)	72.6	64.5	73.6	62.8	71.1	62.7	74.1	64.5	66.9	74.9	62.0	66.7
Total Densit...	19.8	24.5	18.0	26.5	22.0	18.8	15.4	20.3	13.4	12.4	26.9	27.4
Total Densit...	20.2	25.0	18.4	27.0	22.5	19.1	15.8	20.7	13.7	12.6	27.5	28.0
Influence Ar...		25.0		27.0		19.1		20.7			27.5	
Adjusted Ca...	4,706	4,706	4,706	4,706	4,706	4,706	4,706	4,706	5,045	4,706	4,706	4,706
Adjusted Ma...	2,878	2,878	2,652	3,132	3,132	3,132	2,306	2,306	2,695	1,855	3,660	3,660
D/C	0.61	0.61	0.56	0.67	0.67	0.67	0.49	0.49	0.53	0.39	0.78	0.78
Mainline Vol...	2,878	2,878	2,652	3,132	3,132	3,132	2,306	2,306	2,695	1,855	3,660	3,660
V/C	0.61	0.61	0.56	0.67	0.67	0.67	0.49	0.49	0.53	0.39	0.78	0.78
Adjusted ON...				480				0	389		1,805	
ONR Capaci...				2,059				2,059	2,059		2,059	
ONR Volum...				480				0	389		1,805	
ONR Avg R...												
ONR Time R...				0.00				0.00	0.00		0.00	
Adjusted OF...		226				826			840			
OFR Capaci...		2,059				4,118			4,118			
OFR Volume...		226				826			840			
Density Bas...	C	C	C	C	C	B	B	C	B	B	C	D
Dem. Based ...												
Mainline Qu...												
Mainline Qu...												
ONR Queue ...												
Actual Trave...	0.41	0.26	0.37	0.27	0.32	0.27	0.28	0.18	0.37	0.53	0.27	1.02
FFS Travel ...	0.40	0.23	0.36	0.23	0.30	0.23	0.27	0.15	0.33	0.53	0.23	0.91
Mainline Del...	0.01	0.04	0.01	0.04	0.02	0.04	0.00	0.02	0.04	0.00	0.05	0.11
VMTD (veh-...	360	204	301	222	297	222	197	109	281	307	260	1,040
VMTV (veh-...	360	204	301	222	297	222	197	109	281	307	260	1,040
PMTD (p-mil...	360	204	301	222	297	222	197	109	281	307	260	1,040
PMTV (p-mil...	360	204	301	222	297	222	197	109	281	307	260	1,040
VHT (travel /...	4.96	3.17	4.09	3.54	4.17	3.55	2.65	1.69	4.20	4.10	4.19	15.59
VHD-M (del...	0.16	0.44	0.07	0.58	0.22	0.58	0.03	0.24	0.46	0.00	0.73	1.73
VHD-R (dela...				0.00				0.00	0.00		0.00	
VHD-Acces...												
VHD-MDE (...	0.00											
VHD (delay ...	0.16	0.44	0.07	0.58	0.22	0.58	0.03	0.24	0.46	0.00	0.73	1.73
Space Mean ...	72.6	64.5	73.6	62.8	71.1	62.7	74.1	64.5	66.9	74.9	62.0	66.7
Travel Time ...	1.03	1.16	1.02	1.20	1.06	1.20	1.01	1.16	1.12	1.00	1.21	1.12

EPAP AM plus Project

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Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	El Dorado Hills Blvd/Serrano Pkwy	Signalized	HCM 7th Edition	SB Right	1.148	172.7	F
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	EB Right	1.385	158.6	F
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	NB Left	1.102	94.7	F
4	Latrobe Rd/US 50 EB	Signalized	HCM 7th Edition	EB Right	1.047	30.5	C
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	SB Left	0.976	39.9	D
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	NB Left	0.739	43.0	D
7	Latrobe Rd/Golden Foothill Pkwy N	Signalized	HCM 7th Edition	SB Right	0.984	54.8	D
8	Latrobe Rd/Suncast Ln	Signalized	HCM 7th Edition	NB Left	0.820	12.9	B
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	SB Left	1.046	84.0	F
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	NB Left	0.847	12.3	B
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	EB Left	0.152	44.5	E
12	Latrobe Rd/Royal Oaks Dr	Two-way stop	HCM 7th Edition	EB Left	1.677	428.8	F
13	Golden Foothill/Robert J Mathews	Two-way stop	HCM 7th Edition	NB Left	0.314	198.7	F
14	Investment Blvd/Robert J Mathews Pkwy	All-way stop	HCM 7th Edition	SB Thru	1.060	51.0	F
15	Golden Foothill Pkwy/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.222	13.9	B
16	Carson Crossing Rd/Calypso Cir.	Two-way stop	HCM 7th Edition	NB Left	0.182	14.4	B
17	Carson Crossing Rd/Four Seasons Dr	All-way stop	HCM 7th Edition	WB Left	0.077	7.9	A
	White Rock Rd/Carson		HCM 7th				

18	White Rock Rd/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.407	34.6	D
19	White Rock Rd/Windfield Way	Signalized	HCM 7th Edition	EB Left	0.585	29.2	C
20	White Rock Rd/Post St	Signalized	HCM 7th Edition	SB Left	0.611	39.5	D
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 7th Edition	WB Thru	1.305	247.0	F
22	White Rock Rd/Clarksville Crossing	Signalized	HCM 7th Edition	SB Right	0.849	34.5	C
23	White Rock Rd/US 50 EB	Signalized	HCM 7th Edition	EB Left	0.680	21.7	C
24	Silva Valley Pkwy/US 50 WB	Signalized	HCM 7th Edition	WB Left	1.011	65.9	E
25	New Intersection	Two-way stop	HCM 6th Edition	NB Thru	0.008	0.0	A
26	Latrobe/Wetsl-Oviatt	Two-way stop	HCM 7th Edition	EB Left	0.027	14.1	B
27	Latrobe/S. Shingle	Two-way stop	HCM 7th Edition	EB Left	0.160	21.1	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

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Intersection Level Of Service Report
Intersection 1: El Dorado Hills Blvd/Serrano Pkwy

Control Type:	Signalized	Delay (sec / veh):	172.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.148

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	260.0	100.0	100.0	100.0	110.00	100.00	100.00	100.00	100.00	100.00	430.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No			No		
Crosswalk	No				Yes			Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Base Volume Input [veh/h]	5	232	792	301	70	1655	46	23	14	260	467	64	111
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	9	0	0	-28	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	14	0	0	78	0	0	33
Total Hourly Volume [veh/h]	5	232	801	301	70	1627	32	23	14	182	467	64	78
Peak Hour Factor	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	67	230	86	20	468	9	7	4	52	134	18	22
Total Analysis Volume [veh/h]	5	267	921	346	80	1870	37	26	16	209	537	74	90
Presence of On-Street Parking	No			No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	1	6	0	7	7	0	0	8	0
Auxiliary Signal Groups													
Maximum Green [s]	0	25	40	0	25	40	0	35	35	0	0	35	0
Amber [s]	0.0	3.0	4.7	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	12	0	0	12	0	0	0	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	100.0	245.0	0.0	100.0	100.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	29	46	0	29	46	0	39	39	0	0	39	0
Lead / Lag	-	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	3	6	0	3	3	0	3	3	0	0	3	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	4.0	0.0
Minimum Recall		No	No		No	No			No			No	
Maximum Recall		No	No		No	No			No			No	
Pedestrian Recall		No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C
C, Calculated Cycle Length [s]	128	128	128	128	128	128	128	128	128	128
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	54	54	7	40	40	20	20	29	29
g / C, Green / Cycle	0.17	0.42	0.42	0.06	0.31	0.31	0.16	0.16	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.15	0.26	0.22	0.04	0.51	0.51	0.01	0.14	0.20	0.20
s, saturation flow rate [veh/h]	1781	3560	1589	1781	1870	1857	1781	1607	1781	1744
c, Capacity [veh/h]	299	1499	669	103	581	577	279	252	405	396
d1, Uniform Delay [s]	52.59	29.08	27.56	59.83	44.34	44.34	46.44	53.21	47.95	47.99
k, delay calibration	0.25	0.04	0.17	0.04	0.50	0.50	0.04	0.04	0.29	0.29
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	20.28	0.15	0.97	4.78	295.87	300.90	0.05	4.43	14.10	14.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.61	0.52	0.78	1.64	1.65	0.09	0.89	0.87	0.88
d, Delay for Lane Group [s/veh]	72.87	29.24	28.53	64.61	340.21	345.24	46.49	57.65	62.05	62.73
Lane Group LOS	E	C	C	E	F	F	D	E	E	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	10.07	10.63	7.73	2.65	65.49	65.85	0.72	7.43	12.48	12.34
50th-Percentile Queue Length [ft/ln]	251.84	265.86	193.24	66.36	1637.15	1646.18	18.05	185.75	311.90	308.49
95th-Percentile Queue Length [veh/ln]	15.28	15.98	12.29	4.78	100.50	101.20	1.30	11.90	18.27	18.10
95th-Percentile Queue Length [ft/ln]	381.96	399.56	307.23	119.44	2512.49	2530.11	32.50	297.51	456.72	452.52

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	72.87	72.87	29.24	28.53	64.61	342.67	345.24	46.49	57.65	57.65	62.28	62.73	62.73
Movement LOS	E	E	C	C	E	F	F	D	E	E	E	E	E
d_A, Approach Delay [s/veh]	36.79				331.53			56.49			62.39		
Approach LOS	D				F			E			E		
d_I, Intersection Delay [s/veh]	172.68												
Intersection LOS	F												
Intersection V/C	1.148												

Emissions

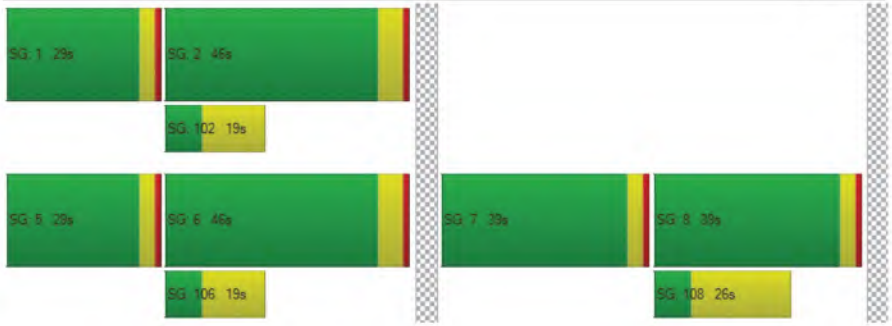
Vehicle Miles Traveled [mph]	64.96	219.96	82.64	11.76	140.19	140.19	1.11	9.61	18.50	18.18
Stops [stops/h]	282.37	596.18	216.67	74.40	1835.63	1845.75	20.24	208.27	349.71	345.89
Fuel consumption [US gal/h]	9.77	20.43	7.54	2.38	93.63	94.73	0.40	4.19	7.16	7.10
CO [g/h]	682.96	1428.20	526.73	166.36	6544.51	6621.51	28.21	292.56	500.23	495.95
NOx [g/h]	132.88	277.88	102.48	32.37	1273.32	1288.31	5.49	56.92	97.33	96.49
VOC [g/h]	158.28	331.00	122.07	38.56	1516.75	1534.60	6.54	67.80	115.93	114.94

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	53.69	53.69	53.69
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.235	2.303	2.386
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	628	628	545	545
d_b, Bicycle Delay [s]	30.24	30.24	33.98	33.98
l_b,int, Bicycle LOS Score for Intersection	2.825	3.210	2.102	2.771
Bicycle LOS	C	C	B	C

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	158.6
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.385

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	500.0	100.0	100.0	100.0	500.0	100.0	100.0	300.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

Scenario 4: 4 2033 AM with CCSP, + Project
Vistro File: C:\...\AM 918 DU 20241003.vistro
Report File: C:\...\9 2033 AM plus Proj.pdf
9/30/2024

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	1	413	988	150	1	218	1727	441	150	61	708	33	34	191
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	9	0	0	0	-28	0	0	0	-14	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	45	0	0	0	132	0	0	208	0	0	57
Total Hourly Volume [veh/h]	1	418	997	105	1	218	1699	309	150	61	486	33	34	134
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	112	268	28	0	59	457	83	40	16	131	9	9	36
Total Analysis Volume [veh/h]	1	449	1072	113	1	234	1827	332	161	66	523	35	37	144
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	0	3	8	0
Auxiliary Signal Groups														
Maximum Green [s]	0	20	50	0	0	20	50	0	20	20	0	0	20	0
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	14	0	0	0	18	0	0	0	0	0	28	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	0	24	56	0	24	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Calculated Cycle Length [s]	123	123	123	123	123	123	123	123	123	123	123
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	52	52	18	50	50	20	20	20	16	16
g / C, Green / Cycle	0.16	0.42	0.42	0.15	0.41	0.41	0.16	0.16	0.16	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.25	0.22	0.22	0.13	0.51	0.21	0.06	0.06	0.33	0.02	0.11
s, saturation flow rate [veh/h]	1781	3560	1780	1781	3560	1589	1781	1831	1589	1781	1640
c, Capacity [veh/h]	289	1497	749	262	1444	644	289	297	258	225	208
d1, Uniform Delay [s]	51.66	26.61	26.61	51.66	36.66	27.55	46.19	46.17	51.66	47.98	52.87
k, delay calibration	0.50	0.13	0.14	0.26	0.20	0.13	0.04	0.04	0.50	0.04	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	267.39	0.35	0.74	21.29	121.77	0.77	0.32	0.31	476.30	0.12	14.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.56	0.53	0.53	0.90	1.27	0.52	0.39	0.39	2.03	0.16	0.87
d, Delay for Lane Group [s/veh]	319.05	26.96	27.35	72.95	158.43	28.32	46.51	46.47	527.96	48.09	67.01
Lane Group LOS	F	C	C	E	F	C	D	D	F	D	E
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	30.11	8.32	8.41	8.49	44.79	7.18	3.12	3.18	42.05	0.97	6.32
50th-Percentile Queue Length [ft/ln]	752.82	207.99	210.19	212.30	1119.74	179.49	77.98	79.48	1051.13	24.31	157.89
95th-Percentile Queue Length [veh/ln]	46.62	13.05	13.16	13.27	65.02	11.57	5.61	5.72	66.28	1.75	10.44
95th-Percentile Queue Length [ft/ln]	1165.48	326.26	329.07	331.78	1625.58	289.35	140.37	143.07	1656.92	43.76	260.93

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	319.0	319.0	27.06	27.35	72.95	72.95	158.4	28.32	46.51	46.47	527.96	48.09	67.01	67.01
Movement LOS	F	F	C	C	E	E	F	C	D	D	F	D	E	E
d_A, Approach Delay [s/veh]	107.44				132.00				382.24			63.95		
Approach LOS	F				F				F			E		
d_I, Intersection Delay [s/veh]	158.59													
Intersection LOS	F													
Intersection V/C	1.385													

Emissions

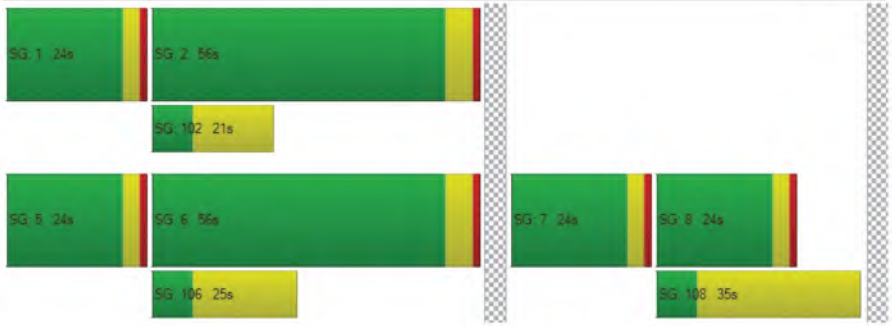
Vehicle Miles Traveled [mph]	84.69	148.64	74.37	56.13	436.35	79.29	7.01	7.15	32.62	1.71	8.83
Stops [stops/h]	879.63	486.06	245.59	248.06	2616.72	209.73	91.12	92.87	1228.20	28.41	184.49
Fuel consumption [US gal/h]	43.05	15.47	7.80	8.50	106.38	7.24	1.86	1.89	64.31	0.57	3.85
CO [g/h]	3009.22	1081.44	545.37	593.91	7436.28	505.99	129.69	132.20	4494.99	39.82	269.16
NOx [g/h]	585.49	210.41	106.11	115.55	1446.83	98.45	25.23	25.72	874.56	7.75	52.37
VOC [g/h]	697.42	250.63	126.40	137.64	1723.43	117.27	30.06	30.64	1041.76	9.23	62.38

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.11	51.11	51.11
I_p,int, Pedestrian LOS Score for Intersectio	0.000	3.624	2.907	2.274
Crosswalk LOS	F	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	816	816	325	325
d_b, Bicycle Delay [s]	21.59	21.59	43.24	43.24
I_b,int, Bicycle LOS Score for Intersection	2.483	3.451	3.140	2.010
Bicycle LOS	B	C	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	94.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.102

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	500.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1417	1188	141	3	69	1353	1044	256	92	816	171	99	105
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	20	14	4	0	0	-42	0	0	0	-22	-8	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	44	0	0	0	313	0	0	238	0	0	32
Total Hourly Volume [veh/h]	1	1437	1202	101	3	69	1311	731	256	92	556	163	99	73
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	359	301	25	1	17	328	183	64	23	139	41	25	18
Total Analysis Volume [veh/h]	1	1437	1202	101	3	69	1311	731	256	92	556	163	99	73
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	134
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	37	62	0	0	14	39	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	42	68	0	0	19	45	28	0	28	0	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Calculated Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	37	71	71	8	41	73	27	27	11	11	11
g / C, Green / Cycle	0.28	0.52	0.52	0.06	0.30	0.53	0.20	0.20	0.08	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.42	0.24	0.25	0.04	0.26	0.46	0.10	0.10	0.06	0.06	0.06
s, saturation flow rate [veh/h]	3459	3560	1798	1781	5094	1589	1781	1826	1781	1830	1671
c, Capacity [veh/h]	951	1849	934	99	1527	849	351	360	143	147	135
d1, Uniform Delay [s]	36.83	4.88	4.91	63.24	44.90	27.32	48.54	48.53	61.37	61.32	61.48
k, delay calibration	0.23	0.50	0.50	0.04	0.50	0.50	0.08	0.08	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	232.91	0.84	1.75	3.85	6.50	11.14	0.79	0.77	3.54	3.28	4.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.51	0.46	0.48	0.73	0.86	0.86	0.49	0.49	0.78	0.78	0.81
d, Delay for Lane Group [s/veh]	269.74	5.72	6.66	67.09	51.40	38.46	49.33	49.29	64.90	64.60	65.71
Lane Group LOS	F	A	A	E	D	D	D	D	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	44.51	2.17	2.49	2.52	14.38	21.61	5.30	5.42	3.96	4.02	3.85
50th-Percentile Queue Length [ft/ln]	1112.81	54.16	62.23	62.90	359.59	540.33	132.58	135.62	99.12	100.38	96.20
95th-Percentile Queue Length [veh/ln]	68.04	3.90	4.48	4.53	20.60	29.24	9.08	9.24	7.14	7.23	6.93
95th-Percentile Queue Length [ft/ln]	1701.00	97.49	112.01	113.23	515.09	730.94	227.00	231.11	178.41	180.69	173.16

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	269.7	269.7	5.99	6.66	67.09	67.09	51.40	38.46	49.32	49.29	0.00	64.81	65.00	65.71
Movement LOS	F	F	A	A	E	E	D	D	D	D		E	E	E
d_A, Approach Delay [s/veh]	144.39				47.46				18.98			65.06		
Approach LOS	F				D				B			E		
d_I, Intersection Delay [s/veh]	94.71													
Intersection LOS	F													
Intersection V/C	1.102													

Emissions

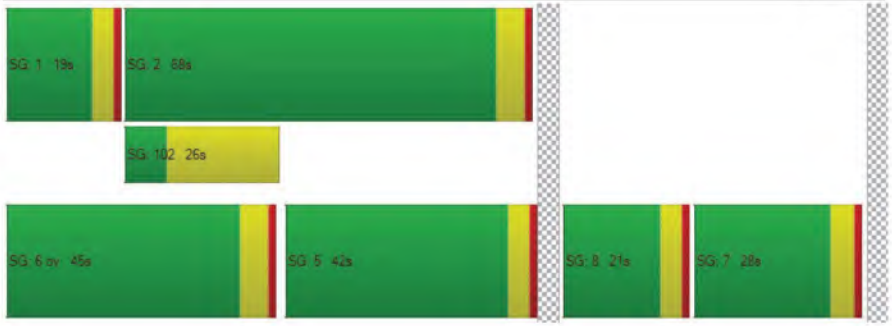
Vehicle Miles Traveled [mph]	246.28	146.77	76.39	13.55	246.72	137.57	7.95	8.14	3.58	3.63	3.44
Stops [stops/h]	2356.53	114.69	65.89	66.60	1142.24	572.11	140.38	143.60	104.95	106.29	101.86
Fuel consumption [US gal/h]	102.08	7.67	4.11	2.28	36.37	17.55	2.83	2.89	2.21	2.24	2.15
CO [g/h]	7135.17	536.39	287.50	159.05	2542.28	1226.69	197.76	202.29	154.63	156.44	150.47
NOx [g/h]	1388.25	104.36	55.94	30.95	494.64	238.67	38.48	39.36	30.08	30.44	29.28
VOC [g/h]	1653.65	124.31	66.63	36.86	589.20	284.30	45.83	46.88	35.84	36.26	34.87

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		57.44	
I_p,int, Pedestrian LOS Score for Intersectio	0.000		0.000		0.000		2.360	
Crosswalk LOS	F		F		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	915		576		337		241	
d_b, Bicycle Delay [s]	20.02		34.45		47.03		52.59	
I_b,int, Bicycle LOS Score for Intersection	3.091		2.857		2.134		1.862	
Bicycle LOS	C		C		B		A	

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Latrobe Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	30.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.047

Intersection Setup

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	200.00	570.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No			No		
Crosswalk	No			No				No			Yes		

Volumes

Name	Latrobe Rd			El Dorado Hills Blvd			US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Base Volume Input [veh/h]	0	2219	463	0	520	1821	0	0	1266	0	0	528
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	38	4	0	0	-72	0	0	-54	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	140	0	0	0	0	0	364	0	0	158
Total Hourly Volume [veh/h]	0	2257	327	0	520	1749	0	0	848	0	0	370
Peak Hour Factor	1.0000	0.8400	0.8400	1.000	0.840	0.840	1.000	1.0000	0.8400	1.0000	1.0000	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	672	97	0	155	521	0	0	252	0	0	110
Total Analysis Volume [veh/h]	0	2687	389	0	619	2082	0	0	1010	0	0	440
Presence of On-Street Parking	No		No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	74.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	50	0	0	39	50	0	0	0	45	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No				No			
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
l2, Clearance Lost Time [s]	0.0	4.2	0.0	0.0	2.6	4.2	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	2.5	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Minimum Recall		No			No	No				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	R	
C, Calculated Cycle Length [s]	68	68	68	68	68	
L, Total Lost Time per Cycle [s]	6.20	6.20	4.60	6.20	4.60	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	4.20	4.20	2.60	4.20	2.60	
g_i, Effective Green Time [s]	32	32	25	35	22	
g / C, Green / Cycle	0.47	0.47	0.37	0.51	0.33	
(v / s)_i Volume / Saturation Flow Rate	0.45	0.45	0.35	0.31	0.36	
s, saturation flow rate [veh/h]	5094	1717	1781	6792	2813	
c, Capacity [veh/h]	2395	807	661	3476	927	
d1, Uniform Delay [s]	17.45	17.29	20.61	11.69	22.80	
k, delay calibration	0.50	0.50	0.14	0.50	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	11.61	22.10	8.51	0.77	42.22	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.96	0.95	0.94	0.60	1.09	
d, Delay for Lane Group [s/veh]	29.07	39.39	29.13	12.46	65.02	
Lane Group LOS	C	D	C	B	F	
Critical Lane Group	Yes	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	11.61	13.90	9.47	4.43	12.19	
50th-Percentile Queue Length [ft/ln]	290.15	347.57	236.75	110.80	304.86	
95th-Percentile Queue Length [veh/ln]	17.19	20.02	14.52	7.88	18.86	
95th-Percentile Queue Length [ft/ln]	429.83	500.45	362.92	197.12	471.51	

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	30.53	39.39	29.13	29.13	12.46	0.00	0.00	0.00	65.02	0.00	0.00	0.00
Movement LOS		C	D	C	C	B				F			
d_A, Approach Delay [s/veh]	31.65			16.28			65.02				0.00		
Approach LOS	C			B			E				A		
d_I, Intersection Delay [s/veh]	30.50												
Intersection LOS	C												
Intersection V/C	1.047												

Emissions

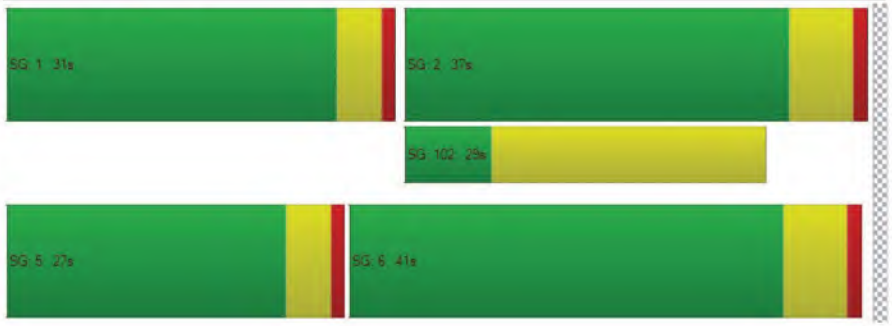
Vehicle Miles Traveled [mph]	333.82	111.27	106.02	356.58	72.28	
Stops [stops/h]	1843.31	736.04	501.35	938.57	1291.17	
Fuel consumption [US gal/h]	48.01	19.13	13.54	29.17	23.47	
CO [g/h]	3355.68	1337.17	946.20	2039.07	1640.71	
NOx [g/h]	652.89	260.16	184.10	396.73	319.22	
VOC [g/h]	777.71	309.90	219.29	472.57	380.25	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0		0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00		0.00	0.00	23.89
l_p,int, Pedestrian LOS Score for Intersectio	0.000		0.000	0.000	2.259
Crosswalk LOS	F		F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000		2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	906		1024	659	0
d_b, Bicycle Delay [s]	10.18		8.10	15.29	34.00
l_b,int, Bicycle LOS Score for Intersection	2.886		2.418	1.560	1.560
Bicycle LOS	C		B	A	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	39.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.976

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	68	1965	251	4	537	2174	372	156	9	24	1	72	32	557
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	42	5	0	0	-126	0	0	0	-2	0	-7	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	77	0	0	0	112	0	0	7	0	0	0	167
Total Hourly Volume [veh/h]	1	70	2007	179	4	537	2048	260	156	9	15	1	65	32	390
Peak Hour Factor	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.9800	0.9800	0.9800	0.980	0.980	0.980	0.980
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	18	512	46	1	137	522	66	40	2	4	0	17	8	99
Total Analysis Volume [veh/h]	1	71	2048	183	4	548	2090	265	159	9	15	1	66	33	398
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

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Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	123
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	5	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	50	0	15	15	50	0	15	20	0	0	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	3.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.5	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	1.5	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	245.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	19	19	56	0	19	24	0	0	19	19	0
Lead / Lag	-	Lead	-	-	Lead	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	4	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	No			No	No			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Calculated Cycle Length [s]	103	103	103	103	103	103	103	103	103	103	103	103
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	4	49	49	15	60	60	7	7	7	15	15	15
g / C, Green / Cycle	0.04	0.48	0.48	0.15	0.59	0.59	0.07	0.07	0.07	0.15	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.02	0.45	0.13	0.18	0.46	0.19	0.05	0.01	0.01	0.04	0.15	0.15
s, saturation flow rate [veh/h]	3113	4584	1431	3113	4584	1431	3113	1683	1431	1603	1464	1431
c, Capacity [veh/h]	121	2200	687	454	2690	840	228	123	105	234	213	208
d1, Uniform Delay [s]	48.68	25.16	15.96	43.97	16.15	10.78	46.59	44.45	44.68	39.20	43.97	43.97
k, delay calibration	0.04	0.04	0.04	0.09	0.04	0.04	0.08	0.08	0.08	0.08	0.44	0.44
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.75	0.86	0.08	101.49	0.19	0.08	2.87	0.18	0.46	0.50	63.63	64.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.60	0.93	0.27	1.22	0.78	0.32	0.70	0.07	0.14	0.29	1.02	1.02
d, Delay for Lane Group [s/veh]	50.43	26.02	16.04	145.46	16.33	10.86	49.46	44.64	45.14	39.70	107.60	108.27
Lane Group LOS	D	C	B	F	B	B	D	D	D	D	F	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.94	14.94	2.53	12.10	11.43	2.91	2.07	0.22	0.37	1.54	9.14	8.97
50th-Percentile Queue Length [ft/ln]	23.38	373.59	63.16	302.58	285.82	72.77	51.70	5.50	9.28	38.40	228.49	224.28
95th-Percentile Queue Length [veh/ln]	1.68	21.28	4.55	19.33	16.98	5.24	3.72	0.40	0.67	2.77	14.24	14.02
95th-Percentile Queue Length [ft/ln]	42.09	532.09	113.68	483.36	424.45	130.99	93.05	9.89	16.70	69.13	355.96	350.54

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.43	50.43	26.02	16.04	145.4	145.4	16.33	10.86	49.46	44.64	45.14	39.70	39.70	107.6	107.9
Movement LOS	D	D	C	B	F	F	B	B	D	D	D	D	D	F	F
d_A, Approach Delay [s/veh]	25.99				40.35				48.87			98.75			
Approach LOS	C				D				D			F			
d_I, Intersection Delay [s/veh]	39.94														
Intersection LOS	D														
Intersection V/C	0.976														

Emissions

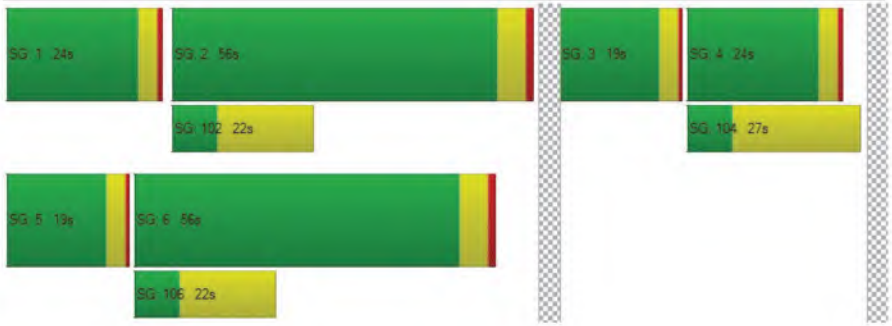
Vehicle Miles Traveled [mph]	16.07	457.07	40.84	79.87	302.42	38.34	20.28	1.15	1.91	23.51	76.50	74.77
Stops [stops/h]	65.50	1569.73	88.46	847.55	1200.92	101.92	144.81	7.70	12.99	53.79	320.02	314.12
Fuel consumption [US gal/h]	1.76	38.33	2.77	24.31	26.03	2.73	3.24	0.17	0.29	1.81	9.69	9.51
CO [g/h]	123.17	2679.42	193.43	1699.14	1819.62	190.65	226.13	11.99	20.15	126.27	677.29	664.50
NOx [g/h]	23.97	521.32	37.64	330.59	354.03	37.09	44.00	2.33	3.92	24.57	131.78	129.29
VOC [g/h]	28.55	620.98	44.83	393.79	421.71	44.18	52.41	2.78	4.67	29.26	156.97	154.00

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.00	0.00	41.00	41.00
I_p,int, Pedestrian LOS Score for Intersectio	3.459	0.000	2.578	2.833
Crosswalk LOS	C	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	982	982	399	302
d_b, Bicycle Delay [s]	13.31	13.31	32.95	37.08
I_b,int, Bicycle LOS Score for Intersection	2.868	2.919	1.716	2.548
Bicycle LOS	C	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	43.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.739

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	3	2	0	0	1	2	0	0	0	3	0	0
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	260.0	100.0	100.0	260.0	360.0	100.0	100.0	100.0	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	2	121	1681	388	1	95	1737	444	2	355	391	78	425	318	248
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	49	11	0	0	-135	0	0	0	0	0	-33	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	120	0	0	0	133	0	0	0	23	0	0	74
Total Hourly Volume [veh/h]	2	121	1730	279	1	95	1602	311	2	355	391	55	392	318	174
Peak Hour Factor	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	0.9400	0.9400	0.9400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	32	460	74	0	25	426	83	1	94	104	15	104	85	46
Total Analysis Volume [veh/h]	2	129	1840	297	1	101	1704	331	2	378	416	59	417	338	185
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	157
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups															
Maximum Green [s]	0	15	45	0	0	25	45	0	0	30	25	0	20	35	0
Amber [s]	0.0	4.0	4.7	0.0	0.0	4.0	4.7	0.0	0.0	4.5	4.7	0.0	4.5	4.7	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	39	0	0	0	37	0	0	0	48	0	0	50	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	3.0	3.7	0.0	0.0	3.0	3.7	0.0	0.0	4.0	3.7	0.0	4.0	3.7	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	19	51	0	0	29	51	0	0	36	31	0	26	41	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	7	0	0	10	7	0	0	10	10	0	10	10	0
Vehicle Extension [s]	0.0	1.5	3.0	0.0	0.0	1.5	3.0	0.0	0.0	1.5	2.0	0.0	1.5	2.0	0.0
Minimum Recall		No	Yes			No	Yes			No	No		No	No	
Maximum Recall		No	No			No	No			No	No		No	No	
Pedestrian Recall		No	No			No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Calculated Cycle Length [s]	157	157	157	157	157	157	157	157	157	157	157	157
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	6.00	5.70	5.70	6.00	5.70	5.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	4.00	3.70	3.70	4.00	3.70	3.70
g_i, Effective Green Time [s]	13	82	82	10	79	79	20	23	23	20	23	23
g / C, Green / Cycle	0.09	0.52	0.52	0.06	0.50	0.50	0.12	0.14	0.14	0.13	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.07	0.27	0.19	0.03	0.34	0.21	0.11	0.13	0.13	0.12	0.10	0.12
s, saturation flow rate [veh/h]	1767	6737	1577	3431	5053	1577	3431	1855	1775	3431	3532	1577
c, Capacity [veh/h]	151	3520	824	218	2529	789	427	267	255	437	518	231
d1, Uniform Delay [s]	70.87	24.62	22.05	70.93	29.56	24.80	67.65	66.21	66.22	68.04	63.22	64.77
k, delay calibration	0.17	0.50	0.50	0.04	0.50	0.50	0.04	0.23	0.23	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	20.03	0.56	1.23	0.58	1.46	1.64	2.57	20.82	21.61	5.43	0.52	2.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.52	0.36	0.47	0.67	0.42	0.89	0.91	0.91	0.95	0.65	0.80
d, Delay for Lane Group [s/veh]	90.91	25.18	23.28	71.51	31.02	26.43	70.22	87.03	87.83	73.47	63.74	67.21
Lane Group LOS	F	C	C	E	C	C	E	F	F	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.08	11.47	6.84	1.98	15.95	7.99	7.69	11.16	10.75	8.68	6.46	7.35
50th-Percentile Queue Length [ft/ln]	151.91	286.82	170.89	49.43	398.68	199.70	192.37	279.09	268.70	216.93	161.38	183.85
95th-Percentile Queue Length [veh/ln]	10.12	17.03	11.12	3.56	22.50	12.62	12.24	16.64	16.12	13.51	10.62	11.80
95th-Percentile Queue Length [ft/ln]	252.98	425.70	278.09	88.98	562.41	315.58	306.10	416.08	403.12	337.71	265.55	295.03

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	90.91	90.91	25.18	23.28	71.51	71.51	31.02	26.43	70.22	70.22	87.36	87.83	73.47	63.74	67.21
Movement LOS	F	F	C	C	E	E	C	C	E	E	F	F	E	E	E
d_A, Approach Delay [s/veh]	28.73				32.24				79.78				68.74		
Approach LOS	C				C				E				E		
d_I, Intersection Delay [s/veh]	43.04														
Intersection LOS	D														
Intersection V/C	0.739														

Emissions

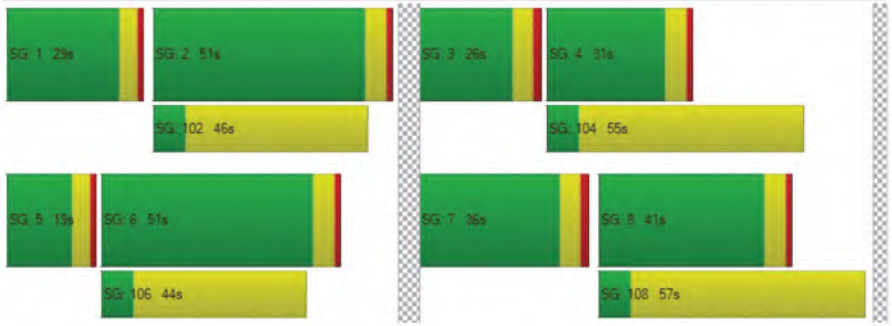
Vehicle Miles Traveled [mph]	52.16	732.56	118.24	22.76	380.29	73.87	94.70	60.47	57.91	43.72	35.44	19.40
Stops [stops/h]	139.33	1052.29	156.74	90.68	1097.00	183.17	352.88	255.98	246.45	397.94	296.03	168.62
Fuel consumption [US gal/h]	5.34	45.40	7.14	3.39	37.43	6.59	11.28	8.20	7.90	10.23	7.48	4.26
CO [g/h]	373.26	3173.40	499.13	237.09	2616.33	460.65	788.30	573.16	552.08	715.22	522.72	297.77
NOx [g/h]	72.62	617.43	97.11	46.13	509.04	89.62	153.37	111.52	107.41	139.16	101.70	57.94
VOC [g/h]	86.51	735.47	115.68	54.95	606.36	106.76	182.70	132.84	127.95	165.76	121.15	69.01

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	67.89	67.89	67.89	67.89
I_p,int, Pedestrian LOS Score for Intersectio	3.544	3.876	2.806	2.997
Crosswalk LOS	D	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	577	577	322	450
d_b, Bicycle Delay [s]	39.74	39.74	55.24	47.17
I_b,int, Bicycle LOS Score for Intersection	2.544	2.753	1.972	2.396
Bicycle LOS	B	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	54.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.984

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	57	1777	2	2	18	1704	532	257	5	15	4	9	15
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	61	0	0	0	-168	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	1	0	0	0	160	0	0	5	0	0	5
Total Hourly Volume [veh/h]	1	57	1838	1	2	18	1536	372	257	5	10	4	9	10
Peak Hour Factor	1.000	0.870	0.870	0.870	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	16	528	0	1	5	441	107	74	1	3	1	3	3
Total Analysis Volume [veh/h]	1	66	2113	1	2	21	1766	428	295	6	11	5	10	11
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	112
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	12	40	0	0	15	40	0	0	20	0	0	20	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	12	0	0	0	20	0	0	20	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	0	0	18	46	0	0	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	73	73	73	73	73	73	73	73	73
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	43	43	1	40	40	9	9	2
g / C, Green / Cycle	0.05	0.59	0.59	0.02	0.55	0.55	0.12	0.12	0.03
(v / s)_i Volume / Saturation Flow Rate	0.04	0.57	0.57	0.01	0.59	0.63	0.09	0.09	0.02
s, saturation flow rate [veh/h]	1781	1870	1870	1781	1870	1750	1781	1769	1725
c, Capacity [veh/h]	92	1093	1093	29	1026	960	219	217	51
d1, Uniform Delay [s]	34.04	14.47	14.48	35.73	16.44	16.44	30.75	30.75	34.86
k, delay calibration	0.04	0.46	0.46	0.04	0.48	0.50	0.11	0.11	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.98	19.21	19.24	16.03	47.87	76.63	4.33	4.37	2.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.72	0.97	0.97	0.79	1.07	1.14	0.72	0.72	0.51
d, Delay for Lane Group [s/veh]	38.02	33.68	33.72	51.76	64.31	93.07	35.08	35.12	37.79
Lane Group LOS	D	C	C	D	F	F	D	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.24	19.17	19.18	0.50	25.19	31.23	2.81	2.80	0.48
50th-Percentile Queue Length [ft/ln]	30.89	479.22	479.52	12.48	629.64	780.84	70.26	69.91	12.08
95th-Percentile Queue Length [veh/ln]	2.22	26.35	26.36	0.90	35.21	44.69	5.06	5.03	0.87
95th-Percentile Queue Length [ft/ln]	55.59	658.73	659.09	22.46	880.27	1117.29	126.47	125.84	21.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.02	38.02	33.70	33.72	51.76	51.76	75.21	93.07	35.10	35.12	35.12	37.79	37.79	37.79
Movement LOS	D	D	C	C	D	D	E	F	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	33.83				78.41				35.10			37.79		
Approach LOS	C				E				D			D		
d_I, Intersection Delay [s/veh]	54.81													
Intersection LOS	D													
Intersection V/C	0.984													

Emissions

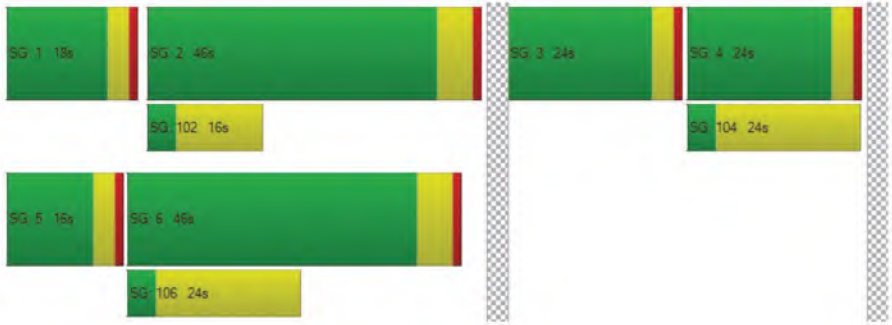
Vehicle Miles Traveled [mph]	23.71	374.03	374.03	9.16	436.75	436.75	37.68	37.46	0.49
Stops [stops/h]	61.15	948.79	949.39	24.71	1246.59	1545.96	139.11	138.42	23.92
Fuel consumption [US gal/h]	1.83	27.88	27.90	1.01	52.12	64.10	3.44	3.42	0.35
CO [g/h]	128.07	1949.12	1949.89	70.42	3643.26	4480.58	240.21	238.95	24.64
NOx [g/h]	24.92	379.23	379.38	13.70	708.85	871.76	46.74	46.49	4.79
VOC [g/h]	29.68	451.73	451.91	16.32	844.36	1038.42	55.67	55.38	5.71

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	28.81	0.00	28.81	28.81
l_p,int, Pedestrian LOS Score for Intersectio	3.067	0.000	2.258	1.743
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1100	1100	550	550
d_b, Bicycle Delay [s]	7.37	7.37	19.12	19.12
l_b,int, Bicycle LOS Score for Intersection	3.359	3.503	2.083	1.611
Bicycle LOS	C	D	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 8: Latrobe Rd/Suncast Ln

Control Type:	Signalized	Delay (sec / veh):	12.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.820

Intersection Setup

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Approach	Northbound			Southbound		Eastbound	
Lane Configuration							
Turning Movement	U-turn	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			No		Yes	

Volumes

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Base Volume Input [veh/h]	1	92	1693	1327	397	153	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	66	0	0	0
Site-Generated Trips [veh/h]	0	3	61	-168	0	0	-1
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	119	0	17
Total Hourly Volume [veh/h]	1	95	1754	1225	278	153	39
Peak Hour Factor	1.0000	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	27	504	352	80	44	11
Total Analysis Volume [veh/h]	1	109	2016	1408	320	176	45
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permissive	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	5	2	6	0	3	0
Auxiliary Signal Groups							
Maximum Green [s]	0	12	40	40	0	20	0
Amber [s]	0.0	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No	No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	46	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-
Minimum Green [s]	0	5	5	5	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall		No	No	No		No	
Maximum Recall		No	No	No		No	
Pedestrian Recall		No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	L	R
C, Calculated Cycle Length [s]	64	64	64	64	64	64
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	5	45	36	36	8	8
g / C, Green / Cycle	0.08	0.71	0.57	0.57	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.06	0.57	0.46	0.49	0.10	0.03
s, saturation flow rate [veh/h]	1781	3560	1870	1755	1781	1589
c, Capacity [veh/h]	143	2533	1063	998	235	209
d1, Uniform Delay [s]	28.75	6.12	11.04	11.70	26.67	24.74
k, delay calibration	0.04	0.15	0.27	0.30	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.28	0.85	3.82	6.36	4.76	0.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.80	0.81	0.87	0.75	0.21
d, Delay for Lane Group [s/veh]	32.03	6.97	14.86	18.06	31.44	25.24
Lane Group LOS	C	A	B	B	C	C
Critical Lane Group	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.70	5.46	8.75	9.84	2.75	0.61
50th-Percentile Queue Length [ft/ln]	42.48	136.46	218.80	246.02	68.67	15.18
95th-Percentile Queue Length [veh/ln]	3.06	9.29	13.60	14.99	4.94	1.09
95th-Percentile Queue Length [ft/ln]	76.47	232.25	340.09	374.64	123.60	27.32

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.03	32.03	6.97	16.09	18.06	31.44	25.24
Movement LOS	C	C	A	B	B	C	C
d_A, Approach Delay [s/veh]	8.27			16.46		30.18	
Approach LOS	A			B		C	
d_I, Intersection Delay [s/veh]	12.93						
Intersection LOS	B						
Intersection V/C	0.820						

Emissions

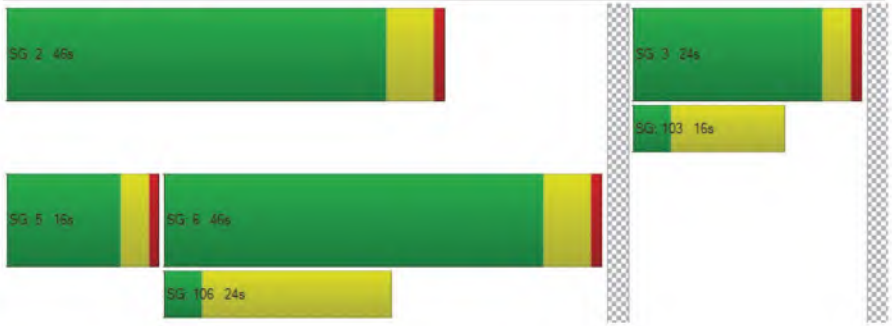
Vehicle Miles Traveled [mph]	76.75	1406.58	305.74	305.74	59.38	15.18
Stops [stops/h]	96.09	617.30	494.89	556.46	155.31	34.33
Fuel consumption [US gal/h]	4.41	64.17	17.93	18.84	4.43	1.05
CO [g/h]	308.07	4485.75	1253.51	1316.59	309.56	73.11
NOx [g/h]	59.94	872.76	243.89	256.16	60.23	14.22
VOC [g/h]	71.40	1039.61	290.51	305.13	71.74	16.94

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0		0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00	0.00
d_p, Pedestrian Delay [s]	24.34		0.00	24.34
l_p,int, Pedestrian LOS Score for Intersectio	2.986		0.000	2.205
Crosswalk LOS	C		F	B
s_b, Saturation Flow Rate of the bicycle lane	2000		2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1257		1257	628
d_b, Bicycle Delay [s]	4.40		4.40	14.97
l_b,int, Bicycle LOS Score for Intersection	3.313		3.083	1.560
Bicycle LOS	C		C	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	84.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.046

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	53	773	21	249	386	750	514	69	78	136	241	520
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	4	0	100	0	0	0	0	17	0	0
Site-Generated Trips [veh/h]	26	99	10	0	-25	-145	-35	-6	-10	-8	-25	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	11	0	0	182	0	0	20	0	0	156
Total Hourly Volume [veh/h]	79	872	24	249	461	423	479	63	48	145	216	364
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	245	7	70	129	119	135	18	13	41	61	102
Total Analysis Volume [veh/h]	89	980	27	280	518	475	538	71	54	163	243	409
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Calculated Cycle Length [s]	91	91	91	91	91	91	91	91	91	91
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	6	25	25	12	31	31	15	15	20	20
g / C, Green / Cycle	0.06	0.28	0.28	0.13	0.34	0.34	0.17	0.17	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.05	0.27	0.27	0.16	0.28	0.30	0.19	0.19	0.23	0.25
s, saturation flow rate [veh/h]	1781	1870	1852	1781	1870	1589	1781	1764	1822	1589
c, Capacity [veh/h]	117	515	510	235	639	544	294	291	401	350
d1, Uniform Delay [s]	41.73	32.68	32.68	39.40	27.19	28.04	37.90	37.90	35.40	35.40
k, delay calibration	0.04	0.38	0.38	0.50	0.40	0.46	0.47	0.47	0.42	0.48
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.83	30.49	30.69	119.58	8.67	16.44	91.34	92.09	56.56	83.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.98	0.98	1.19	0.81	0.87	1.13	1.13	1.05	1.12
d, Delay for Lane Group [s/veh]	45.56	63.17	63.37	158.98	35.86	44.48	129.24	129.99	91.96	118.51
Lane Group LOS	D	E	E	F	D	D	F	F	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.06	15.03	14.92	12.66	10.53	10.99	13.87	13.80	14.94	15.62
50th-Percentile Queue Length [ft/ln]	51.60	375.87	373.09	316.59	263.35	274.67	346.71	344.98	373.53	390.46
95th-Percentile Queue Length [veh/ln]	3.72	21.39	21.26	19.88	15.86	16.42	21.17	21.09	21.92	23.46
95th-Percentile Queue Length [ft/ln]	92.89	534.85	531.48	497.12	396.42	410.58	529.28	527.29	547.91	586.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.56	63.27	63.37	158.98	35.86	44.48	129.52	129.99	129.99	91.96	91.96	118.41
Movement LOS	D	E	E	F	D	D	F	F	F	F	F	F
d_A, Approach Delay [s/veh]	61.84			66.15			129.61			104.72		
Approach LOS	E			E			F			F		
d_I, Intersection Delay [s/veh]	84.03											
Intersection LOS	F											
Intersection V/C	1.046											

Emissions

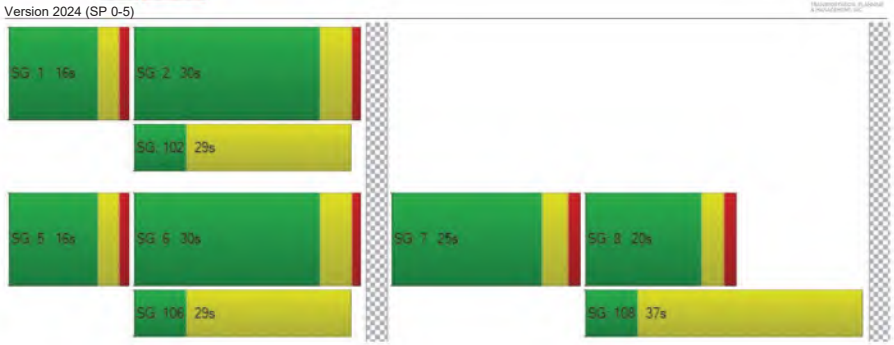
Vehicle Miles Traveled [mph]	51.40	292.14	289.43	195.36	361.41	331.41	25.04	24.84	46.81	43.33
Stops [stops/h]	81.84	596.10	591.69	502.09	417.65	435.61	549.85	547.11	592.39	619.23
Fuel consumption [US gal/h]	3.39	21.82	21.65	24.92	23.63	23.48	12.82	12.78	13.12	14.65
CO [g/h]	237.19	1525.36	1513.08	1741.77	1651.53	1641.01	896.22	893.09	917.07	1024.11
NOx [g/h]	46.15	296.78	294.39	338.89	321.33	319.28	174.37	173.76	178.43	199.26
VOC [g/h]	54.97	353.52	350.67	403.67	382.76	380.32	207.71	206.98	212.54	237.35

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	35.07	0.00	35.07	35.07
I_p,int, Pedestrian LOS Score for Intersectio	2.679	0.000	2.512	2.604
Crosswalk LOS	B	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	544	544	341	441
d_b, Bicycle Delay [s]	24.06	24.06	31.22	27.60
I_b,int, Bicycle LOS Score for Intersection	2.473	2.760	2.687	3.162
Bicycle LOS	B	C	B	C

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	12.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.847

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	122	575	254	291	262	88
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	27	0	1	130	0	0
Site-Generated Trips [veh/h]	-23	171	104	-148	-36	-6
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	126	746	359	273	226	82
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	207	100	76	63	23
Total Analysis Volume [veh/h]	140	829	399	303	251	91
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	12	40	40	0	20	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	46	46	0	24	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Calculated Cycle Length [s]	39	39	39	39	39	39
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	4	21	13	13	8	8
g / C, Green / Cycle	0.10	0.54	0.34	0.34	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.08	0.44	0.21	0.19	0.14	0.06
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1589
c, Capacity [veh/h]	183	1014	629	535	357	318
d1, Uniform Delay [s]	16.96	7.31	10.86	10.56	14.45	13.17
k, delay calibration	0.04	0.15	0.15	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.52	2.38	1.51	1.35	2.55	0.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.82	0.63	0.57	0.70	0.29
d, Delay for Lane Group [s/veh]	19.47	9.69	12.38	11.90	17.00	13.66
Lane Group LOS	B	A	B	B	B	B
Critical Lane Group	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.98	2.02	1.85	1.37	1.92	0.60
50th-Percentile Queue Length [ft/ln]	24.59	50.48	46.13	34.17	48.08	14.88
95th-Percentile Queue Length [veh/ln]	1.77	3.63	3.32	2.46	3.46	1.07
95th-Percentile Queue Length [ft/ln]	44.25	90.86	83.04	61.50	86.54	26.79

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	19.47	9.69	12.38	11.90	17.00	13.66
Movement LOS	B	A	B	B	B	B
d_A, Approach Delay [s/veh]	11.10		12.17		16.11	
Approach LOS	B		B		B	
d_I, Intersection Delay [s/veh]	12.33					
Intersection LOS	B					
Intersection V/C	0.847					

Emissions

Vehicle Miles Traveled [mph]	17.27	102.29	230.43	174.99	58.95	21.37
Stops [stops/h]	91.47	187.80	171.62	127.10	178.87	55.36
Fuel consumption [US gal/h]	2.83	8.54	11.90	8.95	4.28	1.44
CO [g/h]	197.93	597.25	831.90	625.52	299.42	100.57
NOx [g/h]	38.51	116.20	161.86	121.70	58.26	19.57
VOC [g/h]	45.87	138.42	192.80	144.97	69.39	23.31

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	12.18	0.00	12.18
I_p,int, Pedestrian LOS Score for Intersectio	2.767	0.000	2.153
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	2067	2067	1033
d_b, Bicycle Delay [s]	0.02	0.02	4.52
I_b,int, Bicycle LOS Score for Intersection	3.158	2.718	1.560
Bicycle LOS	C	B	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	44.5
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.152

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	658	0	14	328	0	0	0	0	0	0	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	3	7	0	0	0	0	0
Site-Generated Trips [veh/h]	1	140	0	0	94	4	8	0	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	798	0	14	422	7	15	0	2	0	0	39
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	217	0	4	115	2	4	0	1	0	0	10
Total Analysis Volume [veh/h]	1	867	0	14	459	8	16	0	2	0	0	39
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			Yes	Yes
Storage Area [veh]	0	0	1	1
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.02	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.11
d_M, Delay for Movement [s/veh]	8.29	0.00	0.00	9.65	0.00	0.00	44.50	35.28	16.37	35.85	31.33	16.49
Movement LOS	A	A	A	A	A	A	E	E	C	E	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.02	0.02	0.02	0.52	0.52	0.52	0.37	0.37	0.37
95th-Percentile Queue Length [ft/ln]	0.04	0.04	0.04	0.59	0.59	0.59	12.89	12.89	12.89	9.25	9.25	9.25
d_A, Approach Delay [s/veh]	0.01			0.28			41.37			16.49		
Approach LOS	A			A			E			C		
d_I, Intersection Delay [s/veh]	1.09											
Intersection LOS	E											

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Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Two-way stop	Delay (sec / veh):	428.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.677

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	408	41	74	254	0	0	0	0	11	0	250
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	5	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	-12	0	0	1	64	152	2	17	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	31	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	396	41	74	260	95	152	2	17	11	1	250
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	106	11	20	70	26	41	1	5	3	0	67
Total Analysis Volume [veh/h]	12	426	44	80	280	102	163	2	18	12	1	269
Pedestrian Volume [ped/h]		0			0			0			0	

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.07	0.00	0.00	1.68	0.01	0.03	0.06	0.00	0.44
d_M, Delay for Movement [s/veh]	8.09	0.00	0.00	8.56	0.00	0.00	428.84	407.63	396.88	28.88	27.79	17.23
Movement LOS	A	A	A	A	A	A	F	F	F	D	D	C
95th-Percentile Queue Length [veh/ln]	0.03	0.00	0.00	0.24	0.00	0.00	14.30	14.30	14.30	2.81	2.81	2.81
95th-Percentile Queue Length [ft/ln]	0.77	0.00	0.00	5.92	0.00	0.00	357.55	357.55	357.55	70.36	70.36	70.36
d_A, Approach Delay [s/veh]		0.20			1.48			425.47			17.77	
Approach LOS		A			A			F			C	
d_I, Intersection Delay [s/veh]	59.37											
Intersection LOS	F											

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Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Two-way stop	Delay (sec / veh):	198.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.314

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	13	460	201	51	0	862	182
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-13	-41	-10	-52	0	-170	26
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	6	0	0	37	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	6	419	191	36	0	692	208
Peak Hour Factor	1.0000	0.9060	0.9060	0.9060	0.9060	1.0000	0.9060	0.9060
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	116	53	10	0	191	57
Total Analysis Volume [veh/h]	0	7	462	211	40	0	764	230
Pedestrian Volume [ped/h]	0			0		0		

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.31	0.57	0.00	0.00	0.00	0.58	0.00
d_M, Delay for Movement [s/veh]	198.65	198.65	41.75	0.00	0.00	17.07	9.21	0.00
Movement LOS	F	F	E	A	A	C	A	A
95th-Percentile Queue Length [veh/ln]	10.00	10.00	10.00	0.00	0.00	2.18	2.18	2.18
95th-Percentile Queue Length [ft/ln]	250.00	250.00	250.00	0.00	0.00	54.39	54.39	54.39
d_A, Approach Delay [s/veh]	44.09			0.00		7.08		
Approach LOS	E			A		A		
d_I, Intersection Delay [s/veh]	16.17							
Intersection LOS	F							

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Intersection Level Of Service Report
Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Control Type:	All-way stop	Delay (sec / veh):	51.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.060

Intersection Setup

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Base Volume Input [veh/h]	9	149	80	2	30	779	37	11	17	0	240	45	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-76	-59	0	2	-194	-36	20	15	0	-148	-26	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	73	21	2	32	585	1	31	32	0	92	19	66
Peak Hour Factor	0.8300	0.8300	0.8300	1.000	0.830	0.830	0.830	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	22	6	1	10	176	0	9	10	0	28	6	20
Total Analysis Volume [veh/h]	11	88	25	2	39	705	1	37	39	0	111	23	80
Pedestrian Volume [ped/h]	0			0				0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	620	747	539	587
Degree of Utilization, x	0.20	1.06	0.14	0.36

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.74	19.59	0.49	1.66
95th-Percentile Queue Length [ft]	18.50	489.73	12.22	41.57
Approach Delay [s/veh]	10.24	72.80	10.78	12.61
Approach LOS	B	F	B	B
Intersection Delay [s/veh]	50.96			
Intersection LOS	F			

Intersection Level Of Service Report
Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.222

Intersection Setup

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00			30.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	No		No			No		

Volumes

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Base Volume Input [veh/h]	110	126	1	106	95	0	67	128
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-57	0	-5	0	0	15	-1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	69	1	101	95	0	82	127
Peak Hour Factor	0.9500	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	18	0	27	25	0	22	33
Total Analysis Volume [veh/h]	116	73	1	106	100	0	86	134
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.22	0.08	0.00	0.00	0.00	0.00	0.06	0.00
d_M, Delay for Movement [s/veh]	13.85	9.41	8.81	0.00	0.00	9.80	7.81	0.00
Movement LOS	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.84	0.27	0.00	0.00	0.00	0.20	0.20	0.00
95th-Percentile Queue Length [ft/ln]	21.07	6.69	0.05	0.05	0.05	5.04	5.04	0.00
d_A, Approach Delay [s/veh]	12.14		0.04			3.05		
Approach LOS	B		A			A		
d_I, Intersection Delay [s/veh]	4.83							
Intersection LOS	B							

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Intersection Level Of Service Report
Intersection 16: Carson Crossing Rd/Calypso Cir.

Control Type:	Two-way stop	Delay (sec / veh):	14.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.182

Intersection Setup

Name			Carson Crossing Rd		Carson Crossing Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	190.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			Carson Crossing Rd		Carson Crossing Rd	
Base Volume Input [veh/h]	83	80	145	57	121	95
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-57	0	0	15
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	83	80	88	57	121	110
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	22	24	15	33	30
Total Analysis Volume [veh/h]	90	87	96	62	132	120
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.18	0.09	0.00	0.00	0.09	0.00
d_M, Delay for Movement [s/veh]	14.35	10.82	0.00	0.00	7.79	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.10	1.10	0.00	0.00	0.31	0.00
95th-Percentile Queue Length [ft/ln]	27.61	27.61	0.00	0.00	7.66	0.00
d_A, Approach Delay [s/veh]	12.61		0.00		4.08	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	5.56					
Intersection LOS	B					

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Intersection Level Of Service Report
Intersection 17: Carson Crossing Rd/Four Seasons Dr

Control Type:	All-way stop	Delay (sec / veh):	7.9
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.077

Intersection Setup

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	500.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	500.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Base Volume Input [veh/h]	67	10	11	165	19	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	0	-57	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	82	10	11	108	19	18
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	3	3	29	5	5
Total Analysis Volume [veh/h]	89	11	12	117	21	20
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	735	759	690	763	763	744
Degree of Utilization, x	0.07	0.07	0.02	0.08	0.08	0.06

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.22	0.21	0.05	0.25	0.25	0.17
95th-Percentile Queue Length [ft]	5.46	5.28	1.33	6.21	6.21	4.37
Approach Delay [s/veh]	7.87		7.83			8.12
Approach LOS	A		A			A
Intersection Delay [s/veh]	7.89					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	34.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.407

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	65	0	18	66	1	8	4	296	125	50	536	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	0	0	0	0	0	0	-57	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	0	18	66	1	8	4	296	68	50	536	15
Peak Hour Factor	0.9700	1.0000	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	0	5	17	0	2	1	76	18	13	138	4
Total Analysis Volume [veh/h]	82	0	19	68	1	8	4	305	70	52	553	15
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.41	0.00	0.03	0.34	0.00	0.02	0.00	0.00	0.00	0.04	0.01	0.00
d_M, Delay for Movement [s/veh]	34.56	21.12	10.27	31.85	30.58	20.82	8.60	0.00	0.00	8.18	0.00	0.00
Movement LOS	D	C	B	D	D	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.83	0.08	0.08	1.53	1.53	1.53	0.01	0.00	0.00	0.14	0.00	0.00
95th-Percentile Queue Length [ft/ln]	45.77	2.08	2.08	38.28	38.28	38.28	0.30	0.00	0.00	3.44	0.00	0.00
d_A, Approach Delay [s/veh]	29.99			30.69			0.09			0.69		
Approach LOS	D			D			A			A		
d_I, Intersection Delay [s/veh]	4.97											
Intersection LOS	D											

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Intersection Level Of Service Report
Intersection 19: White Rock Rd/Windfield Way

Control Type:	Signalized	Delay (sec / veh):	29.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.585

Intersection Setup

Name	Windfield Way				White Rock Rd				White Rock Rd			
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00			
Grade [%]	0.00			0.00			0.00			0.00			
Curb Present	No			No			No			No			
Crosswalk	Yes			Yes			Yes			No			

Volumes

Name	Windfield Way						White Rock Rd			White Rock Rd			
Base Volume Input [veh/h]	72	5	189	5	5	5	5	632	184	0	378	502	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	57	0	0	2	0	0	55	0	0	0	2
Total Hourly Volume [veh/h]	72	5	132	5	5	3	5	632	129	0	378	502	3
Peak Hour Factor	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000	1.0000	0.9700	0.9700	1.000	0.970	0.970	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	19	1	34	1	1	1	1	163	33	0	97	129	1
Total Analysis Volume [veh/h]	74	5	136	5	5	3	5	652	133	0	390	518	3
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	31.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi
Signal Group	3	8	0	7	4	0	5	2	0	0	1	6	0
Auxiliary Signal Groups													
Maximum Green [s]	25	25	0	10	10	0	9	19	0	0	44	54	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	2.0	1.0	0.0	0.0	2.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	26	0	0	13	0	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	245.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	15	15	0	15	25	0	0	50	60	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	3	3	0	5	3	0	5	7	0	0	3	7	0
Vehicle Extension [s]	1.0	1.0	0.0	3.0	1.0	0.0	3.0	3.6	0.0	0.0	1.0	3.6	0.0
Minimum Recall	No	No		No	No		No	Yes			No	Yes	
Maximum Recall	No	No		No	No		No	No			No	No	
Pedestrian Recall	No	No		No	No		No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	6	12	1	7	1	57	57	28	84	84
g / C, Green / Cycle	0.05	0.10	0.01	0.06	0.01	0.47	0.47	0.23	0.70	0.70
(v / s)_i Volume / Saturation Flow Rate	0.04	0.09	0.00	0.00	0.00	0.22	0.22	0.22	0.14	0.14
s, saturation flow rate [veh/h]	1781	1598	1781	1754	1781	1870	1762	1781	1870	1866
c, Capacity [veh/h]	96	165	12	99	12	885	834	415	1308	1305
d1, Uniform Delay [s]	56.04	52.90	59.33	53.65	59.34	21.23	21.24	45.20	6.30	6.30
k, delay calibration	0.04	0.04	0.11	0.04	0.11	0.50	0.50	0.08	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.83	4.72	19.50	0.13	19.95	1.69	1.81	8.64	0.34	0.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.85	0.40	0.08	0.40	0.46	0.46	0.94	0.20	0.20
d, Delay for Lane Group [s/veh]	60.87	57.61	78.83	53.78	79.29	22.92	23.05	53.84	6.65	6.65
Lane Group LOS	E	E	E	D	E	C	C	D	A	A
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.34	4.39	0.22	0.23	0.22	7.96	7.55	12.32	2.28	2.28
50th-Percentile Queue Length [ft/ln]	58.56	109.83	5.48	5.83	5.50	199.09	188.65	308.10	57.00	56.89
95th-Percentile Queue Length [veh/ln]	4.22	7.83	0.39	0.42	0.40	12.59	12.05	18.08	4.10	4.10
95th-Percentile Queue Length [ft/ln]	105.40	195.77	9.86	10.49	9.90	314.79	301.28	452.04	102.59	102.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	60.87	57.61	57.61	78.83	53.78	53.78	79.29	22.97	23.05	53.84	53.84	6.65	6.65
Movement LOS	E	E	E	E	D	D	E	C	C	D	D	A	A
d_A, Approach Delay [s/veh]	58.73			63.41			23.34			26.85			
Approach LOS	E			E			C			C			
d_I, Intersection Delay [s/veh]	29.21												
Intersection LOS	C												
Intersection V/C	0.585												

Emissions

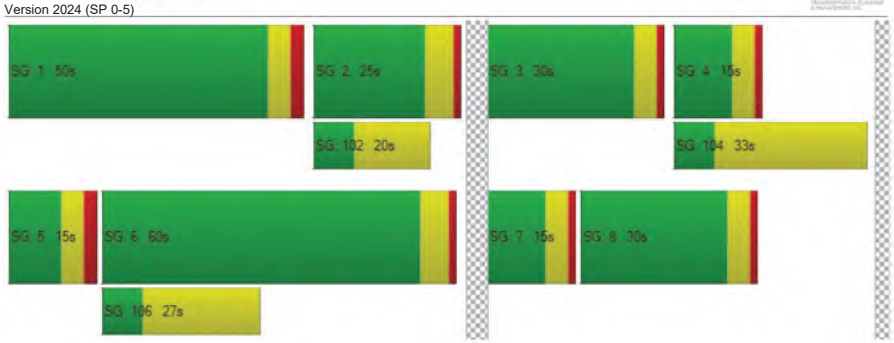
Vehicle Miles Traveled [mph]	28.51	54.33	0.17	0.28	4.21	339.83	320.77	97.19	64.98	64.85
Stops [stops/h]	70.27	131.80	6.57	6.99	6.60	238.91	226.38	369.72	68.40	68.27
Fuel consumption [US gal/h]	2.48	4.62	0.12	0.14	0.29	17.19	16.24	10.32	3.41	3.40
CO [g/h]	173.25	322.77	8.65	9.62	20.30	1201.81	1135.42	721.11	238.07	237.59
NOx [g/h]	33.71	62.80	1.68	1.87	3.95	233.83	220.91	140.30	46.32	46.23
VOC [g/h]	40.15	74.80	2.00	2.23	4.70	278.53	263.15	167.12	55.18	55.06

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.313	1.967	2.673	0.000
Crosswalk LOS	B	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	417	167	317	900
d_b, Bicycle Delay [s]	37.60	50.42	42.50	18.15
I_b,int, Bicycle LOS Score for Intersection	2.008	1.584	2.257	1.991
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 20: White Rock Rd/Post St

Control Type:	Signalized	Delay (sec / veh):	39.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.611

Intersection Setup

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Approach	Northbound			Southbound			Eastbound				Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0	120.00	100.00	400.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00				30.00		
Grade [%]	0.00			0.00			0.00				0.00		
Curb Present	No			No			No				No		
Crosswalk	Yes			Yes			Yes				No		

Volumes

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	59	7	20	114	11	203	0	243	569	62	55	729	205
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	-12	0	-2	14	0	0	-22	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	6	0	0	57	0	0	0	19	0	0	62
Total Hourly Volume [veh/h]	59	7	14	114	11	134	0	241	583	43	55	707	143
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	1.000	0.910	0.910	0.910	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	2	4	31	3	37	0	66	160	12	15	194	39
Total Analysis Volume [veh/h]	65	8	15	125	12	147	0	265	641	47	60	777	157
Presence of On-Street Parking	No		No	No		No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0				0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0				0		
v_co, Outbound Pedestrian Volume crossing	0			0			0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0				0		
Bicycle Volume [bicycles/h]	0			0			0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	71.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups													
Maximum Green [s]	21	62	0	8	48	0	0	14	31	0	16	34	0
Amber [s]	3.5	5.0	0.0	3.5	5.0	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.7	1.0	0.0	1.0	1.0	0.0	0.0	2.0	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	32	0	0	0	21	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.2	4.0	0.0	2.5	4.0	0.0	0.0	3.5	2.5	0.0	3.0	2.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	100.0	0.0	100.0	100.0	0.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	0	13	54	0	0	20	36	0	21	39	0
Lead / Lag	Lead	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	3	7	0	3	7	0	0	3	3	0	3	3	0
Vehicle Extension [s]	1.0	3.6	0.0	1.0	3.6	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No			No	Yes		No	Yes	
Maximum Recall	No	No		No	No			No	No		No	No	
Pedestrian Recall	No	No		No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Calculated Cycle Length [s]	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	5.20	6.00	4.50	6.00	5.50	4.50	4.50	5.00	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.20	4.00	2.50	4.00	3.50	2.50	2.50	3.00	2.50	2.50
g_i, Effective Green Time [s]	7	15	9	16	23	91	91	6	73	73
g / C, Green / Cycle	0.05	0.11	0.06	0.12	0.16	0.65	0.65	0.04	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.04	0.01	0.07	0.10	0.15	0.18	0.03	0.03	0.26	0.26
s, saturation flow rate [veh/h]	1781	1677	1781	1608	1781	3560	1589	1781	1870	1762
c, Capacity [veh/h]	83	179	108	187	286	2301	1027	77	982	926
d1, Uniform Delay [s]	66.05	56.61	65.75	60.70	57.92	10.68	9.02	66.32	21.24	21.24
k, delay calibration	0.04	0.13	0.40	0.13	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.95	0.40	125.62	12.62	5.37	0.30	0.08	6.24	1.74	1.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.13	1.16	0.85	0.93	0.28	0.05	0.78	0.49	0.49
d, Delay for Lane Group [s/veh]	72.00	57.01	191.37	73.32	63.29	10.98	9.10	72.56	22.99	23.09
Lane Group LOS	E	E	F	E	E	B	A	E	C	C
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.44	0.76	7.65	6.21	9.69	4.34	0.55	2.26	10.57	9.99
50th-Percentile Queue Length [ft/ln]	61.10	19.07	191.15	155.27	242.13	108.57	13.75	56.62	264.23	249.70
95th-Percentile Queue Length [veh/ln]	4.40	1.37	12.73	10.30	14.79	7.76	0.99	4.08	15.90	15.17
95th-Percentile Queue Length [ft/ln]	109.98	34.32	318.26	257.45	369.72	194.02	24.76	101.91	397.53	379.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	72.00	57.01	57.01	191.37	73.32	73.32	63.29	63.29	10.98	9.10	72.56	23.03	23.09
Movement LOS	E	E	E	F	E	E	E	E	B	A	E	C	C
d_A, Approach Delay [s/veh]	68.08			125.28			25.43				26.03		
Approach LOS	E			F			C				C		
d_I, Intersection Delay [s/veh]	39.53												
Intersection LOS	D												
Intersection V/C	0.611												

Emissions

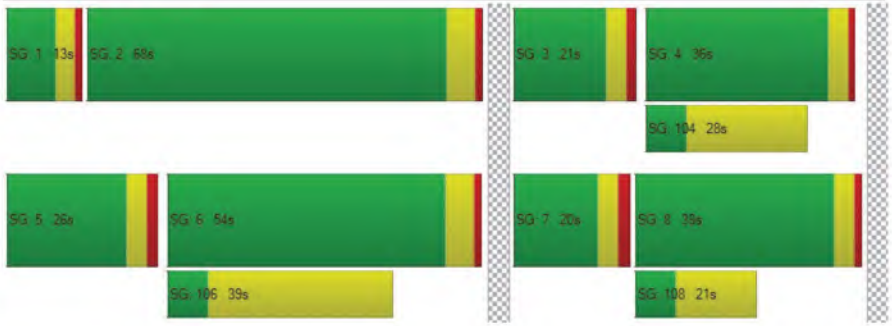
Vehicle Miles Traveled [mph]	3.25	1.15	5.81	7.39	27.78	67.20	4.93	21.01	168.37	158.67
Stops [stops/h]	62.85	19.61	196.61	159.71	249.04	223.35	14.15	58.24	271.78	256.83
Fuel consumption [US gal/h]	1.43	0.42	6.19	3.56	5.93	5.43	0.37	2.07	10.68	10.08
CO [g/h]	100.19	29.54	432.86	248.74	414.66	379.73	25.73	144.86	746.69	704.64
NOx [g/h]	19.49	5.75	84.22	48.40	80.68	73.88	5.01	28.18	145.28	137.10
VOC [g/h]	23.22	6.85	100.32	57.65	96.10	88.01	5.96	33.57	173.05	163.31

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	59.43	59.43	59.43	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.045	2.313	2.829	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	886	686	450	493
d_b, Bicycle Delay [s]	21.73	30.23	42.04	39.75
I_b,int, Bicycle LOS Score for Intersection	1.715	2.122	2.143	2.431
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	247.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.305

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	115	53	383	193	45	46	218	278	224	320	839	307
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-1	8	0	-6	5	7	7	0	-9	-26	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	117	0	0	15	0	0	67	0	0	92
Total Hourly Volume [veh/h]	115	52	274	193	39	36	225	285	157	311	813	215
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	15	79	55	11	10	65	82	45	89	234	62
Total Analysis Volume [veh/h]	132	60	315	222	45	41	259	328	180	357	934	247
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	163
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	0	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	35	0	0	40	0	25	45	0	25	45	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	18	0	0	17	0	0	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	0	0	44	0	29	50	0	29	51	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	0.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Calculated Cycle Length [s]	139	139	139	139	139	139	139	139
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	3.50	5.30	3.50	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	1.50	3.30	1.50	4.00
g_i, Effective Green Time [s]	34	34	20	20	22	43	25	45
g / C, Green / Cycle	0.24	0.24	0.14	0.14	0.16	0.31	0.18	0.32
(v / s)_i Volume / Saturation Flow Rate	0.07	0.23	0.12	0.05	0.15	0.29	0.20	0.65
s, saturation flow rate [veh/h]	1781	1629	1781	1725	1781	1760	1781	1803
c, Capacity [veh/h]	435	398	258	250	283	542	320	583
d1, Uniform Delay [s]	42.96	51.68	58.16	53.58	57.62	46.91	57.14	47.14
k, delay calibration	0.13	0.40	0.13	0.13	0.28	0.37	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.49	28.34	9.95	1.01	23.68	21.07	85.62	468.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.30	0.94	0.86	0.34	0.91	0.94	1.12	2.03
d, Delay for Lane Group [s/veh]	43.45	80.02	68.11	54.60	81.29	67.98	142.77	515.24
Lane Group LOS	D	F	E	D	F	E	F	F
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.81	15.96	8.36	2.80	10.84	20.21	18.83	95.78
50th-Percentile Queue Length [ft/ln]	95.28	398.88	209.06	70.00	270.96	505.25	470.64	2394.47
95th-Percentile Queue Length [veh/ln]	6.86	22.51	13.10	5.04	16.24	27.58	27.45	150.70
95th-Percentile Queue Length [ft/ln]	171.51	562.65	327.62	126.01	405.94	689.57	686.13	3767.55

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.45	80.02	80.02	68.11	54.60	54.60	81.29	67.98	67.98	142.77	515.24	515.24
Movement LOS	D	F	F	E	D	D	F	E	E	F	F	F
d_A, Approach Delay [s/veh]	70.50			64.34			72.48			428.78		
Approach LOS	E			E			E			F		
d_I, Intersection Delay [s/veh]	246.99											
Intersection LOS	F											
Intersection V/C	1.305											

Emissions

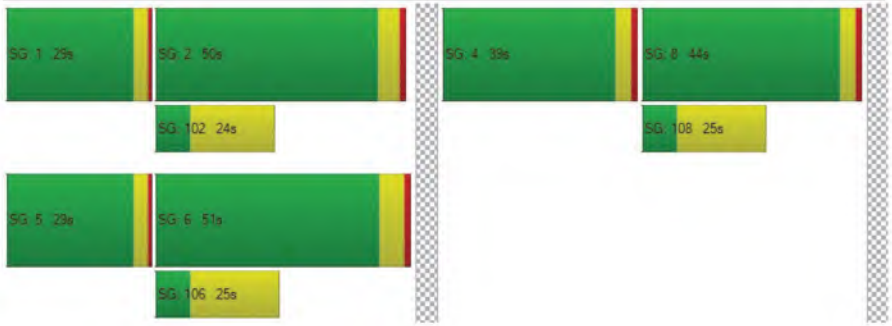
Vehicle Miles Traveled [mph]	227.13	645.24	45.01	17.44	90.69	177.88	161.09	532.90
Stops [stops/h]	98.65	412.97	216.44	72.48	280.53	523.10	487.26	2479.04
Fuel consumption [US gal/h]	11.06	34.95	6.13	2.07	9.57	17.24	19.69	159.43
CO [g/h]	773.23	2442.98	428.15	144.94	668.76	1205.05	1376.57	11144.40
NOx [g/h]	150.44	475.31	83.30	28.20	130.12	234.46	267.83	2168.30
VOC [g/h]	179.20	566.18	99.23	33.59	154.99	279.28	319.03	2582.82

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	58.98	58.98	58.98	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.541	2.301	2.692	0.000
Crosswalk LOS	B	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	572	643	647
d_b, Bicycle Delay [s]	39.10	35.44	32.03	31.82
I_b,int, Bicycle LOS Score for Intersection	2.589	2.093	2.936	4.249
Bicycle LOS	B	B	C	D

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 22: White Rock Rd/Clarksville Crossing

Control Type:	Signalized	Delay (sec / veh):	34.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.849

Intersection Setup

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	180.00	460.00	100.00	100.00	290.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	0	0	5	4	0	354	3	851	0	4	1112	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	15	0	0	-35	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	5	4	0	354	3	866	0	4	1077	31
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	2	1	0	113	1	278	0	1	345	10
Total Analysis Volume [veh/h]	0	0	6	5	0	454	4	1110	0	5	1381	40
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	20	0	0	20	0	20	50	0	20	50	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	5.0	0.0	4.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	5.0	0.0	3.0	5.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	R
C, Calculated Cycle Length [s]	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	7.00	7.00	5.00	7.00	7.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	5.00	5.00	3.00	5.00	5.00
g_i, Effective Green Time [s]	1	1	20	20	0	37	37	1	37	37
g / C, Green / Cycle	0.01	0.01	0.25	0.25	0.01	0.46	0.46	0.01	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.00	0.29	0.00	0.30	0.30	0.00	0.39	0.03
s, saturation flow rate [veh/h]	1870	1589	1781	1589	1781	1870	1870	1781	3560	1589
c, Capacity [veh/h]	15	13	444	396	10	864	864	12	1649	736
d1, Uniform Delay [s]	0.00	39.63	22.67	30.11	39.77	16.53	16.53	39.69	18.90	11.86
k, delay calibration	0.11	0.11	0.11	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	24.89	0.01	91.15	25.28	0.81	0.81	21.35	1.20	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.47	0.01	1.15	0.41	0.64	0.64	0.42	0.84	0.05
d, Delay for Lane Group [s/veh]	0.00	64.52	22.68	121.26	65.05	17.33	17.33	61.04	20.09	11.90
Lane Group LOS	A	E	C	F	E	B	B	E	C	B
Critical Lane Group	No	Yes	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.00	0.20	0.07	17.33	0.15	7.38	7.38	0.17	10.52	0.38
50th-Percentile Queue Length [ft/ln]	0.00	5.08	1.76	433.25	3.64	184.52	184.52	4.19	262.88	9.47
95th-Percentile Queue Length [veh/ln]	0.00	0.37	0.13	26.03	0.26	11.84	11.84	0.30	15.83	0.68
95th-Percentile Queue Length [ft/ln]	0.00	9.15	3.17	650.75	6.56	295.91	295.91	7.55	395.83	17.04

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	64.52	22.68	22.68	121.26	65.05	17.33	17.33	61.04	20.09	11.90
Movement LOS	A	A	E	C	C	F	E	B	B	E	C	B
d_A, Approach Delay [s/veh]	64.52			120.19			17.50			20.01		
Approach LOS	E			F			B			C		
d_I, Intersection Delay [s/veh]	34.47											
Intersection LOS	C											
Intersection V/C	0.849											

Emissions

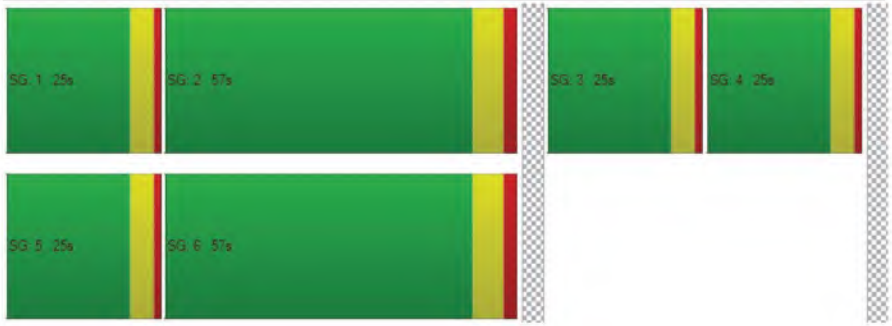
Vehicle Miles Traveled [mph]	0.00	0.30	2.37	215.36	1.80	250.43	250.43	0.87	240.91	6.98
Stops [stops/h]	0.00	9.13	3.17	778.32	6.55	331.49	331.49	7.53	944.52	17.01
Fuel consumption [US gal/h]	0.00	0.14	0.14	24.37	0.16	14.10	14.10	0.14	20.78	0.48
CO [g/h]	0.00	9.89	9.66	1703.29	11.42	985.47	985.47	9.76	1452.71	33.42
NOx [g/h]	0.00	1.93	1.88	331.40	2.22	191.74	191.74	1.90	282.64	6.50
VOC [g/h]	0.00	2.29	2.24	394.75	2.65	228.39	228.39	2.26	336.68	7.74

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	499	499	1248	1248
d_b, Bicycle Delay [s]	22.57	22.57	5.67	5.67
I_b,int, Bicycle LOS Score for Intersection	1.570	2.317	2.479	2.736
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 23: White Rock Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	21.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.680

Intersection Setup

Name	White Rock Rd		White Rock Rd		US 50 EB	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	1	0	1
Entry Pocket Length [ft]	500.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	White Rock Rd		White Rock Rd		US 50 EB	
Base Volume Input [veh/h]	481	379	1054	278	213	93
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	2	-35	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	12
Total Hourly Volume [veh/h]	494	381	1019	278	213	81
Peak Hour Factor	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	149	115	307	84	64	24
Total Analysis Volume [veh/h]	595	459	1228	335	257	98
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	21	61	32	0	16	0
Amber [s]	3.7	4.8	4.8	0.0	4.8	0.0
All red [s]	0.5	2.0	2.0	0.0	1.0	0.0
Walk [s]	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.2	4.8	4.8	0.0	3.8	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	39	0	22	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	8	9	9	0	8	0
Vehicle Extension [s]	2.0	1.0	1.0	0.0	2.0	0.0
Minimum Recall	No	Yes	Yes		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	R
C, Calculated Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80
g_i, Effective Green Time [s]	18	69	47	47	9	9	9
g / C, Green / Cycle	0.20	0.76	0.52	0.52	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.17	0.13	0.34	0.21	0.07	0.07	0.06
s, saturation flow rate [veh/h]	3459	3560	3560	1589	1781	1781	1589
c, Capacity [veh/h]	679	2716	1852	827	173	173	154
d1, Uniform Delay [s]	35.11	2.90	15.82	13.13	39.54	39.54	39.10
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.47	0.13	1.89	1.48	2.37	2.37	1.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.17	0.66	0.41	0.74	0.74	0.64
d, Delay for Lane Group [s/veh]	36.58	3.04	17.71	14.61	41.92	41.92	40.72
Lane Group LOS	D	A	B	B	D	D	D
Critical Lane Group	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.32	0.85	9.02	4.20	2.84	2.84	2.13
50th-Percentile Queue Length [ft/ln]	158.09	21.23	225.40	105.04	71.06	71.06	53.17
95th-Percentile Queue Length [veh/ln]	10.45	1.53	13.94	7.56	5.12	5.12	3.83
95th-Percentile Queue Length [ft/ln]	261.19	38.22	348.51	189.08	127.91	127.91	95.70

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.58	3.04	17.71	14.61	41.92	40.72
Movement LOS	D	A	B	B	D	D
d_A, Approach Delay [s/veh]	21.97		17.05		41.59	
Approach LOS	C		B		D	
d_I, Intersection Delay [s/veh]	21.73					
Intersection LOS	C					
Intersection V/C	0.680					

Emissions

Vehicle Miles Traveled [mph]	103.79	80.07	217.61	59.36	7.78	7.78	5.93
Stops [stops/h]	505.89	67.94	721.28	168.07	113.70	113.70	85.07
Fuel consumption [US gal/h]	11.50	3.96	17.37	4.37	2.04	2.04	1.53
CO [g/h]	803.65	276.48	1214.18	305.35	142.92	142.92	106.69
NOx [g/h]	156.36	53.79	236.24	59.41	27.81	27.81	20.76
VOC [g/h]	186.25	64.08	281.40	70.77	33.12	33.12	24.73

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00		
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00		
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		
I_p,int, Pedestrian LOS Score for Intersectio	0.000		0.000		0.000		
Crosswalk LOS	F		F		F		
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1360		716		360		
d_b, Bicycle Delay [s]	4.61		18.56		30.26		
I_b,int, Bicycle LOS Score for Intersection	2.429		2.849		2.165		
Bicycle LOS	B		C		B		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 24: Silva Valley Pkwy/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	65.9
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.011

Intersection Setup

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Approach	Northbound				Southbound			Westbound			Northeastbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	550.0	100.0	100.0	100.0	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No					
Crosswalk	No				No			No			No		

Volumes

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Base Volume Input [veh/h]	0	78	514	0	0	391	671	941	0	298	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	2	0	0	-6	0	-29	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	47	0	0	30	0	0	0
Total Hourly Volume [veh/h]	0	78	516	0	0	385	624	912	0	268	0	0	0
Peak Hour Factor	1.000	0.790	0.790	1.000	1.0000	0.7900	0.7900	0.7900	0.7900	0.7900	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	25	163	0	0	122	197	289	0	85	0	0	0
Total Analysis Volume [veh/h]	0	99	653	0	0	487	790	1154	0	339	0	0	0
Presence of On-Street Parking	No			No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	6	0	0	8	0	0	0	0	0
Auxiliary Signal Groups														
Maximum Green [s]	0	20	54	0	0	26	0	0	23	0	0	0	0	0
Amber [s]	0.0	3.7	4.8	0.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	0.5	2.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No					
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
l2, Clearance Lost Time [s]	0.0	2.2	4.8	0.0	0.0	4.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	61	0	0	33	0	0	29	0	0	0	0	0
Lead / Lag	-	Lead	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	8	8	0	0	8	0	0	8	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No	Yes			Yes			No					
Maximum Recall		No	No			No			No					
Pedestrian Recall		No	No			No			No					

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	R	
C, Calculated Cycle Length [s]	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80	
g_i, Effective Green Time [s]	7	51	40	40	26	26	26	
g / C, Green / Cycle	0.08	0.57	0.44	0.44	0.29	0.29	0.29	
(v / s)_i Volume / Saturation Flow Rate	0.06	0.18	0.14	0.50	0.32	0.32	0.21	
s, saturation flow rate [veh/h]	1781	3560	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	147	2027	1567	699	518	518	462	
d1, Uniform Delay [s]	40.10	10.23	16.35	25.20	31.91	31.91	28.77	
k, delay calibration	0.04	0.50	0.50	0.50	0.47	0.47	0.17	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	2.00	0.42	0.52	75.64	73.79	73.79	3.51	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.67	0.32	0.31	1.13	1.11	1.11	0.73	
d, Delay for Lane Group [s/veh]	42.10	10.65	16.87	100.84	105.70	105.70	32.28	
Lane Group LOS	D	B	B	F	F	F	C	
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	2.18	3.27	3.25	28.56	21.45	21.45	6.85	
50th-Percentile Queue Length [ft/ln]	54.62	81.83	81.13	714.05	536.30	536.30	171.16	
95th-Percentile Queue Length [veh/ln]	3.93	5.89	5.84	40.69	31.02	31.02	11.14	
95th-Percentile Queue Length [ft/ln]	98.32	147.29	146.04	1017.24	775.43	775.43	278.44	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.10	42.10	10.65	0.00	0.00	16.87	100.84	105.70	105.70	32.28	0.00	0.00	0.00
Movement LOS	D	D	B			B	F	F	F	C			
d_A, Approach Delay [s/veh]	14.79				68.82			89.03			0.00		
Approach LOS	B				E			F			A		
d_I, Intersection Delay [s/veh]	65.85												
Intersection LOS	E												
Intersection V/C	1.011												

Emissions

Vehicle Miles Traveled [mph]	17.54	115.72	66.59	108.02	19.99	19.99	11.74	
Stops [stops/h]	87.40	261.85	259.63	1142.49	858.09	858.09	273.86	
Fuel consumption [US gal/h]	2.05	7.63	5.85	26.97	17.97	17.97	4.22	
CO [g/h]	143.52	533.02	408.74	1885.08	1256.36	1256.36	295.22	
NOx [g/h]	27.92	103.71	79.53	366.77	244.44	244.44	57.44	
VOC [g/h]	33.26	123.53	94.73	436.89	291.17	291.17	68.42	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1204	582	516	0
d_b, Bicycle Delay [s]	7.12	22.61	24.79	45.00
l_b,int, Bicycle LOS Score for Intersection	2.180	2.652	4.073	4.132
Bicycle LOS	B	B	D	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 25: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Base Volume Input [veh/h]	0	658	328	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	141	65	31	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	31	-31	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	799	424	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	200	106	0	0	0
Total Analysis Volume [veh/h]	0	799	424	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	10.71
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.71	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 26: Latrobe/Wetsl-Oviatt

Control Type:	Two-way stop	Delay (sec / veh):	14.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.027

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Base Volume Input [veh/h]	0	445	227	38	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-8	14	4	7	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	437	241	42	11	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	109	60	11	3	0
Total Analysis Volume [veh/h]	0	437	241	42	11	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.03	0.00
d_M, Delay for Movement [s/veh]	7.81	0.00	0.00	0.00	14.09	9.86
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	2.09	2.09
d_A, Approach Delay [s/veh]	0.00		0.00		13.74	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.23					
Intersection LOS	B					

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Intersection Level Of Service Report
Intersection 27: Latrobe/S. Shingle

Control Type:	Two-way stop	Delay (sec / veh):	21.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.160

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Base Volume Input [veh/h]	6	238	41	52	127	9	47	81	0	37	73	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-18	0	8	-1	8	5	0	0	0	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	220	41	60	126	17	52	81	0	37	73	48
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	55	10	15	32	4	13	20	0	9	18	12
Total Analysis Volume [veh/h]	6	220	41	60	126	17	52	81	0	37	73	48
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.05	0.00	0.00	0.16	0.19	0.00	0.11	0.17	0.06
d_M, Delay for Movement [s/veh]	7.51	0.00	0.00	7.83	0.00	0.00	21.06	18.31	13.89	19.13	16.98	13.26
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.11	0.11	0.11	1.53	1.53	1.53	1.45	1.45	1.45
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.26	2.65	2.65	2.65	38.21	38.21	38.21	36.19	36.19	36.19
d_A, Approach Delay [s/veh]	0.17			2.32			19.38			16.35		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	7.46											
Intersection LOS	C											

Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	799	443	39	17
2	775	430	38	16
3	759	421	37	16
4	711	394	35	15
5	631	350	31	13
6	623	346	30	13
7	615	341	30	13
8	559	310	27	12
9	551	306	27	12
10	543	301	27	12
11	471	261	23	10
12	439	244	21	9
13	431	239	21	9
14	320	177	16	7
15	320	177	16	7
16	224	124	11	5
17	128	71	6	3
18	128	71	6	3
19	72	40	4	2
20	40	22	2	1
21	24	13	1	1
22	8	4	0	0
23	8	4	0	0
24	8	4	0	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1242	1	39	No	No	No	No	No	No	No	No	No	No
2	1	1205	1	38	No	No	No	No	No	No	No	No	No	No
3	1	1180	1	37	No	No	No	No	No	No	No	No	No	No
4	1	1105	1	35	No	No	No	No	No	No	No	No	No	No
5	1	981	1	31	No	No	No	No	No	No	No	No	No	No
6	1	969	1	30	No	No	No	No	No	No	No	No	No	No
7	1	956	1	30	No	No	No	No	No	No	No	No	No	No
8	1	869	1	27	No	No	No	No	No	No	No	No	No	No
9	1	857	1	27	No	No	No	No	No	No	No	No	No	No
10	1	844	1	27	No	No	No	No	No	No	No	No	No	No
11	1	732	1	23	No	No	No	No	No	No	No	No	No	No
12	1	683	1	21	No	No	No	No	No	No	No	No	No	No
13	1	670	1	21	No	No	No	No	No	No	No	No	No	No
14	1	497	1	16	No	No	No	No	No	No	No	No	No	No
15	1	497	1	16	No	No	No	No	No	No	No	No	No	No
16	1	348	1	11	No	No	No	No	No	No	No	No	No	No
17	1	199	1	6	No	No	No	No	No	No	No	No	No	No
18	1	199	1	6	No	No	No	No	No	No	No	No	No	No
19	1	112	1	4	No	No	No	No	No	No	No	No	No	No
20	1	62	1	2	No	No	No	No	No	No	No	No	No	No
21	1	37	1	1	No	No	No	No	No	No	No	No	No	No
22	1	12	1	0	No	No	No	No	No	No	No	No	No	No
23	1	12	1	0	No	No	No	No	No	No	No	No	No	No
24	1	12	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.5	41.4
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:10	0:11
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	39	17
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1298	1298
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 12: Latrobe Rd/Royal Oaks Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	448	429	262	171
2	435	416	254	166
3	426	408	249	162
4	399	382	233	152
5	354	339	207	135
6	349	335	204	133
7	345	330	202	132
8	314	300	183	120
9	309	296	181	118
10	305	292	178	116
11	264	253	155	101
12	246	236	144	94
13	242	232	141	92
14	179	172	105	68
15	179	172	105	68
16	125	120	73	48
17	72	69	42	27
18	72	69	42	27
19	40	39	24	15
20	22	21	13	9
21	13	13	8	5
22	4	4	3	2
23	4	4	3	2
24	4	4	3	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	877	1	262	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
2	2	851	1	254	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
3	2	834	1	249	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
4	2	781	1	233	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
5	2	693	1	207	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
6	2	684	1	204	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
7	2	675	1	202	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
8	2	614	1	183	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No
9	2	605	1	181	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No
10	2	597	1	178	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
11	2	517	1	155	No	Yes	Yes	Yes	No	No	No	Yes	No	No
12	2	482	1	144	No	Yes	Yes	Yes	No	No	No	No	No	No
13	2	474	1	141	No	No	Yes	Yes	No	No	No	No	No	No
14	2	351	1	105	No	No	No	Yes	No	No	No	No	No	No
15	2	351	1	105	No	No	No	Yes	No	No	No	No	No	No
16	2	245	1	73	No	No	No	No	No	No	No	No	No	No
17	2	141	1	42	No	No	No	No	No	No	No	No	No	No
18	2	141	1	42	No	No	No	No	No	No	No	No	No	No
19	2	79	1	24	No	No	No	No	No	No	No	No	No	No
20	2	43	1	13	No	No	No	No	No	No	No	No	No	No
21	2	26	1	8	No	No	No	No	No	No	No	No	No	No
22	2	8	1	3	No	No	No	No	No	No	No	No	No	No
23	2	8	1	3	No	No	No	No	No	No	No	No	No	No
24	2	8	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					9	12	13	15	0	4	7	11	10	5

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	17.8	425.5
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:17	20:12
Delay Condition Met	No	Yes
Volume on Minor Street Approach During Same Hour	262	171
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	1310	1310
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	Yes
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 13: Golden Foothill/Robert J Mathews

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	900	227	425
2	873	220	412
3	855	216	404
4	801	202	378
5	711	179	336
6	702	177	332
7	693	175	327
8	630	159	298
9	621	157	293
10	612	154	289
11	531	134	251
12	495	125	234
13	486	123	230
14	360	91	170
15	360	91	170
16	252	64	119
17	144	36	68
18	144	36	68
19	81	20	38
20	45	11	21
21	27	7	13
22	9	2	4
23	9	2	4
24	9	2	4

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1127	1	425	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1093	1	412	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1071	1	404	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1003	1	378	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	890	1	336	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	879	1	332	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
7	1	868	1	327	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
8	1	789	1	298	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
9	1	778	1	293	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
10	1	766	1	289	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
11	1	665	1	251	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
12	1	620	1	234	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
13	1	609	1	230	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
14	1	451	1	170	No	Yes	Yes	Yes	No	No	No	Yes	No	No
15	1	451	1	170	No	Yes	Yes	Yes	No	No	No	Yes	No	No
16	1	316	1	119	No	No	No	Yes	No	No	No	No	No	No
17	1	180	1	68	No	No	No	No	No	No	No	No	No	No
18	1	180	1	68	No	No	No	No	No	No	No	No	No	No
19	1	101	1	38	No	No	No	No	No	No	No	No	No	No
20	1	56	1	21	No	No	No	No	No	No	No	No	No	No
21	1	34	1	13	No	No	No	No	No	No	No	No	No	No
22	1	11	1	4	No	No	No	No	No	No	No	No	No	No
23	1	11	1	4	No	No	No	No	No	No	No	No	No	No
24	1	11	1	4	No	No	No	No	No	No	No	No	No	No
Hours Met					13	15	15	16	10	13	13	15	13	5

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	44.1
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	5:12
Delay Condition Met	Yes
Volume on Minor Street Approach During Same Hour	425
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1552
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	Yes
Warrant Met for Intersection	**Yes**

Signal Warrants Report For Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	103	620	177	63
2	100	601	172	61
3	98	589	168	60
4	92	552	158	56
5	81	490	140	50
6	80	484	138	49
7	79	477	136	49
8	72	434	124	44
9	71	428	122	43
10	70	422	120	43
11	61	366	104	37
12	57	341	97	35
13	56	335	96	34
14	41	248	71	25
15	41	248	71	25
16	29	174	50	18
17	16	99	28	10
18	16	99	28	10
19	9	56	16	6
20	5	31	9	3
21	3	19	5	2
22	1	6	2	1
23	1	6	2	1
24	1	6	2	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	723	1	177	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
2	1	701	1	172	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
3	1	687	1	168	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
4	1	644	1	158	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
5	1	571	1	140	No	Yes	Yes	Yes	No	No	Yes	Yes	No	No
6	1	564	1	138	No	Yes	Yes	Yes	No	No	Yes	Yes	No	No
7	1	556	1	136	No	Yes	Yes	Yes	No	No	Yes	Yes	No	No
8	1	506	1	124	No	Yes	Yes	Yes	No	No	No	Yes	No	No
9	1	499	1	122	No	Yes	Yes	Yes	No	No	No	Yes	No	No
10	1	492	1	120	No	Yes	Yes	Yes	No	No	No	Yes	No	No
11	1	427	1	104	No	No	No	Yes	No	No	No	Yes	No	No
12	1	398	1	97	No	No	No	Yes	No	No	No	No	No	No
13	1	391	1	96	No	No	No	Yes	No	No	No	No	No	No
14	1	289	1	71	No	No	No	No	No	No	No	No	No	No
15	1	289	1	71	No	No	No	No	No	No	No	No	No	No
16	1	203	1	50	No	No	No	No	No	No	No	No	No	No
17	1	115	1	28	No	No	No	No	No	No	No	No	No	No
18	1	115	1	28	No	No	No	No	No	No	No	No	No	No
19	1	65	1	16	No	No	No	No	No	No	No	No	No	No
20	1	36	1	9	No	No	No	No	No	No	No	No	No	No
21	1	22	1	5	No	No	No	No	No	No	No	No	No	No
22	1	7	1	2	No	No	No	No	No	No	No	No	No	No
23	1	7	1	2	No	No	No	No	No	No	No	No	No	No
24	1	7	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					4	10	10	13	0	4	7	11	1	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	12.6	10.8
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:37	0:11
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	177	63
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	963	963
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	209	197	179
2	203	191	174
3	199	187	170
4	186	175	159
5	165	156	141
6	163	154	140
7	161	152	138
8	146	138	125
9	144	136	124
10	142	134	122
11	123	116	106
12	115	108	98
13	113	106	97
14	84	79	72
15	84	79	72
16	59	55	50
17	33	32	29
18	33	32	29
19	19	18	16
20	10	10	9
21	6	6	5
22	2	2	2
23	2	2	2
24	2	2	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	406	2	179	No	No	No	Yes	No	No	No	No	No	No
2	2	394	2	174	No	No	No	Yes	No	No	No	No	No	No
3	2	386	2	170	No	No	No	Yes	No	No	No	No	No	No
4	2	361	2	159	No	No	No	Yes	No	No	No	No	No	No
5	2	321	2	141	No	No	No	No	No	No	No	No	No	No
6	2	317	2	140	No	No	No	No	No	No	No	No	No	No
7	2	313	2	138	No	No	No	No	No	No	No	No	No	No
8	2	284	2	125	No	No	No	No	No	No	No	No	No	No
9	2	280	2	124	No	No	No	No	No	No	No	No	No	No
10	2	276	2	122	No	No	No	No	No	No	No	No	No	No
11	2	239	2	106	No	No	No	No	No	No	No	No	No	No
12	2	223	2	98	No	No	No	No	No	No	No	No	No	No
13	2	219	2	97	No	No	No	No	No	No	No	No	No	No
14	2	163	2	72	No	No	No	No	No	No	No	No	No	No
15	2	163	2	72	No	No	No	No	No	No	No	No	No	No
16	2	114	2	50	No	No	No	No	No	No	No	No	No	No
17	2	65	2	29	No	No	No	No	No	No	No	No	No	No
18	2	65	2	29	No	No	No	No	No	No	No	No	No	No
19	2	37	2	16	No	No	No	No	No	No	No	No	No	No
20	2	20	2	9	No	No	No	No	No	No	No	No	No	No
21	2	12	2	5	No	No	No	No	No	No	No	No	No	No
22	2	4	2	2	No	No	No	No	No	No	No	No	No	No
23	2	4	2	2	No	No	No	No	No	No	No	No	No	No
24	2	4	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	4	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	12.1
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:36
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	179
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	585
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 16: Carson Crossing Rd/Calypso Cir.

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	231	145	163
2	224	141	158
3	219	138	155
4	206	129	145
5	182	115	129
6	180	113	127
7	178	112	126
8	162	102	114
9	159	100	112
10	157	99	111
11	136	86	96
12	127	80	90
13	125	78	88
14	92	58	65
15	92	58	65
16	65	41	46
17	37	23	26
18	37	23	26
19	21	13	15
20	12	7	8
21	7	4	5
22	2	1	2
23	2	1	2
24	2	1	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	376	1	163	No	No	No	Yes	No	No	No	No	No	No
2	2	365	1	158	No	No	No	Yes	No	No	No	No	No	No
3	2	357	1	155	No	No	No	Yes	No	No	No	No	No	No
4	2	335	1	145	No	No	No	No	No	No	No	No	No	No
5	2	297	1	129	No	No	No	No	No	No	No	No	No	No
6	2	293	1	127	No	No	No	No	No	No	No	No	No	No
7	2	290	1	126	No	No	No	No	No	No	No	No	No	No
8	2	264	1	114	No	No	No	No	No	No	No	No	No	No
9	2	259	1	112	No	No	No	No	No	No	No	No	No	No
10	2	256	1	111	No	No	No	No	No	No	No	No	No	No
11	2	222	1	96	No	No	No	No	No	No	No	No	No	No
12	2	207	1	90	No	No	No	No	No	No	No	No	No	No
13	2	203	1	88	No	No	No	No	No	No	No	No	No	No
14	2	150	1	65	No	No	No	No	No	No	No	No	No	No
15	2	150	1	65	No	No	No	No	No	No	No	No	No	No
16	2	106	1	46	No	No	No	No	No	No	No	No	No	No
17	2	60	1	26	No	No	No	No	No	No	No	No	No	No
18	2	60	1	26	No	No	No	No	No	No	No	No	No	No
19	2	34	1	15	No	No	No	No	No	No	No	No	No	No
20	2	19	1	8	No	No	No	No	No	No	No	No	No	No
21	2	11	1	5	No	No	No	No	No	No	No	No	No	No
22	2	3	1	2	No	No	No	No	No	No	No	No	No	No
23	2	3	1	2	No	No	No	No	No	No	No	No	No	No
24	2	3	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	3	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	12.6
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:34
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	163
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	539
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 17: Carson Crossing Rd/Four Seasons Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	92	119	37
2	89	115	36
3	87	113	35
4	82	106	33
5	73	94	29
6	72	93	29
7	71	92	28
8	64	83	26
9	63	82	26
10	63	81	25
11	54	70	22
12	51	65	20
13	50	64	20
14	37	48	15
15	37	48	15
16	26	33	10
17	15	19	6
18	15	19	6
19	8	11	3
20	5	6	2
21	3	4	1
22	1	1	0
23	1	1	0
24	1	1	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	211	1	37	No	No	No	No	No	No	No	No	No	No
2	3	204	1	36	No	No	No	No	No	No	No	No	No	No
3	3	200	1	35	No	No	No	No	No	No	No	No	No	No
4	3	188	1	33	No	No	No	No	No	No	No	No	No	No
5	3	167	1	29	No	No	No	No	No	No	No	No	No	No
6	3	165	1	29	No	No	No	No	No	No	No	No	No	No
7	3	163	1	28	No	No	No	No	No	No	No	No	No	No
8	3	147	1	26	No	No	No	No	No	No	No	No	No	No
9	3	145	1	26	No	No	No	No	No	No	No	No	No	No
10	3	144	1	25	No	No	No	No	No	No	No	No	No	No
11	3	124	1	22	No	No	No	No	No	No	No	No	No	No
12	3	116	1	20	No	No	No	No	No	No	No	No	No	No
13	3	114	1	20	No	No	No	No	No	No	No	No	No	No
14	3	85	1	15	No	No	No	No	No	No	No	No	No	No
15	3	85	1	15	No	No	No	No	No	No	No	No	No	No
16	3	59	1	10	No	No	No	No	No	No	No	No	No	No
17	3	34	1	6	No	No	No	No	No	No	No	No	No	No
18	3	34	1	6	No	No	No	No	No	No	No	No	No	No
19	3	19	1	3	No	No	No	No	No	No	No	No	No	No
20	3	11	1	2	No	No	No	No	No	No	No	No	No	No
21	3	7	1	1	No	No	No	No	No	No	No	No	No	No
22	3	2	1	0	No	No	No	No	No	No	No	No	No	No
23	3	2	1	0	No	No	No	No	No	No	No	No	No	No
24	3	2	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	8.1
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:05
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	37
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	248
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 18: White Rock Rd/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	601	368	98	75
2	583	357	95	73
3	571	350	93	71
4	535	328	87	67
5	475	291	77	59
6	469	287	76	59
7	463	283	75	58
8	421	258	69	53
9	415	254	68	52
10	409	250	67	51
11	355	217	58	44
12	331	202	54	41
13	325	199	53	41
14	240	147	39	30
15	240	147	39	30
16	168	103	27	21
17	96	59	16	12
18	96	59	16	12
19	54	33	9	7
20	30	18	5	4
21	18	11	3	2
22	6	4	1	1
23	6	4	1	1
24	6	4	1	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	969	1	98	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
2	2	940	1	95	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
3	2	921	1	93	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
4	2	863	1	87	No	No	No	Yes	No	Yes	Yes	Yes	No	No
5	2	766	1	77	No	No	No	No	No	Yes	Yes	Yes	No	No
6	2	756	1	76	No	No	No	No	No	Yes	Yes	Yes	No	No
7	2	746	1	75	No	No	No	No	No	Yes	Yes	Yes	No	No
8	2	679	1	69	No	No	No	No	No	No	Yes	Yes	No	No
9	2	669	1	68	No	No	No	No	No	No	Yes	Yes	No	No
10	2	659	1	67	No	No	No	No	No	No	Yes	Yes	No	No
11	2	572	1	58	No	No	No	No	No	No	No	Yes	No	No
12	2	533	1	54	No	No	No	No	No	No	No	Yes	No	No
13	2	524	1	53	No	No	No	No	No	No	No	Yes	No	No
14	2	387	1	39	No	No	No	No	No	No	No	No	No	No
15	2	387	1	39	No	No	No	No	No	No	No	No	No	No
16	2	271	1	27	No	No	No	No	No	No	No	No	No	No
17	2	155	1	16	No	No	No	No	No	No	No	No	No	No
18	2	155	1	16	No	No	No	No	No	No	No	No	No	No
19	2	87	1	9	No	No	No	No	No	No	No	No	No	No
20	2	48	1	5	No	No	No	No	No	No	No	No	No	No
21	2	29	1	3	No	No	No	No	No	No	No	No	No	No
22	2	10	1	1	No	No	No	No	No	No	No	No	No	No
23	2	10	1	1	No	No	No	No	No	No	No	No	No	No
24	2	10	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	4	3	7	10	13	0	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	30	30.7
Number of Lanes on Minor Street Approach	2	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:48	0:38
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	98	75
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1142	1142
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 25: New Intersection

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	799	424	0
2	775	411	0
3	759	403	0
4	711	377	0
5	631	335	0
6	623	331	0
7	615	326	0
8	559	297	0
9	551	293	0
10	543	288	0
11	471	250	0
12	439	233	0
13	431	229	0
14	320	170	0
15	320	170	0
16	224	119	0
17	128	68	0
18	128	68	0
19	72	38	0
20	40	21	0
21	24	13	0
22	8	4	0
23	8	4	0
24	8	4	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1223	1	0	No	No	No	No	No	No	No	No	No	No
2	1	1186	1	0	No	No	No	No	No	No	No	No	No	No
3	1	1162	1	0	No	No	No	No	No	No	No	No	No	No
4	1	1088	1	0	No	No	No	No	No	No	No	No	No	No
5	1	966	1	0	No	No	No	No	No	No	No	No	No	No
6	1	954	1	0	No	No	No	No	No	No	No	No	No	No
7	1	941	1	0	No	No	No	No	No	No	No	No	No	No
8	1	856	1	0	No	No	No	No	No	No	No	No	No	No
9	1	844	1	0	No	No	No	No	No	No	No	No	No	No
10	1	831	1	0	No	No	No	No	No	No	No	No	No	No
11	1	721	1	0	No	No	No	No	No	No	No	No	No	No
12	1	672	1	0	No	No	No	No	No	No	No	No	No	No
13	1	660	1	0	No	No	No	No	No	No	No	No	No	No
14	1	490	1	0	No	No	No	No	No	No	No	No	No	No
15	1	490	1	0	No	No	No	No	No	No	No	No	No	No
16	1	343	1	0	No	No	No	No	No	No	No	No	No	No
17	1	196	1	0	No	No	No	No	No	No	No	No	No	No
18	1	196	1	0	No	No	No	No	No	No	No	No	No	No
19	1	110	1	0	No	No	No	No	No	No	No	No	No	No
20	1	61	1	0	No	No	No	No	No	No	No	No	No	No
21	1	37	1	0	No	No	No	No	No	No	No	No	No	No
22	1	12	1	0	No	No	No	No	No	No	No	No	No	No
23	1	12	1	0	No	No	No	No	No	No	No	No	No	No
24	1	12	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	10.7
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1223
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 26: Latrobe/Wetsl-Oviatt

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	437	283	12
2	424	275	12
3	415	269	11
4	389	252	11
5	345	224	9
6	341	221	9
7	336	218	9
8	306	198	8
9	302	195	8
10	297	192	8
11	258	167	7
12	240	156	7
13	236	153	6
14	175	113	5
15	175	113	5
16	122	79	3
17	70	45	2
18	70	45	2
19	39	25	1
20	22	14	1
21	13	8	0
22	4	3	0
23	4	3	0
24	4	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	720	1	12	No	No	No	No	No	No	No	No	No	No
2	1	699	1	12	No	No	No	No	No	No	No	No	No	No
3	1	684	1	11	No	No	No	No	No	No	No	No	No	No
4	1	641	1	11	No	No	No	No	No	No	No	No	No	No
5	1	569	1	9	No	No	No	No	No	No	No	No	No	No
6	1	562	1	9	No	No	No	No	No	No	No	No	No	No
7	1	554	1	9	No	No	No	No	No	No	No	No	No	No
8	1	504	1	8	No	No	No	No	No	No	No	No	No	No
9	1	497	1	8	No	No	No	No	No	No	No	No	No	No
10	1	489	1	8	No	No	No	No	No	No	No	No	No	No
11	1	425	1	7	No	No	No	No	No	No	No	No	No	No
12	1	396	1	7	No	No	No	No	No	No	No	No	No	No
13	1	389	1	6	No	No	No	No	No	No	No	No	No	No
14	1	288	1	5	No	No	No	No	No	No	No	No	No	No
15	1	288	1	5	No	No	No	No	No	No	No	No	No	No
16	1	201	1	3	No	No	No	No	No	No	No	No	No	No
17	1	115	1	2	No	No	No	No	No	No	No	No	No	No
18	1	115	1	2	No	No	No	No	No	No	No	No	No	No
19	1	64	1	1	No	No	No	No	No	No	No	No	No	No
20	1	36	1	1	No	No	No	No	No	No	No	No	No	No
21	1	21	1	0	No	No	No	No	No	No	No	No	No	No
22	1	7	1	0	No	No	No	No	No	No	No	No	No	No
23	1	7	1	0	No	No	No	No	No	No	No	No	No	No
24	1	7	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	13.7
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:02
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	12
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	732
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 27: Latrobe/S. Shingle

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	267	203	158	133
2	259	197	153	129
3	254	193	150	126
4	238	181	141	118
5	211	160	125	105
6	208	158	123	104
7	206	156	122	102
8	187	142	111	93
9	184	140	109	92
10	182	138	107	90
11	158	120	93	78
12	147	112	87	73
13	144	110	85	72
14	107	81	63	53
15	107	81	63	53
16	75	57	44	37
17	43	32	25	21
18	43	32	25	21
19	24	18	14	12
20	13	10	8	7
21	8	6	5	4
22	3	2	2	1
23	3	2	2	1
24	3	2	2	1

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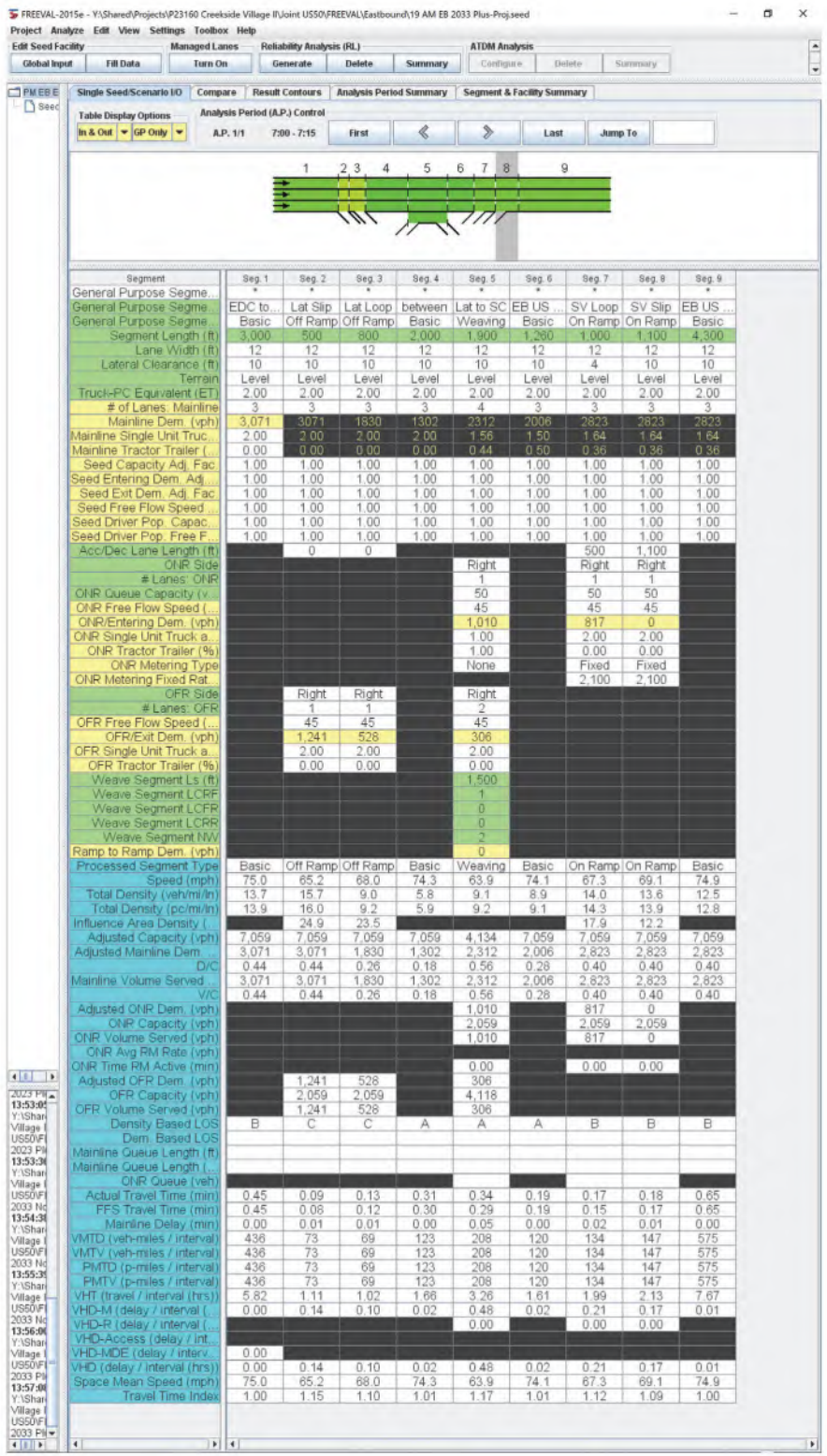
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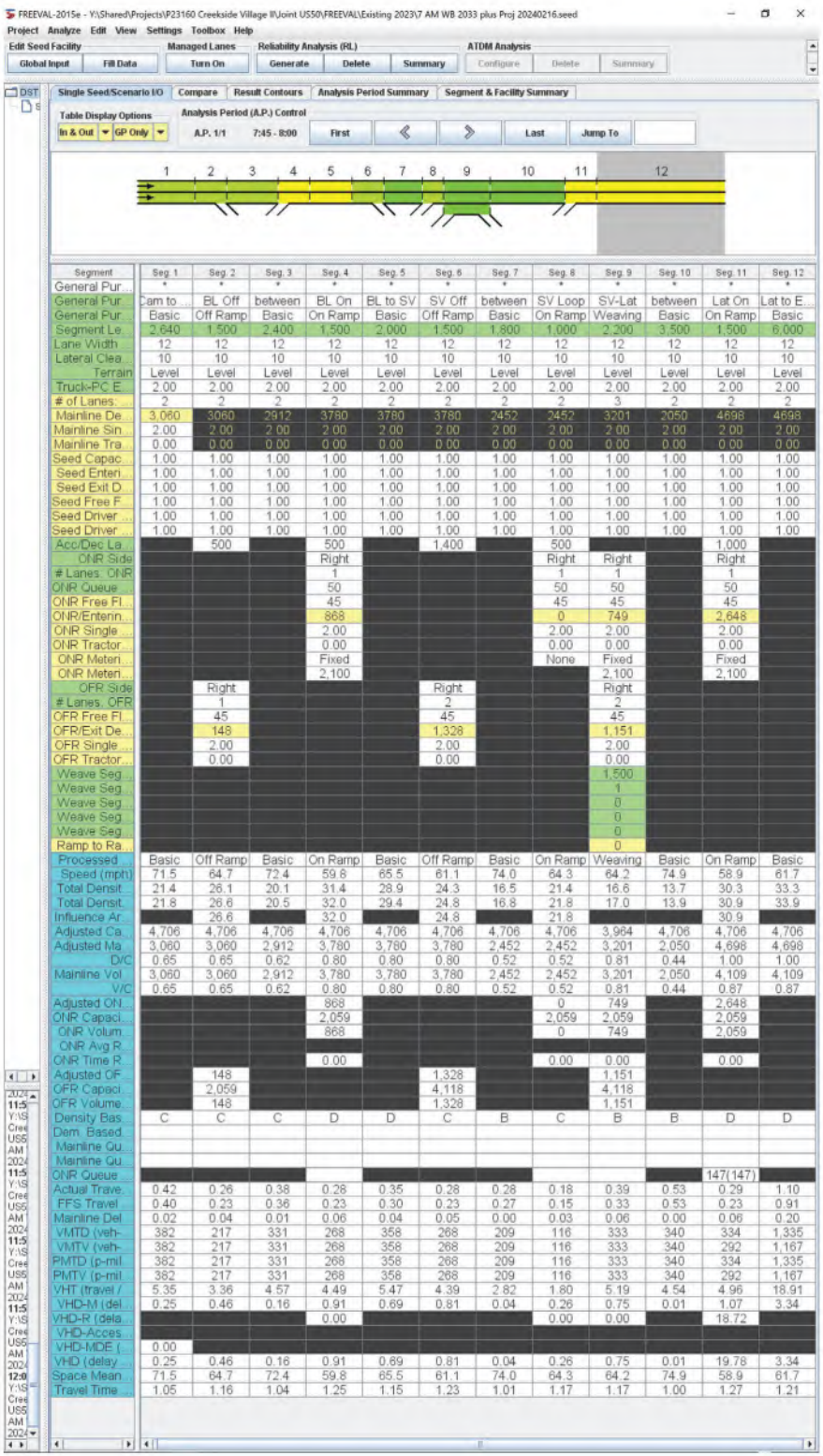
Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	470	1	158	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
2	1	456	1	153	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
3	1	447	1	150	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
4	1	419	1	141	No	Yes	Yes	Yes	No	No	No	No	No	No
5	1	371	1	125	No	No	Yes	Yes	No	No	No	No	No	No
6	1	366	1	123	No	No	Yes	Yes	No	No	No	No	No	No
7	1	362	1	122	No	No	Yes	Yes	No	No	No	No	No	No
8	1	329	1	111	No	No	No	Yes	No	No	No	No	No	No
9	1	324	1	109	No	No	No	Yes	No	No	No	No	No	No
10	1	320	1	107	No	No	No	Yes	No	No	No	No	No	No
11	1	278	1	93	No	No	No	No	No	No	No	No	No	No
12	1	259	1	87	No	No	No	No	No	No	No	No	No	No
13	1	254	1	85	No	No	No	No	No	No	No	No	No	No
14	1	188	1	63	No	No	No	No	No	No	No	No	No	No
15	1	188	1	63	No	No	No	No	No	No	No	No	No	No
16	1	132	1	44	No	No	No	No	No	No	No	No	No	No
17	1	75	1	25	No	No	No	No	No	No	No	No	No	No
18	1	75	1	25	No	No	No	No	No	No	No	No	No	No
19	1	42	1	14	No	No	No	No	No	No	No	No	No	No
20	1	23	1	8	No	No	No	No	No	No	No	No	No	No
21	1	14	1	5	No	No	No	No	No	No	No	No	No	No
22	1	5	1	2	No	No	No	No	No	No	No	No	No	No
23	1	5	1	2	No	No	No	No	No	No	No	No	No	No
24	1	5	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	10	0	0	0	3	3	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.4	19.4
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:43	0:42
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	158	133
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	761	761
Number of Approaches on Intersection	4	4
Total Volume Condition Met	No	No
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	





Segment	Seg. 1	Seg. 2	Seg. 3	Seg. 4	Seg. 5	Seg. 6	Seg. 7	Seg. 8	Seg. 9	Seg. 10	Seg. 11	Seg. 12
General Pur...	*	*	*	*	*	*	*	*	*	*	*	*
General Pur...	Cam to ...	BL Off	between	BL On	BL to SV	SV Off	between	SV Loop	SV-Lat	between	Lat On	Lat to E...
General Pur...	Basic	Off Ramp	Basic	On Ramp	Basic	Off Ramp	Basic	On Ramp	Weaving	Basic	On Ramp	Basic
Segment Le...	2,640	1,500	2,400	1,500	2,000	1,500	1,800	1,000	2,200	3,500	1,500	6,000
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Lateral Clea...	10	10	10	10	10	10	10	10	10	10	10	10
Terrain	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
Truck-PC E...	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
# of Lanes:	2	2	2	2	2	2	2	2	3	2	2	2
Mainline De...	3,060	3060	2912	3780	3780	3780	2452	2452	3201	2050	4698	4698
Mainline Sin...	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Mainline Tra...	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Seed Capac...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Enteri...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Exit D...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Free F...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Driver ...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Driver ...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Acc/Dec La...		500		500		1,400		500			1,000	
ONR Side				Right				Right	Right		Right	
# Lanes: ONR				1				1	1		1	
ONR Queue ...				50				50	50		50	
ONR Free Fl...				45				45	45		45	
ONR/Enterin...				868				0	749		2,648	
ONR Single ...				2.00				2.00	2.00		2.00	
ONR Tractor...				0.00				0.00	0.00		0.00	
ONR Meteri...				Fixed				None	Fixed		Fixed	
ONR Meteri...				2,100					2,100		2,100	
OFR Side		Right				Right			Right			
# Lanes: OFR		1				2			2			
OFR Free Fl...		45				45			45			
OFR/Exit De...		148				1,328			1,151			
OFR Single ...		2.00				2.00			2.00			
OFR Tractor...		0.00				0.00			0.00			
Weave Seg...									1,500			
Weave Seg...									1			
Weave Seg...									0			
Weave Seg...									0			
Weave Seg...									0			
Ramp to Ra...									0			
Processed ...	Basic	Off Ramp	Basic	On Ramp	Basic	Off Ramp	Basic	On Ramp	Weaving	Basic	On Ramp	Basic
Speed (mph)	71.5	64.7	72.4	59.8	65.5	61.1	74.0	64.3	64.2	74.9	58.9	61.7
Total Densit...	21.4	26.1	20.1	31.4	28.9	24.3	16.5	21.4	16.6	13.7	30.3	33.3
Total Densit...	21.8	26.6	20.5	32.0	29.4	24.8	16.8	21.8	17.0	13.9	30.9	33.9
Influence Ar...		26.6		32.0		24.8		21.8			30.9	
Adjusted Ca...	4,706	4,706	4,706	4,706	4,706	4,706	4,706	4,706	3,984	4,706	4,706	4,706
Adjusted Ma...	3,060	3,060	2,912	3,780	3,780	3,780	2,452	2,452	3,201	2,050	4,698	4,698
D/C	0.65	0.65	0.62	0.80	0.80	0.80	0.52	0.52	0.81	0.44	1.00	1.00
Mainline Vol...	3,060	3,060	2,912	3,780	3,780	3,780	2,452	2,452	3,201	2,050	4,109	4,109
V/C	0.65	0.65	0.62	0.80	0.80	0.80	0.52	0.52	0.81	0.44	0.87	0.87
Adjusted ON...				868				0	749		2,648	
ONR Capaci...				2,059				2,059	2,059		2,059	
ONR Volum...				868				0	749		2,059	
ONR Avg R...												
ONR Time R...				0.00				0.00	0.00		0.00	
Adjusted OF...		148				1,328			1,151			
OFR Capaci...		2,059				4,118			4,118			
OFR Volume...		148				1,328			1,151			
Density Bas...	C	C	C	D	D	C	B	C	B	B	D	D
Dem. Based...												
Mainline Gu...												
Mainline Gu...												
ONR Queue ...											147(147)	
Actual Trave...	0.42	0.26	0.38	0.28	0.35	0.28	0.28	0.18	0.39	0.53	0.29	1.10
FFS Travel ...	0.40	0.23	0.36	0.23	0.30	0.23	0.27	0.15	0.33	0.53	0.23	0.91
Mainline Del...	0.02	0.04	0.01	0.06	0.04	0.05	0.00	0.03	0.06	0.00	0.06	0.20
VMTD (veh-...	382	217	331	268	358	268	209	116	333	340	334	1,335
VMTV (veh-...	382	217	331	268	358	268	209	116	333	340	292	1,167
PMTD (p-mil...	382	217	331	268	358	268	209	116	333	340	334	1,335
PMTV (p-mil...	382	217	331	268	358	268	209	116	333	340	292	1,167
VHT (travel / ...	5.35	3.36	4.57	4.49	5.47	4.39	2.82	1.80	5.19	4.54	4.96	18.91
VHD-M (del...	0.25	0.46	0.16	0.91	0.69	0.81	0.04	0.26	0.75	0.01	1.07	3.34
VHD-R (dela...				0.00				0.00	0.00		18.72	
VHD-Acces...												
VHD-MDE (...	0.00											
VHD (delay ...	0.25	0.46	0.16	0.91	0.69	0.81	0.04	0.26	0.75	0.01	19.78	3.34
Space Mean ...	71.5	64.7	72.4	59.8	65.5	61.1	74.0	64.3	64.2	74.9	58.9	61.7
Travel Time ...	1.05	1.16	1.04	1.25	1.15	1.23	1.01	1.17	1.17	1.00	1.27	1.21

EPAP PM plus Project

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Scenario 4 2033 PM with CCSP, + Project
9/30/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	El Dorado Hills Blvd/Serrano Pkwy	Signalized	HCM 7th Edition	NB Thru	0.966	53.2	D
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	EB Right	1.238	110.8	F
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	WB Right	0.975	48.4	D
4	Latrobe Rd/US 50 EB	Signalized	HCM 7th Edition	EB Right	0.926	58.9	E
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	SB Left	0.995	52.5	D
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	WB Left	0.790	80.8	F
7	Latrobe Rd/Golden Foothill Pkwy N	Signalized	HCM 7th Edition	SB Right	1.077	80.9	F
8	Latrobe Rd/Suncast Ln	Signalized	HCM 7th Edition	EB Left	0.880	23.5	C
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	SB Left	1.030	112.8	F
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	NB Left	0.862	26.6	C
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	EB Left	0.146	48.5	E
12	Latrobe Rd/Royal Oaks Dr	Two-way stop	HCM 7th Edition	EB Left	1.208	232.3	F
13	Golden Foothill/Robert J Mathews	Two-way stop	HCM 7th Edition	NB Left	13.774	6,664.0	F
14	Investment Blvd/Robert J Mathews Pkwy	All-way stop	HCM 7th Edition	SB Thru	0.851	24.2	C
15	Golden Foothill Pkwy/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.316	17.7	C
16	Carson Crossing Rd/Calypso Cir.	Two-way stop	HCM 7th Edition	NB Left	0.293	19.3	C
17	Carson Crossing Rd/Four Seasons Dr	All-way stop	HCM 7th Edition	NB Thru	0.123	8.1	A
	White Rock Rd/Carson		HCM 7th				

18	White Rock Rd/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	1.276	261.0	F
19	White Rock Rd/Windfield Way	Signalized	HCM 7th Edition	SB Thru	0.581	32.9	C
20	White Rock Rd/Post St	Signalized	HCM 7th Edition	SB Left	0.596	66.9	E
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 6th Edition	EB Thru	1.363	254.8	F
22	White Rock Rd/Clarksville Crossing	Signalized	HCM 7th Edition	SB Right	0.895	37.1	D
23	White Rock Rd/US 50 EB	Signalized	HCM 7th Edition	NB Left	0.770	46.8	D
24	Silva Valley Pkwy/US 50 WB	Signalized	HCM 7th Edition	WB Left	0.687	23.1	C
25	New Intersection	Two-way stop	HCM 6th Edition	SB Thru	0.007	0.0	A
26	Latrobe/Wetsl-Oviatt	Two-way stop	HCM 7th Edition	EB Left	0.093	16.1	C
27	Latrobe/S. Shingle	Two-way stop	HCM 7th Edition	EB Left	0.070	19.9	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: El Dorado Hills Blvd/Serrano Pkwy

Control Type:	Signalized	Delay (sec / veh):	53.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.966

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	260.0	100.0	100.0	100.0	110.00	100.00	100.00	100.00	100.00	100.00	430.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No			No		
Crosswalk	No				Yes			Yes			Yes		

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Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Base Volume Input [veh/h]	3	113	1766	404	35	1126	67	53	25	85	339	61	22
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-25	0	0	4	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	20	0	0	26	0	0	7
Total Hourly Volume [veh/h]	3	113	1741	404	35	1130	47	53	25	59	339	61	15
Peak Hour Factor	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	32	500	116	10	325	14	15	7	17	97	18	4
Total Analysis Volume [veh/h]	3	130	2001	464	40	1299	54	61	29	68	390	70	17
Presence of On-Street Parking	No			No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	1	6	0	7	7	0	0	8	0
Auxiliary Signal Groups													
Maximum Green [s]	0	25	40	0	25	40	0	35	35	0	0	35	0
Amber [s]	0.0	3.0	4.7	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	12	0	0	12	0	0	0	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	100.0	245.0	0.0	100.0	100.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	29	46	0	29	46	0	39	39	0	0	39	0
Lead / Lag	-	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	3	6	0	3	3	0	3	3	0	0	3	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	4.0	0.0
Minimum Recall		No	No		No	No			No			No	
Maximum Recall		No	No		No	No			No			No	
Pedestrian Recall		No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C
C, Calculated Cycle Length [s]	81	81	81	81	81	81	81	81	81	81
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	40	40	2	35	35	7	7	15	15
g / C, Green / Cycle	0.10	0.49	0.49	0.03	0.43	0.43	0.08	0.08	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.07	0.56	0.29	0.02	0.36	0.36	0.03	0.06	0.13	0.13
s, saturation flow rate [veh/h]	1781	3560	1589	1781	1870	1844	1781	1664	1781	1791
c, Capacity [veh/h]	170	1750	781	51	794	783	147	137	321	322
d1, Uniform Delay [s]	36.03	20.72	14.88	39.33	21.20	21.23	35.52	36.43	31.62	31.62
k, delay calibration	0.04	0.06	0.08	0.04	0.20	0.21	0.04	0.04	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.96	65.56	0.54	9.23	5.13	5.32	0.70	2.48	4.77	4.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	1.14	0.59	0.78	0.86	0.86	0.42	0.71	0.74	0.74
d, Delay for Lane Group [s/veh]	38.99	86.28	15.43	48.56	26.32	26.55	36.22	38.91	36.39	36.36
Lane Group LOS	D	F	B	D	C	C	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.57	29.54	5.30	0.88	11.20	11.12	1.16	1.93	4.72	4.74
50th-Percentile Queue Length [ft/ln]	64.15	738.50	132.49	22.09	279.88	278.02	28.90	48.34	118.03	118.61
95th-Percentile Queue Length [veh/ln]	4.62	42.39	9.07	1.59	16.68	16.59	2.08	3.48	8.28	8.32
95th-Percentile Queue Length [ft/ln]	115.47	1059.84	226.87	39.76	417.06	414.75	52.02	87.01	207.11	207.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.99	38.99	86.28	15.43	48.56	26.43	26.55	36.22	38.91	38.91	36.38	36.36	36.36
Movement LOS	D	D	F	B	D	C	C	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	71.21				27.07			37.87			36.37		
Approach LOS	E				C			D			D		
d_I, Intersection Delay [s/veh]	53.19												
Intersection LOS	D												
Intersection V/C	0.966												

Emissions

Vehicle Miles Traveled [mph]	31.76	477.90	110.82	5.88	100.03	98.89	2.61	4.14	12.45	12.51
Stops [stops/h]	113.58	2615.18	234.58	39.11	495.56	492.27	51.17	85.59	208.98	210.01
Fuel consumption [US gal/h]	3.56	84.03	8.17	1.08	13.24	13.14	0.84	1.41	3.43	3.44
CO [g/h]	248.59	5873.56	571.22	75.71	925.14	918.77	58.68	98.66	239.62	240.80
NOx [g/h]	48.37	1142.78	111.14	14.73	180.00	178.76	11.42	19.20	46.62	46.85
VOC [g/h]	57.61	1361.25	132.38	17.55	214.41	212.93	13.60	22.87	55.53	55.81

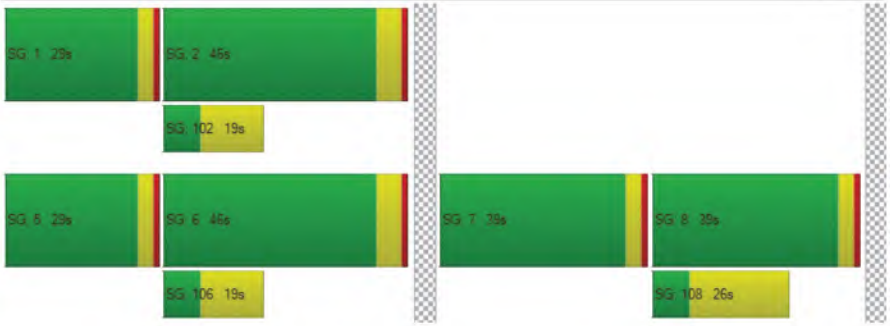
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	30.41	30.41	30.41
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.346	2.120	2.275
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	991	991	861	861
d_b, Bicycle Delay [s]	10.35	10.35	13.20	13.20
l_b,int, Bicycle LOS Score for Intersection	3.700	2.725	1.863	2.358
Bicycle LOS	D	B	A	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	110.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.238

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	500.0	100.0	100.0	100.0	500.0	100.0	100.0	300.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

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Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	5	442	1616	173	4	218	1133	198	380	48	581	63	107	286
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-11	-25	0	0	0	4	0	0	0	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	52	0	0	0	59	0	0	175	0	0	86
Total Hourly Volume [veh/h]	5	431	1591	121	4	218	1137	139	380	48	408	63	107	200
Peak Hour Factor	0.930	0.930	0.930	0.930	0.930	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	116	428	33	1	59	306	37	102	13	110	17	29	54
Total Analysis Volume [veh/h]	5	463	1711	130	4	234	1223	149	409	52	439	68	115	215
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	0	3	8	0
Auxiliary Signal Groups														
Maximum Green [s]	0	20	50	0	0	20	50	0	20	20	0	0	20	0
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	14	0	0	0	18	0	0	0	0	0	28	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	0	24	56	0	24	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Calculated Cycle Length [s]	125	125	125	125	125	125	125	125	125	125	125
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	49	49	19	47	47	20	20	20	20	20
g / C, Green / Cycle	0.16	0.39	0.39	0.15	0.38	0.38	0.16	0.16	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.26	0.34	0.35	0.13	0.34	0.09	0.13	0.13	0.28	0.04	0.20
s, saturation flow rate [veh/h]	1781	3560	1804	1781	3560	1589	1781	1800	1589	1781	1677
c, Capacity [veh/h]	285	1385	701	265	1344	600	285	288	255	285	269
d1, Uniform Delay [s]	52.41	35.41	35.63	52.19	36.84	26.69	50.54	50.48	52.41	45.76	52.41
k, delay calibration	0.50	0.13	0.36	0.28	0.13	0.13	0.25	0.25	0.50	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	303.33	2.36	11.86	22.33	3.27	0.26	11.79	11.10	341.67	0.16	130.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.64	0.88	0.89	0.90	0.91	0.25	0.81	0.80	1.72	0.24	1.23
d, Delay for Lane Group [s/veh]	355.73	37.77	47.50	74.52	40.11	26.95	62.33	61.58	394.08	45.91	183.26
Lane Group LOS	F	D	D	E	D	C	E	E	F	D	F
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	32.72	16.73	19.11	8.77	17.39	3.01	7.86	7.83	32.12	1.87	18.15
50th-Percentile Queue Length [ft/ln]	817.96	418.20	477.65	219.23	434.83	75.14	196.50	195.72	803.02	46.63	453.86
95th-Percentile Queue Length [veh/ln]	50.82	23.44	26.27	13.63	24.23	5.41	12.46	12.42	50.49	3.36	27.60
95th-Percentile Queue Length [ft/ln]	1270.56	585.89	656.87	340.65	605.82	135.25	311.45	310.44	1262.19	83.93	689.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	355.7	355.7	40.58	47.50	74.52	74.52	40.11	26.95	62.00	61.58	394.08	45.91	183.26	183.26
Movement LOS	F	F	D	D	E	E	D	C	E	E	F	D	F	F
d_A, Approach Delay [s/veh]	104.84				43.98				223.96			159.80		
Approach LOS	F				D				F			F		
d_I, Intersection Delay [s/veh]	110.80													
Intersection LOS	F													
Intersection V/C	1.238													

Emissions

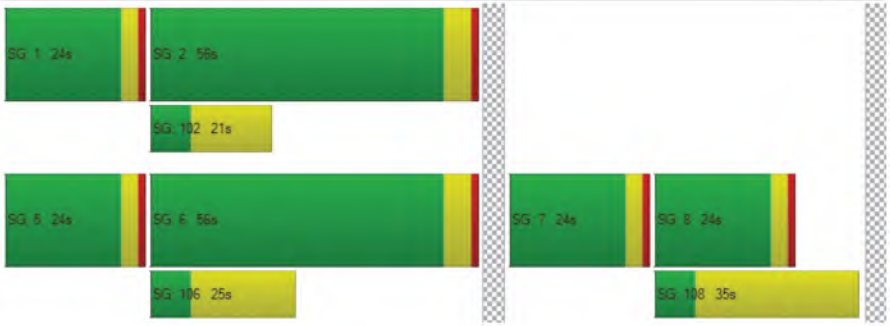
Vehicle Miles Traveled [mph]	87.76	228.22	117.02	56.84	292.09	35.59	14.35	14.40	27.38	3.32	16.09
Stops [stops/h]	944.42	965.70	551.50	253.13	1004.10	86.75	226.88	225.98	927.17	53.84	524.03
Fuel consumption [US gal/h]	48.62	29.18	16.90	8.70	32.48	3.12	4.76	4.73	41.45	1.07	15.86
CO [g/h]	3398.71	2039.90	1181.24	608.43	2270.21	217.77	332.94	330.91	2897.17	74.74	1108.77
NOx [g/h]	661.27	396.89	229.83	118.38	441.70	42.37	64.78	64.38	563.68	14.54	215.73
VOC [g/h]	787.68	472.77	273.76	141.01	526.14	50.47	77.16	76.69	671.45	17.32	256.97

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.84	51.84	51.84
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.548	2.849	2.388
Crosswalk LOS	F	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	807	807	321	321
d_b, Bicycle Delay [s]	22.20	22.20	43.96	43.96
l_b,int, Bicycle LOS Score for Intersection	2.855	2.743	3.333	2.358
Bicycle LOS	C	B	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	48.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.975

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	500.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1224	1679	414	0	37	1252	493	306	130	404	236	88	251
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-44	-36	-8	0	0	6	0	0	0	0	2	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	122	0	0	0	148	0	0	121	0	0	75
Total Hourly Volume [veh/h]	1	1180	1643	284	0	37	1258	345	306	130	283	238	88	176
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	295	411	71	0	9	315	86	77	33	71	60	22	44
Total Analysis Volume [veh/h]	1	1180	1643	284	0	37	1258	345	306	130	283	238	88	176
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	136
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	45	62	0	0	14	29	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	50	68	0	0	19	35	28	0	28	0	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Calculated Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	45	74	74	6	34	59	19	19	17	17	17
g / C, Green / Cycle	0.33	0.54	0.54	0.04	0.25	0.43	0.14	0.14	0.12	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.34	0.36	0.38	0.02	0.25	0.22	0.12	0.12	0.09	0.09	0.11
s, saturation flow rate [veh/h]	3459	3532	1725	1781	5053	1589	1781	1832	1781	1827	1589
c, Capacity [veh/h]	1155	1914	935	81	1279	685	249	257	223	228	199
d1, Uniform Delay [s]	45.28	22.21	23.19	63.30	50.50	28.15	57.19	57.19	57.26	57.22	58.55
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.16	0.16	0.12	0.12	0.24
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.08	1.80	4.55	1.51	21.50	2.64	12.22	11.90	4.89	4.55	23.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.02	0.66	0.71	0.46	0.98	0.50	0.86	0.86	0.73	0.72	0.89
d, Delay for Lane Group [s/veh]	59.36	24.02	27.74	64.81	72.00	30.79	69.41	69.09	62.15	61.78	81.74
Lane Group LOS	F	C	C	E	E	C	E	E	E	E	F
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	21.58	14.64	16.71	1.26	16.30	8.41	8.08	8.29	5.66	5.75	7.25
50th-Percentile Queue Length [ft/ln]	539.60	365.97	417.71	31.57	407.59	210.15	202.10	207.29	141.42	143.70	181.27
95th-Percentile Queue Length [veh/ln]	29.64	20.91	23.41	2.27	22.93	13.16	12.75	13.01	9.56	9.68	11.67
95th-Percentile Queue Length [ft/ln]	741.10	522.84	585.30	56.82	573.14	329.02	318.67	325.34	238.93	241.99	291.67

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	59.36	59.36	24.88	27.74	64.81	64.81	72.00	30.79	69.32	69.09	0.00	62.03	61.78	81.74
Movement LOS	E	F	C	C	E	E	E	C	E	E		E	E	F
d_A, Approach Delay [s/veh]	38.24				63.17				41.99			68.89		
Approach LOS	D				E				D			E		
d_I, Intersection Delay [s/veh]	48.43													
Intersection LOS	D													
Intersection V/C	0.975													

Emissions

Vehicle Miles Traveled [mph]	203.14	217.32	114.14	6.94	235.91	64.70	9.94	10.23	5.13	5.23	5.60
Stops [stops/h]	1142.68	774.99	442.28	33.42	1294.71	222.51	213.99	219.48	149.74	152.15	191.94
Fuel consumption [US gal/h]	28.94	19.40	10.89	1.14	42.61	7.15	4.63	4.74	3.08	3.13	4.22
CO [g/h]	2022.93	1356.24	761.07	79.78	2978.76	499.48	323.44	331.40	215.23	218.47	294.83
NOx [g/h]	393.59	263.88	148.08	15.52	579.56	97.18	62.93	64.48	41.88	42.51	57.36
VOC [g/h]	468.83	314.32	176.39	18.49	690.36	115.76	74.96	76.80	49.88	50.63	68.33

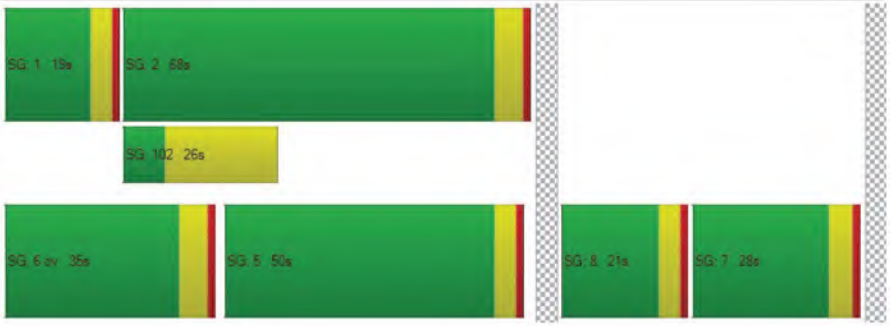
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	57.44
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.538
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	915	429	337	241
d_b, Bicycle Delay [s]	20.02	41.93	47.03	52.59
l_b,int, Bicycle LOS Score for Intersection	3.336	2.523	2.279	2.036
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 4: Latrobe Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	58.9
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.926

Intersection Setup

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	200.00	570.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No			No		
Crosswalk	No			No				No			Yes		

Volumes

Name	Latrobe Rd			El Dorado Hills Blvd			US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Base Volume Input [veh/h]	0	2456	609	1	388	1504	0	0	1591	0	0	861
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-88	-19	0	0	8	0	0	0	8	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	177	0	0	0	0	0	0	480	0	0	258
Total Hourly Volume [veh/h]	0	2368	413	1	388	1512	0	0	0	1119	0	0	603
Peak Hour Factor	1.0000	0.9500	0.8400	1.000	0.840	0.950	1.000	1.0000	1.0000	0.8400	1.0000	1.0000	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	623	123	0	115	398	0	0	0	333	0	0	179
Total Analysis Volume [veh/h]	0	2493	492	1	462	1592	0	0	0	1332	0	0	718
Presence of On-Street Parking	No		No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0		
v_co, Outbound Pedestrian Volume crossing		0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0		
Bicycle Volume [bicycles/h]		0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	26.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	30	0	0	26	34	0	0	0	22	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No				No			
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	4.2	0.0	0.0	2.6	4.2	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	2.5	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Minimum Recall		Yes			No	Yes				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	C	L	C	R	
C, Calculated Cycle Length [s]	68	68	68	68	68	
L, Total Lost Time per Cycle [s]	6.20	6.20	4.60	6.20	4.60	
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	4.20	4.20	2.60	4.20	2.60	
g_i, Effective Green Time [s]	38	38	20	35	22	
g / C, Green / Cycle	0.55	0.55	0.29	0.51	0.33	
(v / s)_i Volume / Saturation Flow Rate	0.44	0.45	0.26	0.23	0.47	
s, saturation flow rate [veh/h]	5094	1675	1781	6792	2813	
c, Capacity [veh/h]	2809	924	516	3476	927	
d1, Uniform Delay [s]	12.21	12.34	23.17	10.59	22.80	
k, delay calibration	0.50	0.50	0.17	0.50	0.17	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	2.45	7.54	8.80	0.44	198.94	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.80	0.81	0.90	0.46	1.44	
d, Delay for Lane Group [s/veh]	14.66	19.88	31.97	11.02	221.74	
Lane Group LOS	B	B	C	B	F	
Critical Lane Group	No	No	No	Yes	Yes	
50th-Percentile Queue Length [veh/ln]	7.15	8.52	7.43	3.05	32.37	
50th-Percentile Queue Length [ft/ln]	178.83	213.02	185.84	76.16	809.18	
95th-Percentile Queue Length [veh/ln]	11.54	13.31	11.90	5.48	50.53	
95th-Percentile Queue Length [ft/ln]	288.48	332.70	297.62	137.09	1263.36	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	15.19	19.88	31.97	31.97	11.02	0.00	0.00	0.00	221.74	0.00	0.00	0.00
Movement LOS		B	B	C	C	B				F			
d_A, Approach Delay [s/veh]		15.97			15.74			221.74			0.00		
Approach LOS		B			B			F			A		
d_I, Intersection Delay [s/veh]	58.91												
Intersection LOS	E												
Intersection V/C	0.926												

Emissions

Vehicle Miles Traveled [mph]	323.94	107.98	79.64	273.83	95.32	
Stops [stops/h]	1136.09	451.11	393.53	645.11	3427.13	
Fuel consumption [US gal/h]	31.91	12.33	10.64	20.98	82.96	
CO [g/h]	2230.45	861.85	743.40	1466.42	5798.56	
NOx [g/h]	433.97	167.68	144.64	285.31	1128.19	
VOC [g/h]	516.93	199.74	172.29	339.86	1343.87	

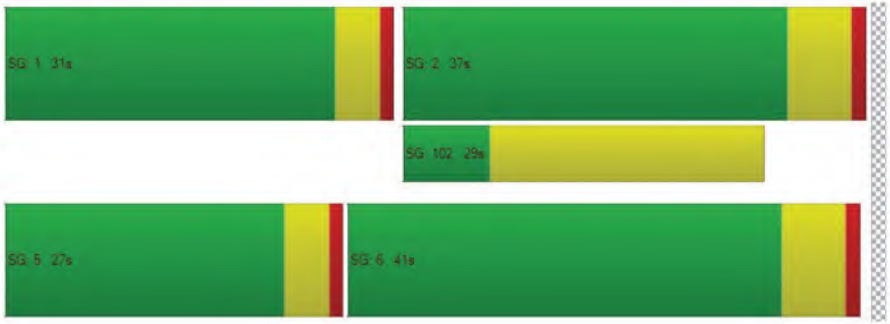
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	23.89
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.251
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	906	1024	659	0
d_b, Bicycle Delay [s]	10.18	8.10	15.29	34.00
l_b,int, Bicycle LOS Score for Intersection	2.864	2.217	1.560	1.560
Bicycle LOS	C	B	A	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	52.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.995

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	24	1987	233	3	570	1937	585	460	37	83	1	92	6	615
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-2	-107	-6	0	0	16	0	0	0	0	0	3	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	68	0	0	0	176	0	0	25	0	0	0	185
Total Hourly Volume [veh/h]	1	22	1880	159	3	570	1953	409	460	37	58	1	95	6	430
Peak Hour Factor	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.9600	0.9600	0.9600	0.960	0.960	0.960	0.960
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	6	490	41	1	148	509	107	120	10	15	0	25	2	112
Total Analysis Volume [veh/h]	1	23	1958	166	3	594	2034	426	479	39	60	1	99	6	448
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	138
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	0	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	40	0	0	12	65	0	15	20	0	0	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	0.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.0	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	0.0	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	46	0	0	16	71	0	19	24	0	0	19	19	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	0	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	Yes			No	Yes			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Calculated Cycle Length [s]	102	102	102	102	102	102	102	102	102	102	102	102
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	2	42	42	12	52	52	16	16	16	15	15	15
g / C, Green / Cycle	0.02	0.42	0.42	0.12	0.51	0.51	0.16	0.16	0.16	0.15	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.01	0.38	0.10	0.17	0.40	0.27	0.14	0.02	0.04	0.06	0.14	0.14
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	1870	1589	1781	1596	1589
c, Capacity [veh/h]	68	2116	660	408	2617	817	560	303	258	263	235	234
d1, Uniform Delay [s]	49.25	28.25	19.42	44.87	20.03	16.43	41.46	36.48	37.12	39.18	43.13	43.13
k, delay calibration	0.04	0.04	0.04	0.18	0.04	0.04	0.08	0.08	0.08	0.08	0.40	0.40
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.17	0.83	0.07	213.47	0.19	0.19	2.90	0.14	0.34	0.67	44.56	44.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.35	0.93	0.25	1.46	0.78	0.52	0.85	0.13	0.23	0.38	0.97	0.97
d, Delay for Lane Group [s/veh]	50.42	29.08	19.49	258.34	20.22	16.63	44.37	36.62	37.46	39.85	87.68	87.80
Lane Group LOS	D	C	B	F	C	B	D	D	D	D	F	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.31	14.61	2.54	17.18	12.29	6.36	6.00	0.84	1.32	2.29	8.53	8.50
50th-Percentile Queue Length [ft/ln]	7.77	365.29	63.49	429.58	307.20	158.89	150.04	20.98	32.99	57.32	213.23	212.59
95th-Percentile Queue Length [veh/ln]	0.56	20.88	4.57	27.45	18.04	10.49	10.02	1.51	2.38	4.13	13.32	13.29
95th-Percentile Queue Length [ft/ln]	13.98	522.01	114.29	686.20	450.92	262.25	250.48	37.77	59.39	103.18	332.97	332.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.42	50.42	29.08	19.49	258.3	258.3	20.22	16.63	44.37	36.62	37.46	39.85	39.85	87.68	87.74
Movement LOS	D	D	C	B	F	F	C	B	D	D	D	D	D	F	F
d_A, Approach Delay [s/veh]	28.57				66.22				43.13			79.10			
Approach LOS	C				E				D			E			
d_I, Intersection Delay [s/veh]	52.48														
Intersection LOS	D														
Intersection V/C	0.995														

Emissions

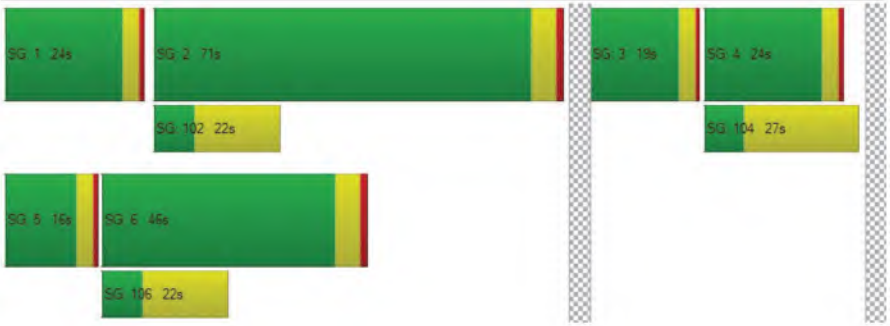
Vehicle Miles Traveled [mph]	5.36	437.10	37.06	86.38	294.31	61.64	61.10	4.97	7.65	35.10	79.83	79.51
Stops [stops/h]	22.01	1552.83	89.97	1217.43	1305.90	225.15	425.20	29.73	46.75	81.23	302.14	301.23
Fuel consumption [US gal/h]	0.59	38.16	2.68	41.66	27.70	5.22	9.19	0.66	1.03	2.70	9.01	8.98
CO [g/h]	41.13	2667.24	187.40	2912.16	1936.20	365.08	642.28	46.11	72.05	189.05	630.02	628.05
NOx [g/h]	8.00	518.95	36.46	566.60	376.71	71.03	124.96	8.97	14.02	36.78	122.58	122.20
VOC [g/h]	9.53	618.16	43.43	674.92	448.73	84.61	148.85	10.69	16.70	43.81	146.01	145.56

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	40.41	0.00	40.41	40.41
l_p,int, Pedestrian LOS Score for Intersectio	3.432	0.000	2.695	2.882
Crosswalk LOS	C	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	797	1289	403	305
d_b, Bicycle Delay [s]	18.38	6.42	32.38	36.49
l_b,int, Bicycle LOS Score for Intersection	2.778	3.011	2.057	2.616
Bicycle LOS	C	C	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	80.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.790

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	3	2	0	0	1	2	0	0	0	3	0	0
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	260.0	100.0	100.0	260.0	360.0	100.0	100.0	100.0	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	6	125	1673	518	2	253	1422	436	2	376	472	124	516	223	194
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-116	-29	0	0	19	0	0	0	0	0	4	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	147	0	0	0	131	0	0	0	37	0	0	58
Total Hourly Volume [veh/h]	6	125	1557	342	2	253	1441	305	2	376	472	87	520	223	136
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	34	419	92	1	68	387	82	1	101	127	23	140	60	37
Total Analysis Volume [veh/h]	6	134	1674	368	2	272	1549	328	2	404	508	94	559	240	146
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	158
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups															
Maximum Green [s]	0	25	50	0	0	35	50	0	0	25	15	0	15	25	0
Amber [s]	0.0	4.0	4.7	0.0	0.0	4.0	4.7	0.0	0.0	4.5	4.7	0.0	4.5	4.7	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	39	0	0	0	37	0	0	0	48	0	0	50	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	3.7	0.0	0.0	3.0	3.7	0.0	0.0	4.0	3.7	0.0	4.0	3.7	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	30	56	0	0	40	56	0	0	31	21	0	21	31	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	7	0	0	10	7	0	0	10	10	0	10	10	0
Vehicle Extension [s]	0.0	1.5	3.0	0.0	0.0	1.5	3.0	0.0	0.0	1.5	2.0	0.0	1.5	2.0	0.0
Minimum Recall		No	Yes			No	Yes			No	No		No	No	
Maximum Recall		No	No			No	No			No	No		No	No	
Pedestrian Recall		No	No			No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Calculated Cycle Length [s]	158	158	158	158	158	158	158	158	158	158	158	158
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	6.00	5.70	5.70	6.00	5.70	5.70
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	4.00	3.70	3.70	4.00	3.70	3.70
g_i, Effective Green Time [s]	14	84	84	15	84	84	21	22	22	15	17	17
g / C, Green / Cycle	0.09	0.53	0.53	0.09	0.53	0.53	0.13	0.14	0.14	0.09	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.08	0.25	0.23	0.08	0.30	0.21	0.12	0.17	0.17	0.16	0.07	0.09
s, saturation flow rate [veh/h]	1781	6792	1589	3459	5094	1589	3459	1870	1770	3459	3560	1589
c, Capacity [veh/h]	162	3588	840	321	2702	843	453	266	252	328	378	169
d1, Uniform Delay [s]	70.88	23.33	22.88	70.60	25.04	21.95	67.60	67.77	67.77	71.50	67.68	69.50
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.50	0.50	0.20	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.29	0.44	1.66	2.50	0.89	1.35	2.61	106.79	108.24	321.30	0.66	5.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.47	0.44	0.85	0.57	0.39	0.90	1.16	1.16	1.70	0.64	0.87
d, Delay for Lane Group [s/veh]	76.17	23.77	24.54	73.10	25.93	23.31	70.21	174.56	176.01	392.80	68.34	74.58
Lane Group LOS	E	C	C	E	C	C	E	F	F	F	E	E
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.86	10.00	8.91	5.51	12.86	7.36	8.27	18.66	17.76	21.33	4.71	6.08
50th-Percentile Queue Length [ft/ln]	146.59	249.89	222.80	137.66	321.52	183.91	206.85	466.50	444.01	533.36	117.80	152.05
95th-Percentile Queue Length [veh/ln]	9.84	15.18	13.81	9.35	18.74	11.80	12.99	27.59	26.43	33.91	8.27	10.13
95th-Percentile Queue Length [ft/ln]	245.88	379.52	345.20	233.87	468.55	295.11	324.78	689.78	660.77	847.77	206.80	253.16

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	76.17	76.17	23.77	24.54	73.10	73.10	25.93	23.31	70.21	70.21	175.1	176.0	392.80	68.34	74.58
Movement LOS	E	E	C	C	E	E	C	C	E	E	F	F	F	E	E
d_A, Approach Delay [s/veh]	27.26				31.54				132.95				261.23		
Approach LOS	C				C				F				F		
d_I, Intersection Delay [s/veh]	80.85														
Intersection LOS	F														
Intersection V/C	0.790														

Emissions

Vehicle Miles Traveled [mph]	55.73	666.40	146.50	61.17	345.79	73.22	101.33	77.19	73.05	58.41	25.08	15.25
Stops [stops/h]	133.60	911.00	203.06	250.93	879.08	167.61	377.04	425.16	404.67	972.20	214.73	138.58
Fuel consumption [US gal/h]	5.20	40.56	8.99	9.29	30.96	6.15	12.05	16.51	15.73	52.45	5.56	3.61
CO [g/h]	363.64	2835.41	628.42	649.50	2163.82	429.85	842.60	1154.14	1099.23	3666.12	388.37	252.27
NOx [g/h]	70.75	551.67	122.27	126.37	421.00	83.63	163.94	224.55	213.87	713.29	75.56	49.08
VOC [g/h]	84.28	657.13	145.64	150.53	501.49	99.62	195.28	267.48	254.76	849.66	90.01	58.47

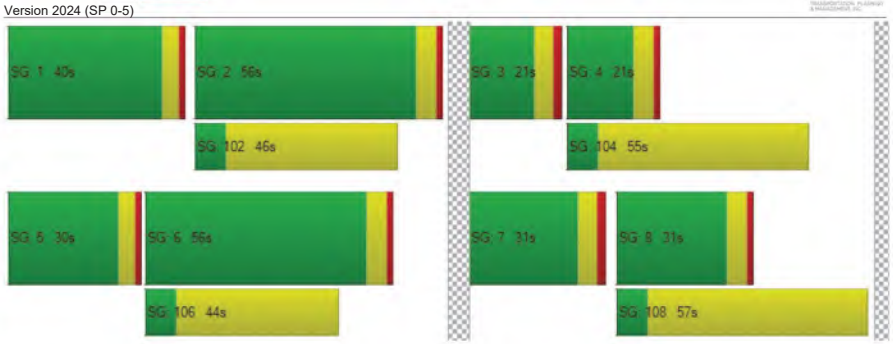
Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	68.38	68.38	68.38	68.38
l_p,int, Pedestrian LOS Score for Intersectio	3.580	3.847	2.837	3.023
Crosswalk LOS	D	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	637	637	194	320
d_b, Bicycle Delay [s]	36.71	36.71	64.44	55.73
l_b,int, Bicycle LOS Score for Intersection	2.518	2.665	2.088	2.387
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	80.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.077

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	100.0	200.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	11	1588	30	0	34	1590	454	703	9	27	1	6	19
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-144	0	0	0	23	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	9	0	0	0	136	0	0	8	0	0	6
Total Hourly Volume [veh/h]	1	11	1444	21	0	34	1613	318	703	9	19	1	6	13
Peak Hour Factor	1.000	0.890	0.890	0.870	1.000	0.870	0.890	0.890	0.8900	0.8700	0.8900	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	406	6	0	10	453	89	197	3	5	0	2	4
Total Analysis Volume [veh/h]	1	12	1622	24	0	39	1812	357	790	10	21	1	7	15
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	112
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	12	40	0	0	15	40	0	0	20	0	0	20	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	12	0	0	0	20	0	0	20	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	0	0	18	46	0	0	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	82	82	82	82	82	82	82	82	82
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	39	39	2	40	40	20	20	2
g / C, Green / Cycle	0.02	0.48	0.48	0.03	0.49	0.49	0.25	0.25	0.03
(v / s)_i Volume / Saturation Flow Rate	0.01	0.44	0.44	0.02	0.58	0.61	0.23	0.23	0.01
s, saturation flow rate [veh/h]	1781	1870	1860	1781	1870	1767	1781	1772	1674
c, Capacity [veh/h]	30	896	892	52	919	869	435	433	45
d1, Uniform Delay [s]	39.81	19.82	19.86	39.42	20.80	20.80	30.35	30.37	39.26
k, delay calibration	0.04	0.37	0.38	0.04	0.50	0.50	0.39	0.39	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.56	12.72	13.06	7.93	92.33	121.50	26.44	26.97	3.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.92	0.92	0.75	1.18	1.25	0.94	0.95	0.51
d, Delay for Lane Group [s/veh]	43.37	32.54	32.92	47.35	113.13	142.30	56.79	57.34	42.51
Lane Group LOS	D	C	C	D	F	F	E	E	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.28	16.28	16.34	0.83	37.11	42.11	10.79	10.83	0.49
50th-Percentile Queue Length [ft/ln]	7.10	407.01	408.52	20.79	927.78	1052.77	269.86	270.68	12.20
95th-Percentile Queue Length [veh/ln]	0.51	22.90	22.97	1.50	53.10	61.57	16.18	16.22	0.88
95th-Percentile Queue Length [ft/ln]	12.78	572.45	574.26	37.42	1327.57	1539.35	404.56	405.59	21.97

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.37	43.37	32.73	32.92	47.35	47.35	124.8	142.3	57.05	57.34	57.34	42.51	42.51	42.51
Movement LOS	D	D	C	C	D	D	F	F	E	E	E	D	D	D
d_A, Approach Delay [s/veh]	32.81				126.29				57.06			42.51		
Approach LOS	C				F				E			D		
d_I, Intersection Delay [s/veh]	80.90													
Intersection LOS	F													
Intersection V/C	1.077													

Emissions

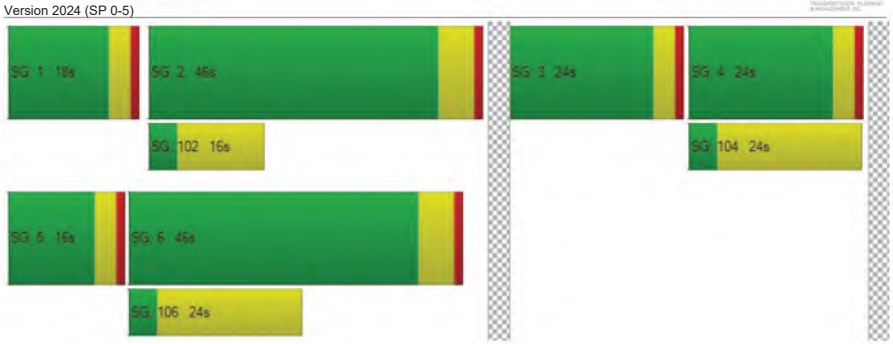
Vehicle Miles Traveled [mph]	4.60	291.61	290.85	15.53	431.73	431.73	98.99	98.73	0.44
Stops [stops/h]	12.53	718.65	721.31	36.71	1638.15	1858.83	476.47	477.93	21.55
Fuel consumption [US gal/h]	0.37	21.43	21.46	1.58	69.83	80.37	11.46	11.49	0.34
CO [g/h]	26.10	1498.07	1500.38	110.23	4881.33	5617.74	800.89	803.01	23.49
NOx [g/h]	5.08	291.47	291.92	21.45	949.73	1093.01	155.82	156.24	4.57
VOC [g/h]	6.05	347.19	347.73	25.55	1131.30	1301.97	185.61	186.11	5.44

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	33.17	0.00	33.17	33.17
l_p,int, Pedestrian LOS Score for Intersectio	2.995	0.000	2.385	1.775
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	981	981	490	490
d_b, Bicycle Delay [s]	10.59	10.59	23.23	23.23
l_b,int, Bicycle LOS Score for Intersection	2.935	3.461	2.927	1.607
Bicycle LOS	C	C	C	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Latrobe Rd/Suncast Ln

Control Type:	Signalized	Delay (sec / veh):	23.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.880

Intersection Setup

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Approach	Northbound			Southbound		Eastbound	
Lane Configuration							
Turning Movement	U-turn	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			No		Yes	

Volumes

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Base Volume Input [veh/h]	0	90	1321	1429	190	309	178
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	46	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-144	23	0	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	57	0	54
Total Hourly Volume [veh/h]	0	90	1223	1452	133	309	127
Peak Hour Factor	1.0000	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	25	344	408	37	87	36
Total Analysis Volume [veh/h]	0	101	1374	1631	149	347	143
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permissive	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	5	2	6	0	3	0
Auxiliary Signal Groups							
Maximum Green [s]	0	12	40	40	0	20	0
Amber [s]	0.0	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No	No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	46	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-
Minimum Green [s]	0	5	5	5	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall		No	No	No		No	
Maximum Recall		No	No	No		No	
Pedestrian Recall		No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	C	L	R
C, Calculated Cycle Length [s]	76	76	76	76	76	76
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	6	49	40	40	17	17
g / C, Green / Cycle	0.07	0.65	0.52	0.52	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.06	0.39	0.48	0.49	0.19	0.09
s, saturation flow rate [veh/h]	1781	3560	1870	1816	1781	1589
c, Capacity [veh/h]	132	2298	970	943	398	355
d1, Uniform Delay [s]	34.70	7.82	16.85	17.32	28.57	25.28
k, delay calibration	0.04	0.15	0.38	0.40	0.25	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.48	0.36	11.82	15.74	12.41	0.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.60	0.92	0.94	0.87	0.40
d, Delay for Lane Group [s/veh]	38.17	8.17	28.67	33.05	40.98	26.02
Lane Group LOS	D	A	C	C	D	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.92	5.28	15.56	16.83	7.21	2.20
50th-Percentile Queue Length [ft/ln]	47.93	131.97	388.91	420.79	180.28	55.04
95th-Percentile Queue Length [veh/ln]	3.45	9.05	22.02	23.56	11.62	3.96
95th-Percentile Queue Length [ft/ln]	86.27	226.17	550.62	589.00	290.39	99.07

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.17	38.17	8.17	30.66	33.05	40.98	26.02
Movement LOS	D	D	A	C	C	D	C
d_A, Approach Delay [s/veh]	10.23			30.86		36.61	
Approach LOS	B			C		D	
d_I, Intersection Delay [s/veh]	23.49						
Intersection LOS	C						
Intersection V/C	0.880						

Emissions

Vehicle Miles Traveled [mph]	70.25	955.69	314.94	314.94	117.08	48.25
Stops [stops/h]	90.62	499.03	735.33	795.61	340.87	104.06
Fuel consumption [US gal/h]	4.18	44.39	22.22	23.35	9.60	3.32
CO [g/h]	291.98	3102.53	1553.22	1631.95	670.80	231.94
NOx [g/h]	56.81	603.64	302.20	317.52	130.51	45.13
VOC [g/h]	67.67	719.04	359.97	378.22	155.46	53.75

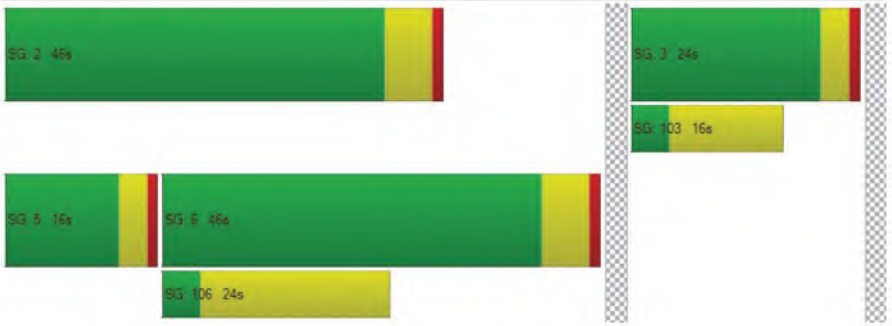
Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	30.50	0.00	30.50
l_p,int, Pedestrian LOS Score for Intersectio	2.938	0.000	2.288
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1050	1050	525
d_b, Bicycle Delay [s]	8.58	8.58	20.71
l_b,int, Bicycle LOS Score for Intersection	2.776	3.075	1.560
Bicycle LOS	C	C	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	112.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.030

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

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Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	108	575	28	352	446	809	686	216	57	68	155	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	21	98	10	0	46	0	0	0	0	0	12	0
Site-Generated Trips [veh/h]	-4	-2	-3	0	93	-67	-142	-25	25	9	-12	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	11	0	0	223	0	0	25	0	0	45
Total Hourly Volume [veh/h]	125	671	24	352	585	519	544	191	57	77	155	105
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	184	7	97	161	143	149	52	16	21	43	29
Total Analysis Volume [veh/h]	137	737	26	387	643	570	598	210	63	85	170	115
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Calculated Cycle Length [s]	79	79	79	79	79	79	79	79	79	79
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	8	21	21	12	25	25	15	15	13	13
g / C, Green / Cycle	0.10	0.26	0.26	0.15	0.31	0.31	0.19	0.19	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.08	0.21	0.21	0.22	0.34	0.36	0.24	0.24	0.14	0.07
s, saturation flow rate [veh/h]	1781	1870	1848	1781	1870	1592	1781	1791	1839	1589
c, Capacity [veh/h]	174	488	482	269	588	500	336	338	301	260
d1, Uniform Delay [s]	35.10	27.34	27.34	33.77	27.27	27.27	32.27	32.27	32.32	30.01
k, delay calibration	0.04	0.11	0.11	0.50	0.46	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.02	2.93	2.96	218.14	59.83	89.71	153.32	151.42	2.59	0.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.79	0.79	1.44	1.08	1.15	1.30	1.29	0.85	0.44
d, Delay for Lane Group [s/veh]	38.12	30.27	30.30	251.91	87.10	116.99	185.60	183.69	34.91	30.45
Lane Group LOS	D	C	C	F	F	F	F	F	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.67	6.88	6.80	20.93	19.27	20.56	20.51	20.45	4.83	1.96
50th-Percentile Queue Length [ft/ln]	66.84	171.95	170.03	523.22	481.70	514.07	512.77	511.15	120.73	49.09
95th-Percentile Queue Length [veh/ln]	4.81	11.18	11.08	32.87	27.81	30.50	31.51	31.38	8.43	3.53
95th-Percentile Queue Length [ft/ln]	120.31	279.48	276.95	821.77	695.31	762.57	787.65	784.47	210.83	88.36

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.12	30.28	30.30	251.91	87.43	116.99	185.08	183.69	183.69	34.91	34.91	30.45
Movement LOS	D	C	C	F	F	F	F	F	F	C	C	C
d_A, Approach Delay [s/veh]	31.48			137.74			184.64			33.52		
Approach LOS	C			F			F			C		
d_I, Intersection Delay [s/veh]	112.79											
Intersection LOS	F											
Intersection V/C	1.030											

Emissions

Vehicle Miles Traveled [mph]	79.12	221.64	219.01	269.18	442.31	401.40	32.73	32.80	28.20	12.72
Stops [stops/h]	121.24	311.90	308.42	949.08	873.77	932.48	930.13	927.18	218.99	89.04
Fuel consumption [US gal/h]	4.99	13.21	13.06	46.47	42.30	44.49	22.91	22.77	4.18	1.73
CO [g/h]	348.77	923.47	912.77	3248.16	2956.49	3109.51	1601.71	1591.40	292.33	120.80
NOx [g/h]	67.86	179.67	177.59	631.97	575.23	605.00	311.63	309.63	56.88	23.50
VOC [g/h]	80.83	214.02	211.54	752.79	685.19	720.66	371.21	368.82	67.75	28.00

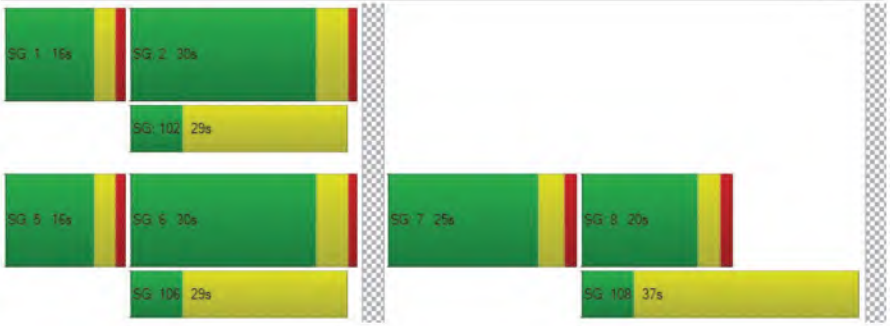
Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.46	0.00	29.46	29.46
l_p,int, Pedestrian LOS Score for Intersectio	2.645	0.000	2.617	2.338
Crosswalk LOS	B	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	622	622	390	504
d_b, Bicycle Delay [s]	18.84	18.84	25.71	22.21
l_b,int, Bicycle LOS Score for Intersection	2.311	3.064	3.038	2.244
Bicycle LOS	B	C	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	26.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.862

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

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Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	148	314	452	119	397	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	129	0
Site-Generated Trips [veh/h]	-9	136	195	-68	-146	-22
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	15	0	0
Total Hourly Volume [veh/h]	139	450	647	36	380	98
Peak Hour Factor	0.9000	0.9000	0.9000	0.7900	0.7900	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	125	180	11	120	27
Total Analysis Volume [veh/h]	154	500	719	46	481	109
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	164
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	50	50	50	0	50	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	54	56	56	0	54	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Calculated Cycle Length [s]	86	86	86	86	86	86
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	9	50	37	37	26	26
g / C, Green / Cycle	0.11	0.58	0.43	0.43	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.09	0.27	0.38	0.03	0.27	0.07
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1589
c, Capacity [veh/h]	191	1085	797	678	540	482
d1, Uniform Delay [s]	37.48	10.33	22.97	14.56	28.58	22.39
k, delay calibration	0.04	0.15	0.23	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.02	0.44	8.10	0.06	5.28	0.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.46	0.90	0.07	0.89	0.23
d, Delay for Lane Group [s/veh]	40.50	10.77	31.07	14.62	33.86	22.63
Lane Group LOS	D	B	C	B	C	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.07	4.22	13.07	0.47	9.84	1.64
50th-Percentile Queue Length [ft/ln]	76.73	105.38	326.77	11.71	245.91	40.94
95th-Percentile Queue Length [veh/ln]	5.52	7.58	19.00	0.84	14.98	2.95
95th-Percentile Queue Length [ft/ln]	138.12	189.56	475.00	21.08	374.50	73.69

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.50	10.77	31.07	14.62	33.86	22.63
Movement LOS	D	B	C	B	C	C
d_A, Approach Delay [s/veh]	17.77		30.09		31.79	
Approach LOS	B		C		C	
d_I, Intersection Delay [s/veh]	26.57					
Intersection LOS	C					
Intersection V/C	0.862					

Emissions

Vehicle Miles Traveled [mph]	19.00	61.69	415.24	26.57	112.97	25.60
Stops [stops/h]	128.78	176.85	548.39	19.66	412.69	68.70
Fuel consumption [US gal/h]	4.30	6.44	28.62	1.39	10.24	1.94
CO [g/h]	300.34	450.45	2000.77	97.21	716.12	135.29
NOx [g/h]	58.44	87.64	389.28	18.91	139.33	26.32
VOC [g/h]	69.61	104.40	463.70	22.53	165.97	31.35

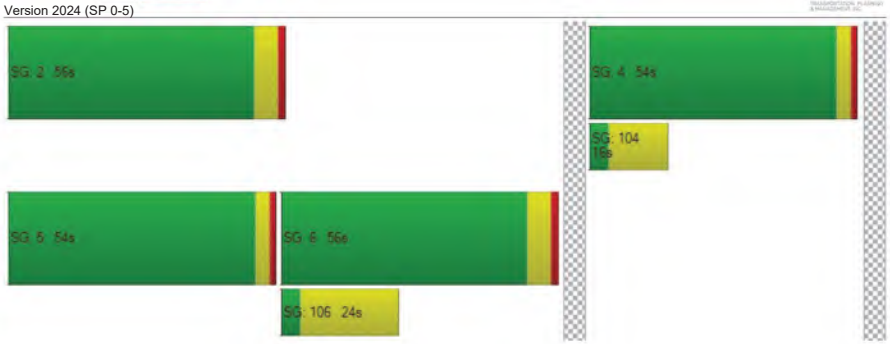
Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	35.28	0.00	35.28
l_p,int, Pedestrian LOS Score for Intersectio	2.823	0.000	2.202
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1165	1165	1165
d_b, Bicycle Delay [s]	7.47	7.47	7.47
l_b,int, Bicycle LOS Score for Intersection	2.639	2.847	1.560
Bicycle LOS	B	C	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	48.5
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.146

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	413	0	25	547	0	0	0	0	2	0	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	7	4	0	0	0	0	0
Site-Generated Trips [veh/h]	2	118	0	0	161	12	9	0	1	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	531	0	25	708	19	13	0	1	2	0	49
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	144	0	6	192	5	4	0	0	1	0	12
Total Analysis Volume [veh/h]	2	577	0	25	770	21	14	0	1	2	0	49
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			Yes	Yes
Storage Area [veh]	0	0	1	1
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.03	0.01	0.00	0.15	0.00	0.00	0.02	0.00	0.09
d_M, Delay for Movement [s/veh]	9.34	0.00	0.00	8.64	0.00	0.00	48.49	38.31	20.03	38.54	33.53	12.70
Movement LOS	A	A	A	A	A	A	E	E	C	E	D	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.04	0.04	0.04	0.49	0.49	0.49	0.32	0.32	0.32
95th-Percentile Queue Length [ft/ln]	0.08	0.08	0.08	1.06	1.06	1.06	12.29	12.29	12.29	7.98	7.98	7.98
d_A, Approach Delay [s/veh]	0.03			0.26			46.59			13.72		
Approach LOS	A			A			E			B		
d_I, Intersection Delay [s/veh]	1.12											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Two-way stop	Delay (sec / veh):	232.3
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.208

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	314	19	123	426	0	0	0	0	59	0	99
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	6	0	0	1	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	20	-1	0	0	-9	161	121	0	14	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	10	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	319	19	123	418	171	121	0	14	59	2	99
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	86	5	33	112	46	33	0	4	16	1	27
Total Analysis Volume [veh/h]	22	343	20	132	449	184	130	0	15	63	2	106
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.11	0.00	0.00	1.21	0.00	0.03	0.47	0.01	0.15
d_M, Delay for Movement [s/veh]	8.88	0.00	0.00	8.38	0.00	0.00	232.25	221.58	205.47	52.38	51.15	30.88
Movement LOS	A	A	A	A	A	A	F	F	F	F	F	D
95th-Percentile Queue Length [veh/ln]	0.07	0.00	0.00	0.37	0.00	0.00	9.30	9.30	9.30	3.95	3.95	3.95
95th-Percentile Queue Length [ft/ln]	1.78	0.00	0.00	9.28	0.00	0.00	232.48	232.48	232.48	98.76	98.76	98.76
d_A, Approach Delay [s/veh]	0.51			1.45			229.48			39.04		
Approach LOS	A			A			F			E		
d_I, Intersection Delay [s/veh]	28.14											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Two-way stop	Delay (sec / veh):	6,664.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	13.774

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	114	790	168	55	1	886	185
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-52	-167	25	-24	0	-79	-4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	37	0	0	23	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	99	623	193	54	1	807	181
Peak Hour Factor	1.0000	0.8800	0.8800	0.8800	0.8800	1.0000	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	28	177	55	15	0	229	51
Total Analysis Volume [veh/h]	0	113	708	219	61	1	917	206
Pedestrian Volume [ped/h]	0			0		0		

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Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	13.77	0.90	0.00	0.00	0.01	0.71	0.00
d_M, Delay for Movement [s/veh]	6664.00	6664.00	6229.75	0.00	0.00	55.02	11.73	0.00
Movement LOS	F	F	F	A	A	F	B	A
95th-Percentile Queue Length [veh/ln]	98.75	98.75	98.75	0.00	0.00	4.63	4.63	4.63
95th-Percentile Queue Length [ft/ln]	2468.69	2468.69	2468.69	0.00	0.00	115.82	115.82	115.82
d_A, Approach Delay [s/veh]	6289.52			0.00		9.62		
Approach LOS	F			A		A		
d_I, Intersection Delay [s/veh]	2325.62							
Intersection LOS	F							

Intersection Level Of Service Report
Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Control Type:	All-way stop	Delay (sec / veh):	24.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.851

Intersection Setup

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Base Volume Input [veh/h]	49	466	87	0	33	476	32	39	34	32	218	16	66
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-191	-146	0	5	-113	7	-37	-26	0	-87	5	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	49	275	0	0	38	363	39	2	8	32	131	21	70
Peak Hour Factor	0.8300	0.8300	0.8300	1.000	0.790	0.830	0.830	0.8300	0.8300	0.8300	0.8300	0.8300	0.7900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	83	0	0	12	109	12	1	2	10	39	6	22
Total Analysis Volume [veh/h]	59	331	0	0	48	437	47	2	10	39	158	25	89
Pedestrian Volume [ped/h]	0			0				0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	595	625	513	547
Degree of Utilization, x	0.66	0.85	0.10	0.50

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	4.80	9.46	0.33	2.76
95th-Percentile Queue Length [ft]	120.08	236.48	8.23	68.88
Approach Delay [s/veh]	19.80	32.95	10.79	15.95
Approach LOS	C	D	B	C
Intersection Delay [s/veh]	24.21			
Intersection LOS	C			

Intersection Level Of Service Report
Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	17.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.316

Intersection Setup

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00			30.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	No		No			No		

Volumes

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Base Volume Input [veh/h]	109	80	0	143	180	2	109	195
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	3	0	-2	0	0	-50	-5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	109	83	0	141	180	2	59	190
Peak Hour Factor	0.8400	0.8400	1.0000	0.8400	0.8400	1.0000	0.8400	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	25	0	42	54	1	18	57
Total Analysis Volume [veh/h]	130	99	0	168	214	2	70	226
Pedestrian Volume [ped/h]	0		0			0		

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Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.32	0.13	0.00	0.00	0.00	0.00	0.06	0.00
d_M, Delay for Movement [s/veh]	17.74	10.41	9.37	0.00	0.00	11.57	8.27	0.00
Movement LOS	C	B	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	1.33	0.44	0.00	0.00	0.00	0.20	0.20	0.00
95th-Percentile Queue Length [ft/ln]	33.37	11.11	0.00	0.00	0.00	5.04	5.04	0.00
d_A, Approach Delay [s/veh]	14.57		0.00			2.02		
Approach LOS	B		A			A		
d_I, Intersection Delay [s/veh]	4.33							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 16: Carson Crossing Rd/Calypso Cir.

Control Type:	Two-way stop	Delay (sec / veh):	19.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.293

Intersection Setup

Name			Carson Crossing Rd		Carson Crossing Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	190.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			Carson Crossing Rd		Carson Crossing Rd	
Base Volume Input [veh/h]	107	158	87	152	170	174
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	3	0	0	-50
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	107	158	90	152	170	124
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	43	24	41	46	34
Total Analysis Volume [veh/h]	116	172	98	165	185	135
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.29	0.18	0.00	0.00	0.14	0.00
d_M, Delay for Movement [s/veh]	19.25	13.93	0.00	0.00	8.22	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.53	2.53	0.00	0.00	0.50	0.00
95th-Percentile Queue Length [ft/ln]	63.14	63.14	0.00	0.00	12.39	0.00
d_A, Approach Delay [s/veh]	16.07		0.00		4.75	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	7.06					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 17: Carson Crossing Rd/Four Seasons Dr

Control Type:	All-way stop	Delay (sec / veh):	8.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.123

Intersection Setup

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	500.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	500.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Base Volume Input [veh/h]	199	12	27	171	0	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-50	0	0	3	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	149	12	27	174	0	3
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	3	7	47	0	1
Total Analysis Volume [veh/h]	162	13	29	189	0	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	731	746	697	771	771	757
Degree of Utilization, x	0.12	0.12	0.04	0.12	0.12	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.41	0.40	0.13	0.42	0.42	0.01
95th-Percentile Queue Length [ft]	10.16	9.92	3.25	10.42	10.42	0.30
Approach Delay [s/veh]	8.23		8.03			7.78
Approach LOS	A		A			A
Intersection Delay [s/veh]	8.12					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	261.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.276

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	172	0	29	7	1	21	5	578	115	81	536	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-50	0	0	0	0	0	0	0	3	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	122	0	29	7	1	21	5	578	118	81	536	11
Peak Hour Factor	0.9700	1.0000	0.9300	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9300	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	0	8	2	0	5	1	149	30	22	138	3
Total Analysis Volume [veh/h]	126	0	31	7	1	22	5	596	122	87	553	11
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	1.28	0.00	0.07	0.07	0.01	0.04	0.00	0.01	0.00	0.10	0.01	0.00
d_M, Delay for Movement [s/veh]	260.97	34.36	13.30	43.46	38.12	13.80	8.59	0.00	0.00	9.52	0.00	0.00
Movement LOS	F	D	B	E	E	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	8.78	0.21	0.21	0.41	0.41	0.41	0.01	0.00	0.00	0.33	0.00	0.00
95th-Percentile Queue Length [ft/ln]	219.62	5.34	5.34	10.19	10.19	10.19	0.37	0.00	0.00	8.17	0.00	0.00
d_A, Approach Delay [s/veh]	212.07			21.53			0.06			1.27		
Approach LOS	F			C			A			A		
d_I, Intersection Delay [s/veh]	22.30											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 19: White Rock Rd/Windfield Way

Control Type:	Signalized	Delay (sec / veh):	32.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.581

Intersection Setup

Name	Windfield Way						White Rock Rd			White Rock Rd			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00			
Grade [%]	0.00			0.00			0.00			0.00			
Curb Present	No			No			No			No			
Crosswalk	Yes			Yes			Yes			No			

Volumes

Name	Windfield Way						White Rock Rd			White Rock Rd			
Base Volume Input [veh/h]	278	5	310	5	5	5	5	663	84	14	225	542	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	93	0	0	0	0	0	25	0	0	0	0
Total Hourly Volume [veh/h]	278	5	217	5	5	5	5	663	59	14	225	542	5
Peak Hour Factor	0.9400	1.0000	0.9400	1.0000	1.0000	1.0000	1.0000	0.9400	0.9400	1.000	0.940	0.940	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	74	1	58	1	1	1	1	176	16	4	60	144	1
Total Analysis Volume [veh/h]	296	5	231	5	5	5	5	705	63	14	239	577	5
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	73.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi
Signal Group	3	8	0	7	4	0	5	2	0	0	1	6	0
Auxiliary Signal Groups													
Maximum Green [s]	25	25	0	10	10	0	9	19	0	0	44	54	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	2.0	1.0	0.0	0.0	2.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	26	0	0	13	0	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	245.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	15	15	0	15	25	0	0	50	60	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	3	3	0	5	3	0	5	7	0	0	3	7	0
Vehicle Extension [s]	1.0	1.0	0.0	3.0	1.0	0.0	3.0	3.6	0.0	0.0	1.0	3.6	0.0
Minimum Recall	No	No		No	No		No	Yes			No	Yes	
Maximum Recall	No	No		No	No		No	No			No	No	
Pedestrian Recall	No	No		No	No		No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	22	22	1	1	1	57	57	19	75	75
g / C, Green / Cycle	0.18	0.18	0.01	0.01	0.01	0.47	0.47	0.16	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.17	0.15	0.00	0.01	0.00	0.21	0.21	0.14	0.16	0.16
s, saturation flow rate [veh/h]	1781	1595	1781	1718	1781	1870	1817	1781	1870	1864
c, Capacity [veh/h]	321	289	12	13	12	881	856	280	1162	1159
d1, Uniform Delay [s]	48.33	47.22	59.33	59.43	59.34	21.19	21.20	49.66	10.18	10.18
k, delay calibration	0.24	0.04	0.11	0.04	0.11	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	19.74	2.17	19.50	27.26	19.95	1.61	1.66	4.34	0.52	0.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.82	0.40	0.76	0.40	0.44	0.44	0.90	0.25	0.25
d, Delay for Lane Group [s/veh]	68.07	49.39	78.83	86.69	79.29	22.80	22.86	53.99	10.70	10.70
Lane Group LOS	E	D	E	F	E	C	C	D	B	B
Critical Lane Group	Yes	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	10.44	6.94	0.22	0.40	0.22	7.63	7.44	7.77	3.52	3.51
50th-Percentile Queue Length [ft/ln]	260.93	173.40	5.48	10.09	5.50	190.84	185.96	194.31	87.98	87.74
95th-Percentile Queue Length [veh/ln]	15.74	11.25	0.39	0.73	0.40	12.16	11.91	12.34	6.33	6.32
95th-Percentile Queue Length [ft/ln]	393.38	281.37	9.86	18.17	9.90	304.11	297.78	308.62	158.37	157.93

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	68.07	49.39	49.39	78.83	86.69	86.69	79.29	22.83	22.86	53.99	53.99	10.70	10.70
Movement LOS	E	D	D	E	F	F	E	C	C	D	D	B	B
d_A, Approach Delay [s/veh]	59.78			84.07			23.20			23.81			
Approach LOS	E			F			C			C			
d_I, Intersection Delay [s/veh]	32.89												
Intersection LOS	C												
Intersection V/C	0.581												

Emissions

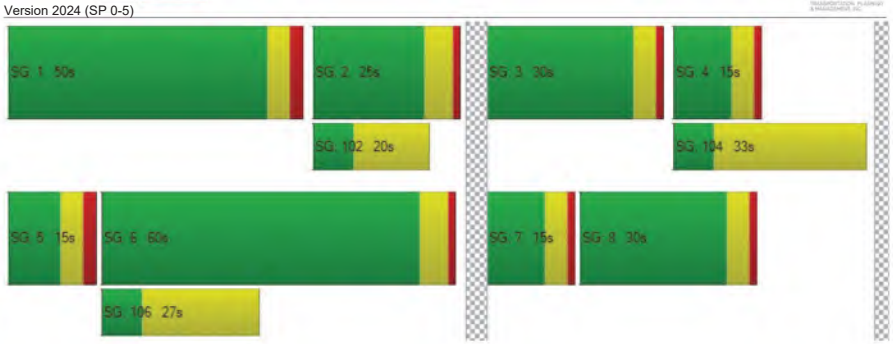
Vehicle Miles Traveled [mph]	114.05	90.93	0.23	0.46	4.21	327.63	318.66	63.14	72.73	72.52
Stops [stops/h]	313.11	208.08	6.57	12.11	6.60	229.00	223.15	233.18	105.58	105.28
Fuel consumption [US gal/h]	10.53	7.26	0.13	0.26	0.29	16.56	16.11	6.67	4.21	4.20
CO [g/h]	735.70	507.80	8.80	18.32	20.29	1157.47	1126.28	466.03	294.41	293.55
NOx [g/h]	143.14	98.80	1.71	3.56	3.95	225.20	219.13	90.67	57.28	57.11
VOC [g/h]	170.51	117.69	2.04	4.25	4.70	268.25	261.03	108.01	68.23	68.03

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.397	1.964	2.676	0.000
Crosswalk LOS	B	A	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	417	167	317	900
d_b, Bicycle Delay [s]	37.60	50.42	42.50	18.15
l_b,int, Bicycle LOS Score for Intersection	2.591	1.584	2.218	2.051
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 20: White Rock Rd/Post St

Control Type:	Signalized	Delay (sec / veh):	66.9
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.596

Intersection Setup

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Approach	Northbound			Southbound			Eastbound				Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0	120.00	100.00	400.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			30.00				30.00		
Grade [%]	0.00			0.00			0.00				0.00		
Curb Present	No			No			No				No		
Crosswalk	Yes			Yes			Yes				No		

Volumes

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	69	16	29	189	15	238	3	218	967	55	86	623	178
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	-5	0	-12	-17	0	0	10	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	9	0	0	70	0	0	0	17	0	0	53
Total Hourly Volume [veh/h]	69	16	20	189	15	163	3	206	950	38	86	633	125
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	1.000	0.910	0.860	0.910	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	4	5	52	4	45	1	57	276	10	24	174	34
Total Analysis Volume [veh/h]	76	18	22	208	16	179	3	226	1105	42	95	696	137
Presence of On-Street Parking	No		No	No		No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0				0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0				0		
v_co, Outbound Pedestrian Volume crossing	0			0			0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0				0		
Bicycle Volume [bicycles/h]	0			0			0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	55.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups													
Maximum Green [s]	21	62	0	8	48	0	0	14	31	0	16	34	0
Amber [s]	3.5	5.0	0.0	3.5	5.0	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.7	1.0	0.0	1.0	1.0	0.0	0.0	2.0	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	32	0	0	0	21	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.2	4.0	0.0	2.5	4.0	0.0	0.0	3.5	2.5	0.0	3.0	2.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	100.0	0.0	100.0	100.0	0.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	0	13	54	0	0	20	36	0	21	39	0
Lead / Lag	Lead	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	3	7	0	3	7	0	0	3	3	0	3	3	0
Vehicle Extension [s]	1.0	3.6	0.0	1.0	3.6	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No			No	Yes		No	Yes	
Maximum Recall	No	No		No	No			No	No		No	No	
Pedestrian Recall	No	No		No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Calculated Cycle Length [s]	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	5.20	6.00	4.50	6.00	5.50	4.50	4.50	5.00	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.20	4.00	2.50	4.00	3.50	2.50	2.50	3.00	2.50	2.50
g_i, Effective Green Time [s]	8	19	9	19	20	83	83	9	72	72
g / C, Green / Cycle	0.05	0.14	0.06	0.14	0.14	0.59	0.59	0.07	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.04	0.02	0.12	0.12	0.13	0.31	0.03	0.05	0.23	0.23
s, saturation flow rate [veh/h]	1781	1705	1781	1609	1781	3560	1589	1781	1870	1765
c, Capacity [veh/h]	96	234	108	224	251	2113	943	117	962	908
d1, Uniform Delay [s]	65.45	53.33	65.75	59.01	59.26	16.78	11.89	64.56	21.42	21.42
k, delay calibration	0.04	0.13	0.50	0.13	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.39	0.43	447.82	12.03	5.22	0.93	0.09	5.05	1.50	1.58
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.17	1.92	0.87	0.91	0.52	0.04	0.81	0.45	0.45
d, Delay for Lane Group [s/veh]	70.84	53.76	513.57	71.05	64.48	17.71	11.98	69.61	22.91	23.00
Lane Group LOS	E	D	F	E	E	B	B	E	C	C
Critical Lane Group	Yes	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.84	1.28	17.32	7.54	8.38	10.62	0.58	3.52	9.30	8.80
50th-Percentile Queue Length [ft/ln]	70.90	32.10	433.09	188.44	209.54	265.50	14.51	88.04	232.39	219.88
95th-Percentile Queue Length [veh/ln]	5.11	2.31	28.06	12.04	13.13	15.96	1.04	6.34	14.30	13.66
95th-Percentile Queue Length [ft/ln]	127.63	57.78	701.52	301.00	328.24	399.12	26.12	158.46	357.39	341.47

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	70.84	53.76	53.76	513.57	71.05	71.05	64.48	64.48	17.71	11.98	69.61	22.95	23.00
Movement LOS	E	D	D	F	E	E	E	E	B	B	E	C	C
d_A, Approach Delay [s/veh]	64.95			299.44			25.32				27.73		
Approach LOS	E			F			C				C		
d_I, Intersection Delay [s/veh]	66.88												
Intersection LOS	E												
Intersection V/C	0.596												

Emissions

Vehicle Miles Traveled [mph]	3.80	2.00	9.67	9.07	23.93	115.45	4.39	33.26	150.06	141.62
Stops [stops/h]	72.93	33.02	445.46	193.82	215.53	546.18	14.93	90.55	239.03	226.16
Fuel consumption [US gal/h]	1.65	0.70	24.59	4.26	5.18	11.75	0.37	3.22	9.50	8.97
CO [g/h]	115.68	49.10	1719.00	297.98	362.09	821.56	25.55	224.75	663.81	627.19
NOx [g/h]	22.51	9.55	334.45	57.98	70.45	159.85	4.97	43.73	129.15	122.03
VOC [g/h]	26.81	11.38	398.39	69.06	83.92	190.41	5.92	52.09	153.85	145.36

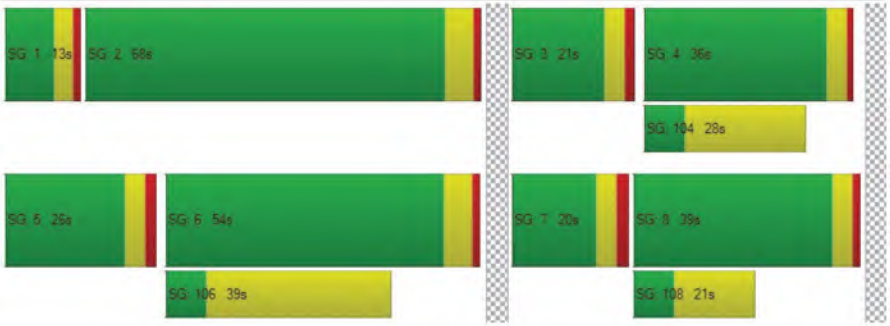
Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	59.43	59.43	59.43	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.070	2.356	2.890	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	886	686	450	493
d_b, Bicycle Delay [s]	21.73	30.23	42.04	39.75
l_b,int, Bicycle LOS Score for Intersection	1.766	2.340	2.522	2.369
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	254.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.363

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	102	74	453	315	125	60	66	907	231	350	734	187
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-6	-7	0	-3	8	6	-23	0	6	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	134	0	0	20	0	0	69	0	0	56
Total Hourly Volume [veh/h]	102	68	312	315	122	48	72	884	162	356	736	131
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	18	80	81	31	12	19	228	42	92	190	34
Total Analysis Volume [veh/h]	105	70	322	325	126	49	74	911	167	367	759	135
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	0	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	35	0	0	40	0	25	45	0	25	45	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	18	0	0	17	0	0	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	100.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	0	0	44	0	29	50	0	29	51	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	0.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Calculated Cycle Length [s]	153	153	153	153	153	153	153	153
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	3.50	5.30	3.50	6.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	1.50	3.30	1.50	4.00
g_i, Effective Green Time [s]	35	35	31	31	8	45	25	61
g / C, Green / Cycle	0.23	0.23	0.20	0.20	0.05	0.29	0.16	0.40
(v / s)_i Volume / Saturation Flow Rate	0.06	0.24	0.18	0.10	0.04	0.59	0.21	0.49
s, saturation flow rate [veh/h]	1781	1633	1781	1782	1781	1820	1781	1821
c, Capacity [veh/h]	407	373	359	359	94	535	291	728
d1, Uniform Delay [s]	48.40	59.04	59.66	54.09	71.63	54.04	64.04	45.95
k, delay calibration	0.13	0.49	0.25	0.13	0.04	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.41	59.81	17.18	1.27	5.28	463.12	142.51	114.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.26	1.05	0.90	0.49	0.78	2.01	1.26	1.23
d, Delay for Lane Group [s/veh]	48.81	118.85	76.84	55.36	76.91	517.16	206.55	160.41
Lane Group LOS	D	F	E	E	E	F	F	F
Critical Lane Group	No	Yes	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.38	20.68	14.06	6.15	3.03	89.40	22.87	50.58
50th-Percentile Queue Length [ft/ln]	84.59	517.01	351.57	153.87	75.64	2235.01	571.85	1264.51
95th-Percentile Queue Length [veh/ln]	6.09	28.95	20.21	10.22	5.45	139.94	34.18	71.49
95th-Percentile Queue Length [ft/ln]	152.27	723.82	505.32	255.59	136.14	3498.39	854.57	1787.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.81	118.85	118.85	76.84	55.36	55.36	76.91	517.16	517.16	206.55	160.41	160.41
Movement LOS	D	F	F	E	E	E	E	F	F	F	F	F
d_A, Approach Delay [s/veh]	104.06			69.32			488.88			173.84		
Approach LOS	F			E			F			F		
d_I, Intersection Delay [s/veh]	254.78											
Intersection LOS	F											
Intersection V/C	1.363											

Emissions

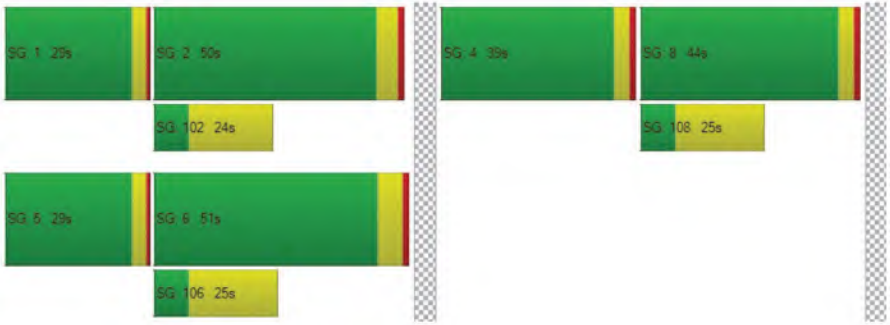
Vehicle Miles Traveled [mph]	180.67	674.49	65.89	35.48	25.91	377.47	165.60	403.39
Stops [stops/h]	79.59	486.45	330.79	144.78	71.17	2102.91	538.05	1189.77
Fuel consumption [US gal/h]	8.92	39.93	9.62	4.23	2.62	140.58	25.21	52.36
CO [g/h]	623.51	2791.36	672.54	295.80	182.98	9826.57	1762.38	3659.79
NOx [g/h]	121.31	543.10	130.85	57.55	35.60	1911.89	342.90	712.06
VOC [g/h]	144.50	646.92	155.87	68.55	42.41	2277.40	408.45	848.19

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	65.92	65.92	65.92	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.598	2.272	2.764	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	455	520	584	588
d_b, Bicycle Delay [s]	45.68	41.90	38.35	38.14
l_b,int, Bicycle LOS Score for Intersection	2.601	2.418	3.574	3.733
Bicycle LOS	B	B	D	D

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 22: White Rock Rd/Clarksville Crossing

Control Type:	Signalized	Delay (sec / veh):	37.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.895

Intersection Setup

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	180.00	460.00	100.00	100.00	290.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	0	0	2	80	0	334	8	1666	1	0	937	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	-30	0	0	7	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	2	80	0	334	8	1636	1	0	944	2
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.9600	0.7800	0.7800	0.9600	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	26	0	107	3	426	0	0	246	1
Total Analysis Volume [veh/h]	0	0	3	103	0	428	10	1704	1	0	983	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	20	0	0	20	0	20	50	0	20	50	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	5.0	0.0	4.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	5.0	0.0	3.0	5.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	R
C, Calculated Cycle Length [s]	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	7.00	7.00	5.00	7.00	7.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	5.00	5.00	3.00	5.00	5.00
g_i, Effective Green Time [s]	0	0	20	20	1	43	43	0	42	42
g / C, Green / Cycle	0.00	0.00	0.23	0.23	0.01	0.50	0.50	0.00	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.06	0.27	0.01	0.46	0.46	0.00	0.28	0.00
s, saturation flow rate [veh/h]	1870	1589	1781	1589	1781	1870	1870	1781	3560	1589
c, Capacity [veh/h]	8	7	418	373	22	940	940	0	1745	779
d1, Uniform Delay [s]	0.00	42.32	26.47	32.59	41.76	19.36	19.36	0.00	15.29	11.09
k, delay calibration	0.11	0.11	0.11	0.50	0.11	0.27	0.27	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	41.64	0.30	92.79	13.34	8.39	8.40	0.00	0.29	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.45	0.25	1.15	0.45	0.91	0.91	0.00	0.56	0.00
d, Delay for Lane Group [s/veh]	0.00	83.96	26.77	125.38	55.10	27.75	27.76	0.00	15.58	11.09
Lane Group LOS	A	F	C	F	E	C	C	A	B	B
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.00	0.14	1.70	17.03	0.29	16.11	16.11	0.00	6.30	0.03
50th-Percentile Queue Length [ft/ln]	0.00	3.47	42.43	425.84	7.22	402.63	402.70	0.00	157.46	0.70
95th-Percentile Queue Length [veh/ln]	0.00	0.25	3.06	25.62	0.52	22.69	22.69	0.00	10.41	0.05
95th-Percentile Queue Length [ft/ln]	0.00	6.24	76.38	640.46	12.99	567.17	567.25	0.00	260.36	1.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	83.96	26.77	26.77	125.38	55.10	27.76	27.76	0.00	15.58	11.09
Movement LOS	A	A	F	C	C	F	E	C	C	A	B	B
d_A, Approach Delay [s/veh]	83.96			106.26			27.92			15.56		
Approach LOS	F			F			C			B		
d_I, Intersection Delay [s/veh]	37.06											
Intersection LOS	D											
Intersection V/C	0.895											

Emissions

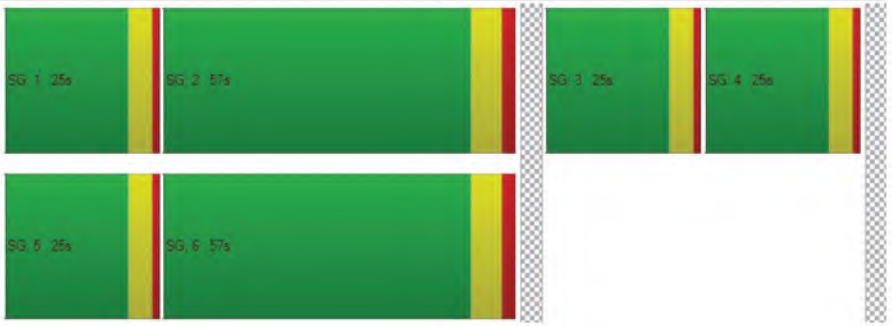
Vehicle Miles Traveled [mph]	0.00	0.15	48.86	203.03	4.51	384.68	384.65	0.00	171.48	0.52
Stops [stops/h]	0.00	5.87	71.79	720.48	12.21	681.21	681.32	0.00	532.81	1.18
Fuel consumption [US gal/h]	0.00	0.09	2.97	23.26	0.37	24.41	24.42	0.00	13.12	0.03
CO [g/h]	0.00	6.28	207.55	1625.70	25.54	1706.55	1706.62	0.00	917.02	2.44
NOx [g/h]	0.00	1.22	40.38	316.30	4.97	332.03	332.05	0.00	178.42	0.47
VOC [g/h]	0.00	1.46	48.10	376.77	5.92	395.51	395.53	0.00	212.53	0.56

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	470	470	1175	1175
d_b, Bicycle Delay [s]	24.91	24.91	7.24	7.24
l_b,int, Bicycle LOS Score for Intersection	1.565	2.436	2.974	2.373
Bicycle LOS	A	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 23: White Rock Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	46.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.770

Intersection Setup

Name	White Rock Rd		White Rock Rd		US 50 EB	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	1	0	1
Entry Pocket Length [ft]	500.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	White Rock Rd		White Rock Rd		US 50 EB	
Base Volume Input [veh/h]	995	753	861	261	511	78
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-25	-5	7	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	12
Total Hourly Volume [veh/h]	970	748	868	261	511	66
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	243	187	217	65	128	17
Total Analysis Volume [veh/h]	970	748	868	261	511	66
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	21	61	32	0	16	0
Amber [s]	3.7	4.8	4.8	0.0	4.8	0.0
All red [s]	0.5	2.0	2.0	0.0	1.0	0.0
Walk [s]	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.2	4.8	4.8	0.0	3.8	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	68	39	0	22	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	8	9	9	0	8	0
Vehicle Extension [s]	2.0	1.0	1.0	0.0	2.0	0.0
Minimum Recall	No	Yes	Yes		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	R	L	C	R
C, Calculated Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80
g_i, Effective Green Time [s]	22	63	37	37	15	15	15
g / C, Green / Cycle	0.24	0.70	0.41	0.41	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.28	0.21	0.24	0.16	0.14	0.14	0.04
s, saturation flow rate [veh/h]	3459	3560	3560	1589	1781	1781	1589
c, Capacity [veh/h]	838	2476	1447	646	293	293	262
d1, Uniform Delay [s]	34.10	5.29	20.96	18.97	36.66	36.66	32.76
k, delay calibration	0.06	0.50	0.50	0.50	0.17	0.17	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	73.00	0.31	1.85	1.88	11.98	11.98	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.16	0.30	0.60	0.40	0.87	0.87	0.25
d, Delay for Lane Group [s/veh]	107.10	5.60	22.81	20.84	48.64	48.64	32.95
Lane Group LOS	F	A	C	C	D	D	C
Critical Lane Group	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	17.37	2.35	7.23	4.07	6.35	6.35	1.25
50th-Percentile Queue Length [ft/ln]	434.29	58.68	180.75	101.72	158.65	158.65	31.33
95th-Percentile Queue Length [veh/ln]	26.20	4.22	11.64	7.32	10.48	10.48	2.26
95th-Percentile Queue Length [ft/ln]	654.93	105.62	290.99	183.09	261.94	261.94	56.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	107.10	5.60	22.81	20.84	48.64	32.95
Movement LOS	F	A	C	C	D	C
d_A, Approach Delay [s/veh]	62.91		22.35		46.85	
Approach LOS	E		C		D	
d_I, Intersection Delay [s/veh]	46.83					
Intersection LOS	D					
Intersection V/C	0.770					

Emissions

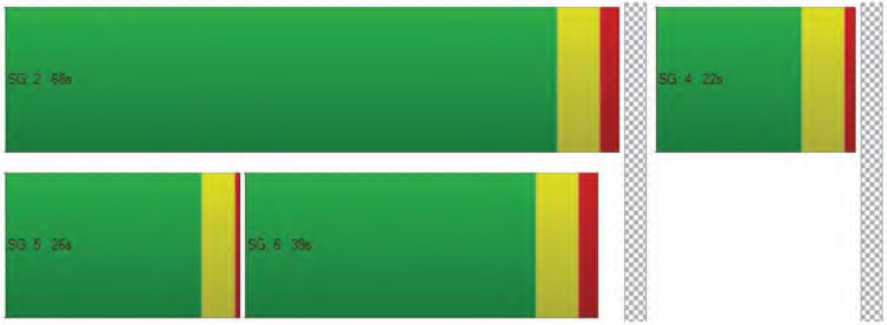
Vehicle Miles Traveled [mph]	169.21	130.48	153.82	46.25	15.47	15.47	4.00
Stops [stops/h]	1389.73	187.78	578.39	162.75	253.85	253.85	50.13
Fuel consumption [US gal/h]	35.78	7.26	13.56	3.91	4.57	4.57	0.88
CO [g/h]	2501.18	507.60	947.61	273.33	319.34	319.34	61.79
NOx [g/h]	486.64	98.76	184.37	53.18	62.13	62.13	12.02
VOC [g/h]	579.67	117.64	219.62	63.35	74.01	74.01	14.32

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1360	716	360
d_b, Bicycle Delay [s]	4.61	18.56	30.26
l_b,int, Bicycle LOS Score for Intersection	2.977	2.491	2.531
Bicycle LOS	C	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 24: Silva Valley Pkwy/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	23.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.687

Intersection Setup

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Approach	Northbound				Southbound			Westbound			Northeastbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	550.0	100.0	100.0	100.0	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No					
Crosswalk	No				No			No			No		

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Volumes

Name	White Rock Rd				Silva Valley Pkwy			US 50 WB			US 50 WB		
Base Volume Input [veh/h]	1	152	1111	0	0	559	236	562	1	263	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-5	0	0	1	0	6	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	47	0	0	30	0	0	0
Total Hourly Volume [veh/h]	1	152	1106	0	0	560	189	568	1	233	0	0	0
Peak Hour Factor	1.000	0.790	0.790	1.000	1.0000	0.7900	0.7900	0.7900	0.7900	0.7900	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	48	350	0	0	177	60	180	0	74	0	0	0
Total Analysis Volume [veh/h]	1	192	1400	0	0	709	239	719	1	295	0	0	0
Presence of On-Street Parking	No			No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	6	0	0	8	0	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	20	54	0	0	26	0	0	23	0	0	0	0
Amber [s]	0.0	3.7	4.8	0.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0
All red [s]	0.0	0.5	2.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	4.8	0.0	0.0	4.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	61	0	0	33	0	0	29	0	0	0	0
Lead / Lag	-	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	8	8	0	0	8	0	0	8	0	0	0	0
Vehicle Extension [s]	0.0	2.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No	Yes			Yes			No				
Maximum Recall		No	No			No			No				
Pedestrian Recall		No	No			No			No				

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	R	L	C	R	
C, Calculated Cycle Length [s]	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.20	6.80	6.80	6.80	5.80	5.80	5.80	
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	2.20	4.80	4.80	4.80	3.80	3.80	3.80	
g_i, Effective Green Time [s]	12	57	42	42	20	20	20	
g / C, Green / Cycle	0.13	0.64	0.46	0.46	0.22	0.22	0.22	
(v / s)_i Volume / Saturation Flow Rate	0.11	0.39	0.20	0.15	0.20	0.20	0.19	
s, saturation flow rate [veh/h]	1781	3560	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	231	2268	1640	732	397	397	355	
d1, Uniform Delay [s]	38.24	9.77	16.34	15.40	34.05	34.05	33.36	
k, delay calibration	0.04	0.50	0.50	0.50	0.14	0.14	0.09	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	3.07	1.27	0.83	1.19	9.81	9.79	4.39	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.84	0.62	0.43	0.33	0.91	0.91	0.83	
d, Delay for Lane Group [s/veh]	41.30	11.05	17.18	16.59	43.86	43.84	37.74	
Lane Group LOS	D	B	B	B	D	D	D	
Critical Lane Group	No	Yes	No	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	4.28	7.54	4.88	3.22	8.55	8.54	6.42	
50th-Percentile Queue Length [ft/ln]	107.12	188.54	121.89	80.48	213.64	213.60	160.60	
95th-Percentile Queue Length [veh/ln]	7.68	12.05	8.50	5.79	13.34	13.34	10.58	
95th-Percentile Queue Length [ft/ln]	191.99	301.13	212.43	144.87	333.50	333.44	264.51	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.30	41.30	11.05	0.00	0.00	17.18	16.59	43.85	43.84	37.74	0.00	0.00	0.00
Movement LOS	D	D	B			B	B	D	D	D			
d_A, Approach Delay [s/veh]	14.71				17.03			42.07			0.00		
Approach LOS	B				B			D			A		
d_I, Intersection Delay [s/veh]	23.14												
Intersection LOS	C												
Intersection V/C	0.687												

Emissions

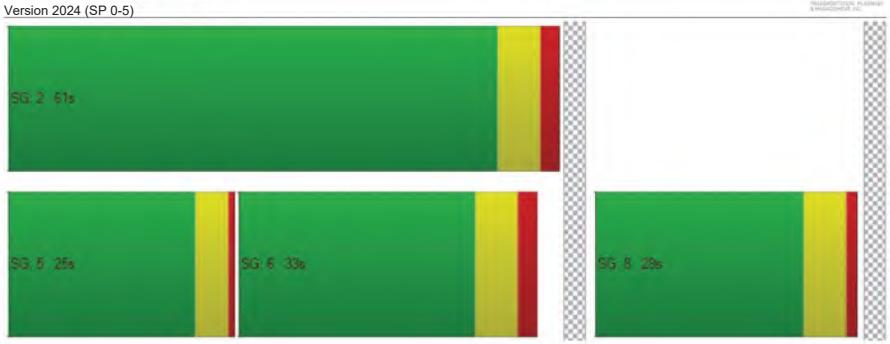
Vehicle Miles Traveled [mph]	34.20	248.09	96.95	32.68	12.47	12.47	10.22	
Stops [stops/h]	171.39	603.32	390.06	128.77	341.83	341.76	256.95	
Fuel consumption [US gal/h]	3.98	16.69	8.62	2.86	5.61	5.61	4.11	
CO [g/h]	277.99	1166.87	602.83	200.17	392.46	392.35	287.01	
NOx [g/h]	54.09	227.03	117.29	38.95	76.36	76.34	55.84	
VOC [g/h]	64.43	270.43	139.71	46.39	90.96	90.93	66.52	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1204	582	516	0
d_b, Bicycle Delay [s]	7.12	22.61	24.79	45.00
l_b,int, Bicycle LOS Score for Intersection	2.873	2.380	3.284	4.132
Bicycle LOS	C	B	C	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 25: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Base Volume Input [veh/h]	0	413	549	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	120	152	10	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	10	-10	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	533	711	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	133	178	0	0	0
Total Analysis Volume [veh/h]	0	533	711	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.31
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		13.31	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Scenario 4: 4 2033 PM with CCSP, + Project
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Intersection Level Of Service Report
Intersection 26: Latrobe/Wetsl-Oviatt

Control Type:	Two-way stop	Delay (sec / veh):	16.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.093

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Base Volume Input [veh/h]	0	306	465	20	27	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	13	-5	9	6	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	319	460	29	33	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	80	115	7	8	0
Total Analysis Volume [veh/h]	1	319	460	29	33	1
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					Yes	
Storage Area [veh]	0		0		1	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.09	0.00
d_M, Delay for Movement [s/veh]	8.35	0.00	0.00	0.00	16.12	12.10
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.30	0.30
95th-Percentile Queue Length [ft/ln]	0.04	0.04	0.00	0.00	7.61	7.61
d_A, Approach Delay [s/veh]	0.03		0.00		16.00	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.66					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 27: Latrobe/S. Shingle

Control Type:	Two-way stop	Delay (sec / veh):	19.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.070

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Base Volume Input [veh/h]	0	185	66	45	288	40	10	37	2	47	20	84
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-4	0	6	-16	6	9	0	0	0	0	9
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	181	66	51	272	46	19	37	2	47	20	93
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	47	17	13	70	12	5	10	1	12	5	24
Total Analysis Volume [veh/h]	0	187	68	53	280	47	20	38	2	48	21	96
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Free		Free		Stop		Stop	
Flared Lane					No		No	
Storage Area [veh]	0		0		0		0	
Two-Stage Gap Acceptance					No		No	
Number of Storage Spaces in Median	0		0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.00	0.00	0.07	0.10	0.00	0.15	0.06	0.12
d_M, Delay for Movement [s/veh]	7.92	0.00	0.00	7.81	0.00	0.00	19.90	17.24	12.18	19.35	18.11	12.70
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.09	0.09	0.09	0.64	0.64	0.64	1.38	1.38	1.38
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.34	2.34	2.34	15.92	15.92	15.92	34.51	34.51	34.51
d_A, Approach Delay [s/veh]	0.00			1.09			17.96			15.32		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	4.67											
Intersection LOS	C											

Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	533	752	51	14
2	517	729	49	14
3	506	714	48	13
4	474	669	45	12
5	421	594	40	11
6	416	587	40	11
7	410	579	39	11
8	373	526	36	10
9	368	519	35	10
10	362	511	35	10
11	314	444	30	8
12	293	414	28	8
13	288	406	28	8
14	213	301	20	6
15	213	301	20	6
16	149	211	14	4
17	85	120	8	2
18	85	120	8	2
19	48	68	5	1
20	27	38	3	1
21	16	23	2	0
22	5	8	1	0
23	5	8	1	0
24	5	8	1	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1285	1	51	No	No	No	No	No	No	No	Yes	No	No
2	1	1246	1	49	No	No	No	No	No	No	No	Yes	No	No
3	1	1220	1	48	No	No	No	No	No	No	No	Yes	No	No
4	1	1143	1	45	No	No	No	No	No	No	No	Yes	No	No
5	1	1015	1	40	No	No	No	No	No	No	No	No	No	No
6	1	1003	1	40	No	No	No	No	No	No	No	No	No	No
7	1	989	1	39	No	No	No	No	No	No	No	No	No	No
8	1	899	1	36	No	No	No	No	No	No	No	No	No	No
9	1	887	1	35	No	No	No	No	No	No	No	No	No	No
10	1	873	1	35	No	No	No	No	No	No	No	No	No	No
11	1	758	1	30	No	No	No	No	No	No	No	No	No	No
12	1	707	1	28	No	No	No	No	No	No	No	No	No	No
13	1	694	1	28	No	No	No	No	No	No	No	No	No	No
14	1	514	1	20	No	No	No	No	No	No	No	No	No	No
15	1	514	1	20	No	No	No	No	No	No	No	No	No	No
16	1	360	1	14	No	No	No	No	No	No	No	No	No	No
17	1	205	1	8	No	No	No	No	No	No	No	No	No	No
18	1	205	1	8	No	No	No	No	No	No	No	No	No	No
19	1	116	1	5	No	No	No	No	No	No	No	No	No	No
20	1	65	1	3	No	No	No	No	No	No	No	No	No	No
21	1	39	1	2	No	No	No	No	No	No	No	No	No	No
22	1	13	1	1	No	No	No	No	No	No	No	No	No	No
23	1	13	1	1	No	No	No	No	No	No	No	No	No	No
24	1	13	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	4	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	13.7	46.6
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:11	0:10
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	51	14
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1350	1350
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 12: Latrobe Rd/Royal Oaks Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	358	712	160	135
2	347	691	155	131
3	340	676	152	128
4	319	634	142	120
5	283	562	126	107
6	279	555	125	105
7	276	548	123	104
8	251	498	112	95
9	247	491	110	93
10	243	484	109	92
11	211	420	94	80
12	197	392	88	74
13	193	384	86	73
14	143	285	64	54
15	143	285	64	54
16	100	199	45	38
17	57	114	26	22
18	57	114	26	22
19	32	64	14	12
20	18	36	8	7
21	11	21	5	4
22	4	7	2	1
23	4	7	2	1
24	4	7	2	1

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1070	1	160	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	2	1038	1	155	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	2	1016	1	152	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	2	953	1	142	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	2	845	1	126	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
6	2	834	1	125	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
7	2	824	1	123	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
8	2	749	1	112	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No
9	2	738	1	110	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No
10	2	727	1	109	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No
11	2	631	1	94	No	No	No	Yes	No	No	Yes	Yes	No	No
12	2	589	1	88	No	No	No	Yes	No	No	No	Yes	No	No
13	2	577	1	86	No	No	No	Yes	No	No	No	Yes	No	No
14	2	428	1	64	No	No	No	No	No	No	No	No	No	No
15	2	428	1	64	No	No	No	No	No	No	No	No	No	No
16	2	299	1	45	No	No	No	No	No	No	No	No	No	No
17	2	171	1	26	No	No	No	No	No	No	No	No	No	No
18	2	171	1	26	No	No	No	No	No	No	No	No	No	No
19	2	96	1	14	No	No	No	No	No	No	No	No	No	No
20	2	54	1	8	No	No	No	No	No	No	No	No	No	No
21	2	32	1	5	No	No	No	No	No	No	No	No	No	No
22	2	11	1	2	No	No	No	No	No	No	No	No	No	No
23	2	11	1	2	No	No	No	No	No	No	No	No	No	No
24	2	11	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					3	7	10	13	4	10	11	13	10	4

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	39	229.5
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:44	8:36
Delay Condition Met	No	Yes
Volume on Minor Street Approach During Same Hour	160	135
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	1365	1365
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	Yes
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 13: Golden Foothill/Robert J Mathews

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	989	247	722
2	959	240	700
3	940	235	686
4	880	220	643
5	781	195	570
6	771	193	563
7	762	190	556
8	692	173	505
9	682	170	498
10	673	168	491
11	584	146	426
12	544	136	397
13	534	133	390
14	396	99	289
15	396	99	289
16	277	69	202
17	158	40	116
18	158	40	116
19	89	22	65
20	49	12	36
21	30	7	22
22	10	2	7
23	10	2	7
24	10	2	7

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1236	1	722	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1199	1	700	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1175	1	686	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1100	1	643	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	976	1	570	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	964	1	563	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1	952	1	556	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	1	865	1	505	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	1	852	1	498	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	1	841	1	491	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	1	730	1	426	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
12	1	680	1	397	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
13	1	667	1	390	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
14	1	495	1	289	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
15	1	495	1	289	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
16	1	346	1	202	No	No	No	Yes	No	No	No	No	No	No
17	1	198	1	116	No	No	No	No	No	No	No	No	No	No
18	1	198	1	116	No	No	No	No	No	No	No	No	No	No
19	1	111	1	65	No	No	No	No	No	No	No	No	No	No
20	1	61	1	36	No	No	No	No	No	No	No	No	No	No
21	1	37	1	22	No	No	No	No	No	No	No	No	No	No
22	1	12	1	7	No	No	No	No	No	No	No	No	No	No
23	1	12	1	7	No	No	No	No	No	No	No	No	No	No
24	1	12	1	7	No	No	No	No	No	No	No	No	No	No
Hours Met					13	15	15	16	10	13	13	15	15	11

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	6289.5
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1261:23
Delay Condition Met	Yes
Volume on Minor Street Approach During Same Hour	722
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1958
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	Yes
Warrant Met for Intersection	**Yes**

Signal Warrants Report For Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	324	440	222	42
2	314	427	215	41
3	308	418	211	40
4	288	392	198	37
5	256	348	175	33
6	253	343	173	33
7	249	339	171	32
8	227	308	155	29
9	224	304	153	29
10	220	299	151	29
11	191	260	131	25
12	178	242	122	23
13	175	238	120	23
14	130	176	89	17
15	130	176	89	17
16	91	123	62	12
17	52	70	36	7
18	52	70	36	7
19	29	40	20	4
20	16	22	11	2
21	10	13	7	1
22	3	4	2	0
23	3	4	2	0
24	3	4	2	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	764	1	222	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
2	1	741	1	215	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
3	1	726	1	211	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
4	1	680	1	198	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
5	1	604	1	175	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
6	1	596	1	173	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
7	1	588	1	171	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
8	1	535	1	155	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
9	1	528	1	153	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
10	1	519	1	151	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
11	1	451	1	131	No	Yes	Yes	Yes	No	No	No	Yes	No	No
12	1	420	1	122	No	Yes	Yes	Yes	No	No	No	Yes	No	No
13	1	413	1	120	No	Yes	Yes	Yes	No	No	No	No	No	No
14	1	306	1	89	No	No	No	Yes	No	No	No	No	No	No
15	1	306	1	89	No	No	No	Yes	No	No	No	No	No	No
16	1	214	1	62	No	No	No	No	No	No	No	No	No	No
17	1	122	1	36	No	No	No	No	No	No	No	No	No	No
18	1	122	1	36	No	No	No	No	No	No	No	No	No	No
19	1	69	1	20	No	No	No	No	No	No	No	No	No	No
20	1	38	1	11	No	No	No	No	No	No	No	No	No	No
21	1	23	1	7	No	No	No	No	No	No	No	No	No	No
22	1	7	1	2	No	No	No	No	No	No	No	No	No	No
23	1	7	1	2	No	No	No	No	No	No	No	No	No	No
24	1	7	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					10	13	13	15	1	5	9	12	4	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	16	10.8
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:59	0:07
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	222	42
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1028	1028
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	251	321	192
2	243	311	186
3	238	305	182
4	223	286	171
5	198	254	152
6	196	250	150
7	193	247	148
8	176	225	134
9	173	221	132
10	171	218	131
11	148	189	113
12	138	177	106
13	136	173	104
14	100	128	77
15	100	128	77
16	70	90	54
17	40	51	31
18	40	51	31
19	23	29	17
20	13	16	10
21	8	10	6
22	3	3	2
23	3	3	2
24	3	3	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	572	2	192	No	Yes	Yes	Yes	No	No	No	Yes	No	No
2	2	554	2	186	No	Yes	Yes	Yes	No	No	No	Yes	No	No
3	2	543	2	182	No	Yes	Yes	Yes	No	No	No	Yes	No	No
4	2	509	2	171	No	Yes	Yes	Yes	No	No	No	Yes	No	No
5	2	452	2	152	No	No	Yes	Yes	No	No	No	No	No	No
6	2	446	2	150	No	No	Yes	Yes	No	No	No	No	No	No
7	2	440	2	148	No	No	Yes	Yes	No	No	No	No	No	No
8	2	401	2	134	No	No	No	Yes	No	No	No	No	No	No
9	2	394	2	132	No	No	No	Yes	No	No	No	No	No	No
10	2	389	2	131	No	No	No	Yes	No	No	No	No	No	No
11	2	337	2	113	No	No	No	Yes	No	No	No	No	No	No
12	2	315	2	106	No	No	No	No	No	No	No	No	No	No
13	2	309	2	104	No	No	No	No	No	No	No	No	No	No
14	2	228	2	77	No	No	No	No	No	No	No	No	No	No
15	2	228	2	77	No	No	No	No	No	No	No	No	No	No
16	2	160	2	54	No	No	No	No	No	No	No	No	No	No
17	2	91	2	31	No	No	No	No	No	No	No	No	No	No
18	2	91	2	31	No	No	No	No	No	No	No	No	No	No
19	2	52	2	17	No	No	No	No	No	No	No	No	No	No
20	2	29	2	10	No	No	No	No	No	No	No	No	No	No
21	2	18	2	6	No	No	No	No	No	No	No	No	No	No
22	2	6	2	2	No	No	No	No	No	No	No	No	No	No
23	2	6	2	2	No	No	No	No	No	No	No	No	No	No
24	2	6	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	11	0	0	0	4	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.6
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:46
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	192
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	764
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 16: Carson Crossing Rd/Calypso Cir.

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	294	242	265
2	285	235	257
3	279	230	252
4	262	215	236
5	232	191	209
6	229	189	207
7	226	186	204
8	206	169	186
9	203	167	183
10	200	165	180
11	173	143	156
12	162	133	146
13	159	131	143
14	118	97	106
15	118	97	106
16	82	68	74
17	47	39	42
18	47	39	42
19	26	22	24
20	15	12	13
21	9	7	8
22	3	2	3
23	3	2	3
24	3	2	3

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	536	1	265	No	Yes	Yes	Yes	No	No	No	Yes	No	No
2	2	520	1	257	No	Yes	Yes	Yes	No	No	No	Yes	No	No
3	2	509	1	252	No	Yes	Yes	Yes	No	No	No	Yes	No	No
4	2	477	1	236	No	No	Yes	Yes	No	No	No	No	No	No
5	2	423	1	209	No	No	Yes	Yes	No	No	No	No	No	No
6	2	418	1	207	No	No	No	Yes	No	No	No	No	No	No
7	2	412	1	204	No	No	No	Yes	No	No	No	No	No	No
8	2	375	1	186	No	No	No	Yes	No	No	No	No	No	No
9	2	370	1	183	No	No	No	Yes	No	No	No	No	No	No
10	2	365	1	180	No	No	No	Yes	No	No	No	No	No	No
11	2	316	1	156	No	No	No	No	No	No	No	No	No	No
12	2	295	1	146	No	No	No	No	No	No	No	No	No	No
13	2	290	1	143	No	No	No	No	No	No	No	No	No	No
14	2	215	1	106	No	No	No	No	No	No	No	No	No	No
15	2	215	1	106	No	No	No	No	No	No	No	No	No	No
16	2	150	1	74	No	No	No	No	No	No	No	No	No	No
17	2	86	1	42	No	No	No	No	No	No	No	No	No	No
18	2	86	1	42	No	No	No	No	No	No	No	No	No	No
19	2	48	1	24	No	No	No	No	No	No	No	No	No	No
20	2	27	1	13	No	No	No	No	No	No	No	No	No	No
21	2	16	1	8	No	No	No	No	No	No	No	No	No	No
22	2	5	1	3	No	No	No	No	No	No	No	No	No	No
23	2	5	1	3	No	No	No	No	No	No	No	No	No	No
24	2	5	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					0	3	5	10	0	0	0	3	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.1
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:10
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	265
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	801
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 17: Carson Crossing Rd/Four Seasons Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	161	201	3
2	156	195	3
3	153	191	3
4	143	179	3
5	127	159	2
6	126	157	2
7	124	155	2
8	113	141	2
9	111	139	2
10	109	137	2
11	95	119	2
12	89	111	2
13	87	109	2
14	64	80	1
15	64	80	1
16	45	56	1
17	26	32	0
18	26	32	0
19	14	18	0
20	8	10	0
21	5	6	0
22	2	2	0
23	2	2	0
24	2	2	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	362	1	3	No	No	No	No	No	No	No	No	No	No
2	3	351	1	3	No	No	No	No	No	No	No	No	No	No
3	3	344	1	3	No	No	No	No	No	No	No	No	No	No
4	3	322	1	3	No	No	No	No	No	No	No	No	No	No
5	3	286	1	2	No	No	No	No	No	No	No	No	No	No
6	3	283	1	2	No	No	No	No	No	No	No	No	No	No
7	3	279	1	2	No	No	No	No	No	No	No	No	No	No
8	3	254	1	2	No	No	No	No	No	No	No	No	No	No
9	3	250	1	2	No	No	No	No	No	No	No	No	No	No
10	3	246	1	2	No	No	No	No	No	No	No	No	No	No
11	3	214	1	2	No	No	No	No	No	No	No	No	No	No
12	3	200	1	2	No	No	No	No	No	No	No	No	No	No
13	3	196	1	2	No	No	No	No	No	No	No	No	No	No
14	3	144	1	1	No	No	No	No	No	No	No	No	No	No
15	3	144	1	1	No	No	No	No	No	No	No	No	No	No
16	3	101	1	1	No	No	No	No	No	No	No	No	No	No
17	3	58	1	0	No	No	No	No	No	No	No	No	No	No
18	3	58	1	0	No	No	No	No	No	No	No	No	No	No
19	3	32	1	0	No	No	No	No	No	No	No	No	No	No
20	3	18	1	0	No	No	No	No	No	No	No	No	No	No
21	3	11	1	0	No	No	No	No	No	No	No	No	No	No
22	3	4	1	0	No	No	No	No	No	No	No	No	No	No
23	3	4	1	0	No	No	No	No	No	No	No	No	No	No
24	3	4	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	7.8
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	3
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	365
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 18: White Rock Rd/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	628	701	151	29
2	609	680	146	28
3	597	666	143	28
4	559	624	134	26
5	496	554	119	23
6	490	547	118	23
7	484	540	116	22
8	440	491	106	20
9	433	484	104	20
10	427	477	103	20
11	371	414	89	17
12	345	386	83	16
13	339	379	82	16
14	251	280	60	12
15	251	280	60	12
16	176	196	42	8
17	100	112	24	5
18	100	112	24	5
19	57	63	14	3
20	31	35	8	1
21	19	21	5	1
22	6	7	2	0
23	6	7	2	0
24	6	7	2	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1329	2	151	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
2	2	1289	2	146	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
3	2	1263	2	143	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
4	2	1183	2	134	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
5	2	1050	2	119	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
6	2	1037	2	118	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
7	2	1024	2	116	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
8	2	931	2	106	No	No	No	No	Yes	Yes	Yes	Yes	No	No
9	2	917	2	104	No	No	No	No	Yes	Yes	Yes	Yes	No	No
10	2	904	2	103	No	No	No	No	Yes	Yes	Yes	Yes	No	No
11	2	785	2	89	No	No	No	No	No	Yes	Yes	Yes	No	No
12	2	731	2	83	No	No	No	No	No	Yes	Yes	Yes	No	No
13	2	718	2	82	No	No	No	No	No	No	Yes	Yes	No	No
14	2	531	2	60	No	No	No	No	No	No	No	Yes	No	No
15	2	531	2	60	No	No	No	No	No	No	No	Yes	No	No
16	2	372	2	42	No	No	No	No	No	No	No	No	No	No
17	2	212	2	24	No	No	No	No	No	No	No	No	No	No
18	2	212	2	24	No	No	No	No	No	No	No	No	No	No
19	2	120	2	14	No	No	No	No	No	No	No	No	No	No
20	2	66	2	8	No	No	No	No	No	No	No	No	No	No
21	2	40	2	5	No	No	No	No	No	No	No	No	No	No
22	2	13	2	2	No	No	No	No	No	No	No	No	No	No
23	2	13	2	2	No	No	No	No	No	No	No	No	No	No
24	2	13	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	3	7	10	12	13	15	3	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	212.1	21.5
Number of Lanes on Minor Street Approach	2	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	8:53	0:10
Delay Condition Met	Yes	No
Volume on Minor Street Approach During Same Hour	151	29
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1509	1509
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	Yes	No
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 25: New Intersection

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	533	711	0
2	517	690	0
3	506	675	0
4	474	633	0
5	421	562	0
6	416	555	0
7	410	547	0
8	373	498	0
9	368	491	0
10	362	483	0
11	314	419	0
12	293	391	0
13	288	384	0
14	213	284	0
15	213	284	0
16	149	199	0
17	85	114	0
18	85	114	0
19	48	64	0
20	27	36	0
21	16	21	0
22	5	7	0
23	5	7	0
24	5	7	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1244	1	0	No	No	No	No	No	No	No	No	No	No
2	1	1207	1	0	No	No	No	No	No	No	No	No	No	No
3	1	1181	1	0	No	No	No	No	No	No	No	No	No	No
4	1	1107	1	0	No	No	No	No	No	No	No	No	No	No
5	1	983	1	0	No	No	No	No	No	No	No	No	No	No
6	1	971	1	0	No	No	No	No	No	No	No	No	No	No
7	1	957	1	0	No	No	No	No	No	No	No	No	No	No
8	1	871	1	0	No	No	No	No	No	No	No	No	No	No
9	1	859	1	0	No	No	No	No	No	No	No	No	No	No
10	1	845	1	0	No	No	No	No	No	No	No	No	No	No
11	1	733	1	0	No	No	No	No	No	No	No	No	No	No
12	1	684	1	0	No	No	No	No	No	No	No	No	No	No
13	1	672	1	0	No	No	No	No	No	No	No	No	No	No
14	1	497	1	0	No	No	No	No	No	No	No	No	No	No
15	1	497	1	0	No	No	No	No	No	No	No	No	No	No
16	1	348	1	0	No	No	No	No	No	No	No	No	No	No
17	1	199	1	0	No	No	No	No	No	No	No	No	No	No
18	1	199	1	0	No	No	No	No	No	No	No	No	No	No
19	1	112	1	0	No	No	No	No	No	No	No	No	No	No
20	1	63	1	0	No	No	No	No	No	No	No	No	No	No
21	1	37	1	0	No	No	No	No	No	No	No	No	No	No
22	1	12	1	0	No	No	No	No	No	No	No	No	No	No
23	1	12	1	0	No	No	No	No	No	No	No	No	No	No
24	1	12	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	13.3
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1244
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 26: Latrobe/Wetsl-Oviatt

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	320	489	34
2	310	474	33
3	304	465	32
4	285	435	30
5	253	386	27
6	250	381	27
7	246	377	26
8	224	342	24
9	221	337	23
10	218	333	23
11	189	289	20
12	176	269	19
13	173	264	18
14	128	196	14
15	128	196	14
16	90	137	10
17	51	78	5
18	51	78	5
19	29	44	3
20	16	24	2
21	10	15	1
22	3	5	0
23	3	5	0
24	3	5	0

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Version 2024 (SP 0-5)

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	809	1	34	No	No	No	No	No	No	No	No	No	No
2	1	784	1	33	No	No	No	No	No	No	No	No	No	No
3	1	769	1	32	No	No	No	No	No	No	No	No	No	No
4	1	720	1	30	No	No	No	No	No	No	No	No	No	No
5	1	639	1	27	No	No	No	No	No	No	No	No	No	No
6	1	631	1	27	No	No	No	No	No	No	No	No	No	No
7	1	623	1	26	No	No	No	No	No	No	No	No	No	No
8	1	566	1	24	No	No	No	No	No	No	No	No	No	No
9	1	558	1	23	No	No	No	No	No	No	No	No	No	No
10	1	551	1	23	No	No	No	No	No	No	No	No	No	No
11	1	478	1	20	No	No	No	No	No	No	No	No	No	No
12	1	445	1	19	No	No	No	No	No	No	No	No	No	No
13	1	437	1	18	No	No	No	No	No	No	No	No	No	No
14	1	324	1	14	No	No	No	No	No	No	No	No	No	No
15	1	324	1	14	No	No	No	No	No	No	No	No	No	No
16	1	227	1	10	No	No	No	No	No	No	No	No	No	No
17	1	129	1	5	No	No	No	No	No	No	No	No	No	No
18	1	129	1	5	No	No	No	No	No	No	No	No	No	No
19	1	73	1	3	No	No	No	No	No	No	No	No	No	No
20	1	40	1	2	No	No	No	No	No	No	No	No	No	No
21	1	25	1	1	No	No	No	No	No	No	No	No	No	No
22	1	8	1	0	No	No	No	No	No	No	No	No	No	No
23	1	8	1	0	No	No	No	No	No	No	No	No	No	No
24	1	8	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	16
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:09
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	34
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	843
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 27: Latrobe/S. Shingle

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	247	369	160	58
2	240	358	155	56
3	235	351	152	55
4	220	328	142	52
5	195	292	126	46
6	193	288	125	45
7	190	284	123	45
8	173	258	112	41
9	170	255	110	40
10	168	251	109	39
11	146	218	94	34
12	136	203	88	32
13	133	199	86	31
14	99	148	64	23
15	99	148	64	23
16	69	103	45	16
17	40	59	26	9
18	40	59	26	9
19	22	33	14	5
20	12	18	8	3
21	7	11	5	2
22	2	4	2	1
23	2	4	2	1
24	2	4	2	1

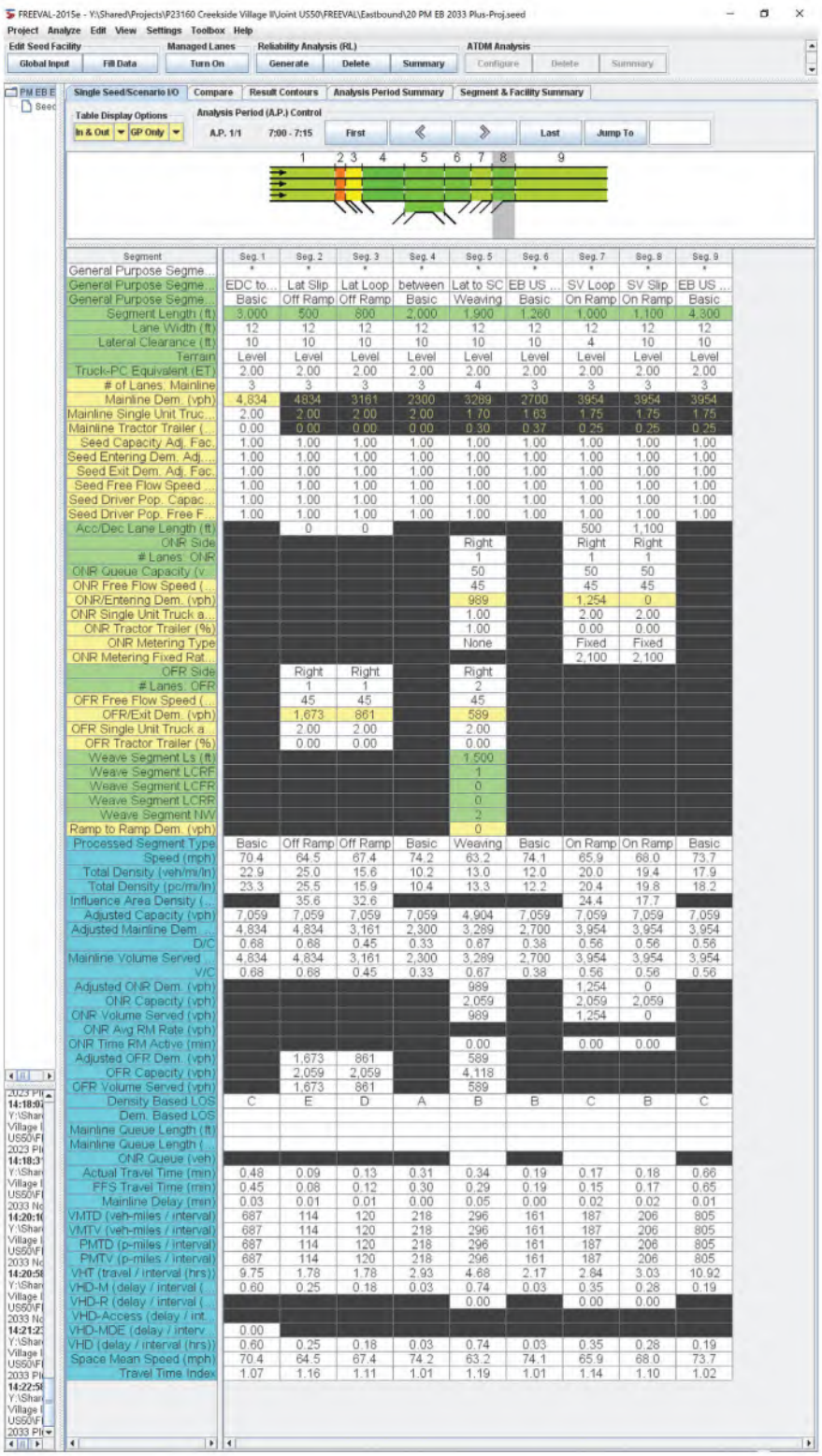
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Version 2024 (SP 0-5)

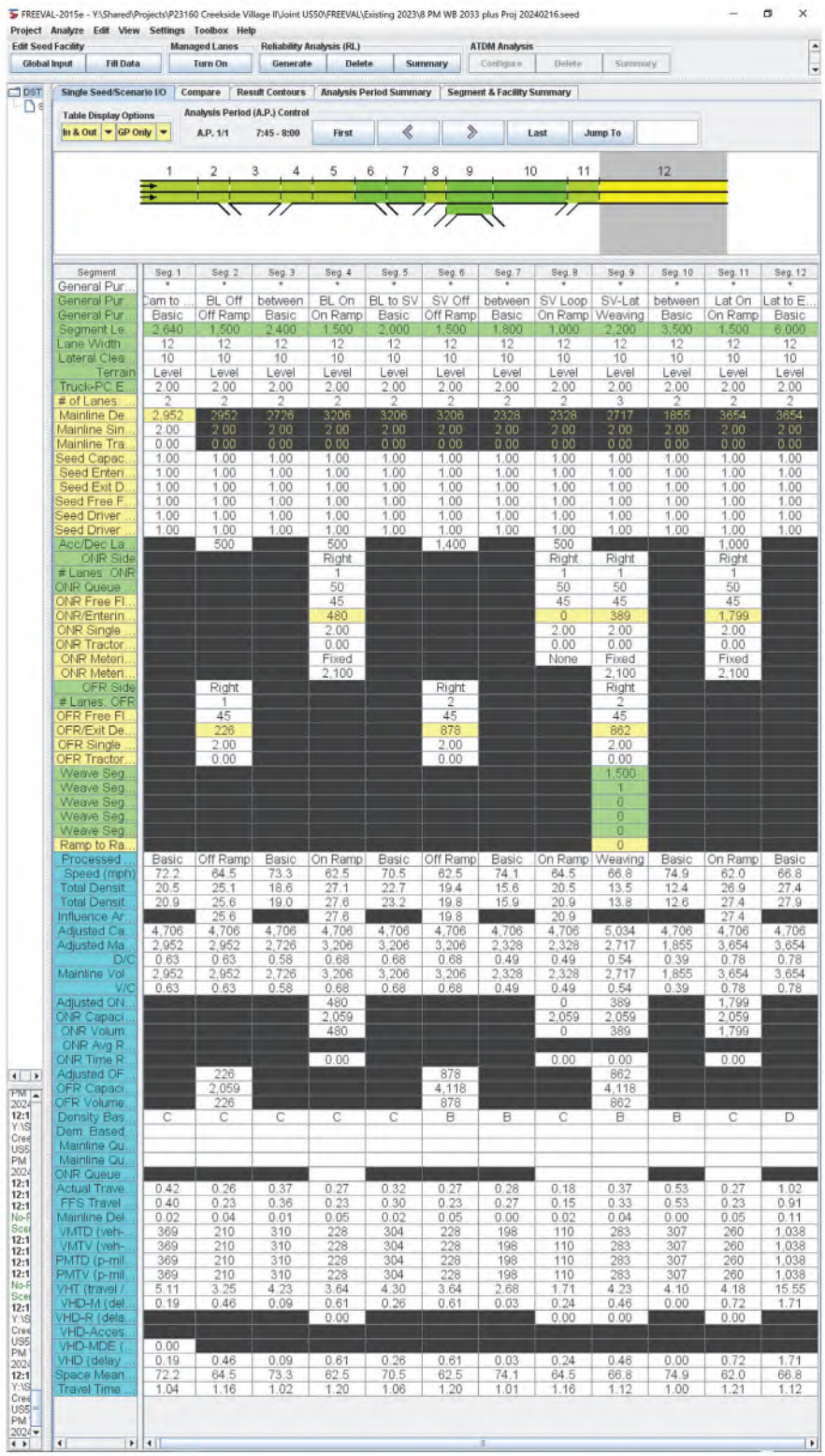
Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	616	1	160	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
2	1	598	1	155	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
3	1	586	1	152	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
4	1	548	1	142	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
5	1	487	1	126	No	Yes	Yes	Yes	No	No	No	Yes	No	No
6	1	481	1	125	No	Yes	Yes	Yes	No	No	No	Yes	No	No
7	1	474	1	123	No	Yes	Yes	Yes	No	No	No	Yes	No	No
8	1	431	1	112	No	No	Yes	Yes	No	No	No	Yes	No	No
9	1	425	1	110	No	No	Yes	Yes	No	No	No	Yes	No	No
10	1	419	1	109	No	No	Yes	Yes	No	No	No	No	No	No
11	1	364	1	94	No	No	No	Yes	No	No	No	No	No	No
12	1	339	1	88	No	No	No	Yes	No	No	No	No	No	No
13	1	332	1	86	No	No	No	Yes	No	No	No	No	No	No
14	1	247	1	64	No	No	No	No	No	No	No	No	No	No
15	1	247	1	64	No	No	No	No	No	No	No	No	No	No
16	1	172	1	45	No	No	No	No	No	No	No	No	No	No
17	1	99	1	26	No	No	No	No	No	No	No	No	No	No
18	1	99	1	26	No	No	No	No	No	No	No	No	No	No
19	1	55	1	14	No	No	No	No	No	No	No	No	No	No
20	1	30	1	8	No	No	No	No	No	No	No	No	No	No
21	1	18	1	5	No	No	No	No	No	No	No	No	No	No
22	1	6	1	2	No	No	No	No	No	No	No	No	No	No
23	1	6	1	2	No	No	No	No	No	No	No	No	No	No
24	1	6	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					3	7	10	13	0	1	4	9	4	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	15.3	18
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:40	0:17
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	160	58
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	834	834
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	


FREEVAL-2015e - Y:\Shared\Projects\P23160 Creekside Village II\Joint US50\FREEVAL\Eastbound\20 PM EB 2033 Plus-Proj.seed
Project Analyze Edit View Settings Toolbox Help
Edit Seed Facility
Global Input
Fill Data
Managed Lanes
Turn On
Reliability Analysis (RL)
Generate
Delete
Summary
ATDM Analysis
Configure
Delete
Summary
Single Seed/Scenario I/O
Compare
Result Contours
Analysis Period Summary
Segment & Facility Summary
Table Display Options
In & Out
GP Only
Analysis Period (A.P.) Control
A.P. 1/1
7:00 - 7:15
First
Last
Jump To
1 2 3 4 5 6 7 8 9
Segment
Seg. 1 Seg. 2 Seg. 3 Seg. 4 Seg. 5 Seg. 6 Seg. 7 Seg. 8 Seg. 9
EDC to... Lat Slip Lat Loop between Lat to SC EB US ... SV Loop SV Slip EB US ...
Basic Off Ramp Off Ramp Basic Weaving Basic On Ramp On Ramp Basic
Segment Length (ft) 3,000 500 800 2,000 1,900 1,260 1,000 1,100 4,300
Lane Width (ft) 12 12 12 12 12 12 12 12 12
Lateral Clearance (ft) 10 10 10 10 10 10 4 10 10
Terrain Level Level Level Level Level Level Level Level Level
Truck-PC Equivalent (ET) 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00
of Lanes: Mainline 3 3 3 3 4 3 3 3 3
Mainline Dem. (vph) 4,834 4834 3161 2300 3289 2700 3954 3954 3954
Mainline Single Unit Truc... 2.00 2.00 2.00 2.00 1.70 1.63 1.75 1.75 1.75
Mainline Tractor Trailer (... 0.00 0.00 0.00 0.00 0.30 0.37 0.25 0.25 0.25
Seed Capacity Adj. Fac. 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Entering Dem. Adj.... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Exit Dem. Adj. Fac. 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Free Flow Speed... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Driver Pop. Capac... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Driver Pop. Free F... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Acc/Dec Lane Length (ft) 0 0 500 1,100
ONR Side Right Right
Lanes: ONR 1 1 1
ONR Queue Capacity (v... 50 50 50
ONR Free Flow Speed (... 45 45 45
ONR/Entering Dem. (vph) 989 1,254 0
ONR Single Unit Truck a... 1.00 2.00 2.00
ONR Tractor Trailer (%) 1.00 0.00 0.00
ONR Metering Type None Fixed Fixed
ONR Metering Fixed Rat... 2,100 2,100
OFR Side Right Right Right
Lanes: OFR 1 1 2
OFR Free Flow Speed (... 45 45 45
OFR/Exit Dem. (vph) 1,673 861 589
OFR Single Unit Truck a... 2.00 2.00 2.00
OFR Tractor Trailer (%) 0.00 0.00 0.00
Weave Segment Ls (ft) 1,500
Weave Segment LCRF 1
Weave Segment LCFR 0
Weave Segment LCRR 0
Weave Segment NW 2
Ramp to Ramp Dem. (vph) 0
Processed Segment Type Basic Off Ramp Off Ramp Basic Weaving Basic On Ramp On Ramp Basic
Speed (mph) 70.4 64.5 67.4 74.2 63.2 74.1 65.9 68.0 73.7
Total Density (veh/mi/ln) 22.9 25.0 15.6 10.2 13.0 12.0 20.0 19.4 17.9
Total Density (pc/mi/ln) 23.3 25.5 15.9 10.4 13.3 12.2 20.4 19.8 18.2
Influence Area Density (... 35.6 32.6 24.4 17.7
Adjusted Capacity (vph) 7,059 7,059 7,059 7,059 4,904 7,059 7,059 7,059 7,059
Adjusted Mainline Dem. ... 4,834 4,834 3,161 2,300 3,289 2,700 3,954 3,954 3,954
D/C 0.68 0.68 0.45 0.33 0.67 0.38 0.56 0.56 0.56
Mainline Volume Served... 4,834 4,834 3,161 2,300 3,289 2,700 3,954 3,954 3,954
V/C 0.68 0.68 0.45 0.33 0.67 0.38 0.56 0.56 0.56
Adjusted ONR Dem. (vph) 989 1,254 0
ONR Capacity (vph) 2,059 2,059 2,059
ONR Volume Served (vph) 989 1,254 0
ONR Avg RM Rate (vph)
ONR Time RM Active (min) 0.00 0.00 0.00
Adjusted OFR Dem. (vph) 1,673 861 589
OFR Capacity (vph) 2,059 2,059 4,118
OFR Volume Served (vph) 1,673 861 589
Density Based LOS C E D A B B C B C
Dem. Based LOS
Mainline Queue Length (ft)
Mainline Queue Length (...
ONR Queue (veh)
Actual Travel Time (min) 0.48 0.09 0.13 0.31 0.34 0.19 0.17 0.18 0.66
FFS Travel Time (min) 0.45 0.08 0.12 0.30 0.29 0.19 0.15 0.17 0.65
Mainline Delay (min) 0.03 0.01 0.01 0.00 0.05 0.00 0.02 0.02 0.01
VMTD (veh-miles / interval) 687 114 120 218 296 161 187 206 805
VMTV (veh-miles / interval) 687 114 120 218 296 161 187 206 805
PMTD (p-miles / interval) 687 114 120 218 296 161 187 206 805
PMTV (p-miles / interval) 687 114 120 218 296 161 187 206 805
VHT (travel / interval (hrs)) 9.75 1.78 1.78 2.93 4.68 2.17 2.84 3.03 10.92
VHD-M (delay / interval (... 0.60 0.25 0.18 0.03 0.74 0.03 0.35 0.28 0.19
VHD-R (delay / interval (... 0.00 0.00 0.00
VHD-Access (delay / int...
VHD-MDE (delay / interv... 0.00
VHD (delay / interval (hrs)) 0.60 0.25 0.18 0.03 0.74 0.03 0.35 0.28 0.19
Space Mean Speed (mph) 70.4 64.5 67.4 74.2 63.2 74.1 65.9 68.0 73.7
Travel Time Index 1.07 1.16 1.11 1.01 1.19 1.01 1.14 1.10 1.02


FREEVAL-2015e - Y:\Shared\Projects\P23160 Creekside Village II\Joint US50\FREEVAL\Existing 2023\8 PM WB 2033 plus Proj 20240216.seed
Project Analyze Edit View Settings Toolbox Help
Edit Seed Facility
Global Input
Fill Data
Managed Lanes
Turn On
Reliability Analysis (RL)
Generate
Delete
Summary
ATDM Analysis
Configure
Delete
Summary
Single Seed/Scenario I/O
Compare
Result Contours
Analysis Period Summary
Segment & Facility Summary
Table Display Options
In & Out
GP Only
Analysis Period (A.P.) Control
A.P. 1/1
7:45 - 8:00
First
Last
Jump To
1 2 3 4 5 6 7 8 9 10 11 12
Segment
Seg. 1 Seg. 2 Seg. 3 Seg. 4 Seg. 5 Seg. 6 Seg. 7 Seg. 8 Seg. 9 Seg. 10 Seg. 11 Seg. 12
Cam to ... BL Off between BL On BL to SV SV Off between SV Loop SV-Lat between Lat On Lat to E...
Basic Off Ramp Basic On Ramp Basic Off Ramp Basic On Ramp Weaving Basic On Ramp Basic
Segment Le... 2,640 1,500 2,400 1,500 2,000 1,500 1,800 1,000 2,200 3,500 1,500 6,000
Lane Width ... 12 12 12 12 12 12 12 12 12 12 12 12
Lateral Clea... 10 10 10 10 10 10 10 10 10 10 10 10
Terrain Level Level Level Level Level Level Level Level Level Level Level Level
Truck-PC E... 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00
of Lanes: ... 2 2 2 2 2 2 2 2 3 2 2 2
Mainline De... 2,952 2952 2726 3206 3206 3206 2328 2328 2717 1855 3654 3654
Mainline Sin... 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00
Mainline Tra... 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
Seed Capac... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Enteri... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Exit D... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Free F... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Driver ... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Driver ... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Acc/Dec La... 500 500 1,400 500 1,000
ONR Side Right Right Right Right
Lanes: ONR 1 1 1 1
ONR Queue ... 50 50 50 50
ONR Free Fl... 45 45 45 45
ONR/Enterin... 480 0 389 1,799
ONR Single ... 2.00 2.00 2.00 2.00
ONR Tractor... 0.00 0.00 0.00 0.00
ONR Meteri... Fixed None Fixed Fixed
ONR Meteri... 2,100 2,100 2,100
OFR Side Right Right Right
Lanes: OFR 1 2 2
OFR Free Fl... 45 45 45
OFR/Exit De... 226 878 862
OFR Single ... 2.00 2.00 2.00
OFR Tractor... 0.00 0.00 0.00
Weave Seg... 1,500
Weave Seg... 1
Weave Seg... 0
Weave Seg... 0
Weave Seg... 0
Ramp to Ra... 0
Processed ... Basic Off Ramp Basic On Ramp Basic Off Ramp Basic On Ramp Weaving Basic On Ramp Basic
Speed (mph) 72.2 64.5 73.3 62.5 70.5 62.5 74.1 64.5 66.8 74.9 62.0 66.8
Total Densit... 20.5 25.1 18.6 27.1 22.7 19.4 15.6 20.5 13.5 12.4 26.9 27.4
Total Densit... 20.9 25.6 19.0 27.6 23.2 19.8 15.9 20.9 13.8 12.6 27.4 27.9
Influence Ar... 25.6 27.6 19.8 20.9 27.4
Adjusted Ca... 4,706 4,706 4,706 4,706 4,706 4,706 4,706 4,706 5,034 4,706 4,706 4,706
Adjusted Ma... 2,952 2,952 2,726 3,206 3,206 3,206 2,328 2,328 2,717 1,855 3,654 3,654
D/C 0.63 0.63 0.58 0.68 0.68 0.68 0.49 0.49 0.54 0.39 0.78 0.78
Mainline Vol... 2,952 2,952 2,726 3,206 3,206 3,206 2,328 2,328 2,717 1,855 3,654 3,654
V/C 0.63 0.63 0.58 0.68 0.68 0.68 0.49 0.49 0.54 0.39 0.78 0.78
Adjusted ON... 480 0 389 1,799
ONR Capaci... 2,059 2,059 2,059 2,059
ONR Volum... 480 0 389 1,799
ONR Avg R...
ONR Time R... 0.00 0.00 0.00 0.00
Adjusted OF... 226 878 862
OFR Capaci... 2,059 4,118 4,118
OFR Volume... 226 878 862
Density Bas... C C C C C B B C B B C D
Dem. Based...
Mainline Qu...
Mainline Qu...
ONR Queue ...
Actual Trave... 0.42 0.26 0.37 0.27 0.32 0.27 0.28 0.18 0.37 0.53 0.27 1.02
FFS Travel ... 0.40 0.23 0.36 0.23 0.30 0.23 0.27 0.15 0.33 0.53 0.23 0.91
Mainline Del... 0.02 0.04 0.01 0.05 0.02 0.05 0.00 0.02 0.04 0.00 0.05 0.11
VMTD (veh-... 369 210 310 228 304 228 198 110 283 307 260 1,038
VMTV (veh-... 369 210 310 228 304 228 198 110 283 307 260 1,038
PMTD (p-mil... 369 210 310 228 304 228 198 110 283 307 260 1,038
PMTV (p-mil... 369 210 310 228 304 228 198 110 283 307 260 1,038
VHT (travel /... 5.11 3.25 4.23 3.64 4.30 3.64 2.68 1.71 4.23 4.10 4.18 15.55
VHD-M (del... 0.19 0.46 0.09 0.61 0.26 0.61 0.03 0.24 0.46 0.00 0.72 1.71
VHD-R (dela... 0.00 0.00 0.00
VHD-Acces...
VHD-MDE (... 0.00
VHD (delay ... 0.19 0.46 0.09 0.61 0.26 0.61 0.03 0.24 0.46 0.00 0.72 1.71
Space Mean... 72.2 64.5 73.3 62.5 70.5 62.5 74.1 64.5 66.8 74.9 62.0 66.8
Travel Time ... 1.04 1.16 1.02 1.20 1.06 1.20 1.01 1.16 1.12 1.00 1.21 1.12

EPAP AM plus abated Project

Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	78.1
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.862

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	500.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1417	1188	141	3	69	1353	1044	256	92	816	171	99	105
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	20	14	4	0	0	-42	0	0	0	-22	-8	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	44	0	0	0	313	0	0	238	0	0	32
Total Hourly Volume [veh/h]	1	1437	1202	101	3	69	1311	731	256	92	556	163	99	73
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	359	301	25	1	17	328	183	64	23	139	41	25	18
Total Analysis Volume [veh/h]	1	1437	1202	101	3	69	1311	731	256	92	556	163	99	73
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	37	62	0	0	14	39	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	45	76	0	0	19	50	20	0	20	0	0	20	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Calculated Cycle Length [s]	135	135	135	135	135	135	135	135	135	135	135
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	40	77	77	7	44	69	19	19	11	11	11
g / C, Green / Cycle	0.30	0.57	0.57	0.06	0.33	0.51	0.14	0.14	0.08	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.42	0.24	0.25	0.04	0.26	0.46	0.10	0.10	0.06	0.06	0.06
s, saturation flow rate [veh/h]	3459	3560	1798	1781	5094	1589	1781	1826	1781	1830	1671
c, Capacity [veh/h]	1035	2037	1029	99	1674	809	254	261	143	147	134
d1, Uniform Delay [s]	33.83	1.40	1.40	62.73	40.98	30.10	54.89	54.88	60.93	60.88	61.04
k, delay calibration	0.18	0.50	0.50	0.04	0.50	0.50	0.10	0.10	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	177.42	0.64	1.33	3.75	3.74	15.34	2.79	2.68	3.56	3.30	4.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.39	0.42	0.43	0.73	0.78	0.90	0.68	0.67	0.79	0.78	0.81
d, Delay for Lane Group [s/veh]	211.26	2.04	2.73	66.48	44.72	45.44	57.68	57.56	64.49	64.19	65.30
Lane Group LOS	F	A	A	E	D	D	E	E	E	E	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	39.95	0.82	1.04	2.49	13.31	23.53	5.76	5.89	3.94	3.99	3.82
50th-Percentile Queue Length [ft/ln]	998.71	20.42	26.07	62.33	332.76	588.19	144.06	147.23	98.38	99.63	95.49
95th-Percentile Queue Length [veh/ln]	60.12	1.47	1.88	4.49	19.29	31.48	9.70	9.87	7.08	7.17	6.88
95th-Percentile Queue Length [ft/ln]	1503.01	36.76	46.93	112.20	482.34	787.06	242.48	246.73	177.09	179.34	171.88

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	211.2	211.2	2.24	2.73	66.48	66.48	44.72	45.44	57.64	57.56	0.00	64.39	64.58	65.30
Movement LOS	F	F	A	A	E	E	D	D	E	E		E	E	E
d_A, Approach Delay [s/veh]	111.91				45.71				22.18			64.65		
Approach LOS	F				D				C			E		
d_I, Intersection Delay [s/veh]	78.14													
Intersection LOS	E													
Intersection V/C	0.862													

Emissions

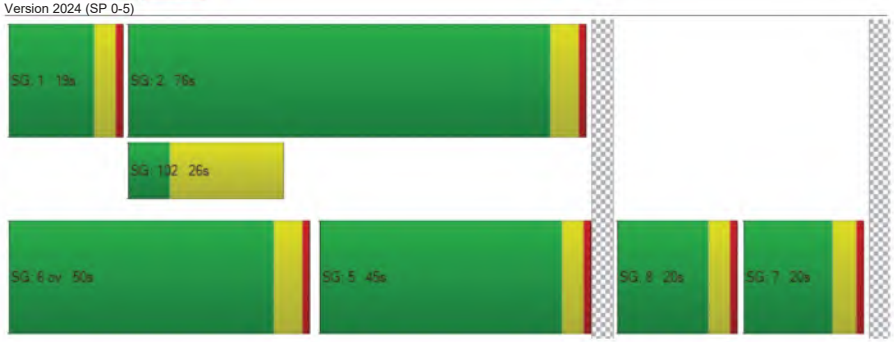
Vehicle Miles Traveled [mph]	246.28	146.77	76.39	13.55	246.72	137.57	7.95	8.14	3.58	3.63	3.44
Stops [stops/h]	2130.58	43.57	27.81	66.49	1064.82	627.40	153.67	157.05	104.94	106.27	101.86
Fuel consumption [US gal/h]	83.72	6.64	3.55	2.27	33.63	19.28	3.19	3.26	2.20	2.23	2.14
CO [g/h]	5851.86	464.03	247.90	158.33	2350.50	1347.34	223.32	228.18	153.96	155.76	149.84
NOx [g/h]	1138.56	90.28	48.23	30.80	457.32	262.14	43.45	44.40	29.96	30.31	29.15
VOC [g/h]	1356.23	107.54	57.45	36.69	544.75	312.26	51.76	52.88	35.68	36.10	34.73

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		56.95	
I_p,int, Pedestrian LOS Score for Intersectio	0.000		0.000		0.000		2.360	
Crosswalk LOS	F		F		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	1040		655		221		228	
d_b, Bicycle Delay [s]	15.55		30.54		53.42		52.98	
I_b,int, Bicycle LOS Score for Intersection	3.091		2.857		2.134		1.862	
Bicycle LOS	C		C		B		A	

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	43.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.739

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	3	2	0	0	1	2	0	0	0	3	0	0
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	260.0	100.0	100.0	260.0	360.0	100.0	100.0	100.0	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	2	121	1681	388	1	95	1737	444	2	355	391	78	425	318	248
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	49	11	0	0	-135	0	0	0	0	0	-33	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	120	0	0	0	133	0	0	0	23	0	0	74
Total Hourly Volume [veh/h]	2	121	1730	279	1	95	1602	311	2	355	391	55	392	318	174
Peak Hour Factor	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	0.9400	0.9400	0.9400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	32	460	74	0	25	426	83	1	94	104	15	104	85	46
Total Analysis Volume [veh/h]	2	129	1840	297	1	101	1704	331	2	378	416	59	417	338	185
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	157
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups															
Maximum Green [s]	0	15	45	0	0	25	45	0	0	30	25	0	20	35	0
Amber [s]	0.0	4.0	4.7	0.0	0.0	4.0	4.7	0.0	0.0	4.5	4.7	0.0	4.5	4.7	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	39	0	0	0	37	0	0	0	48	0	0	50	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	3.0	3.7	0.0	0.0	3.0	3.7	0.0	0.0	4.0	3.7	0.0	4.0	3.7	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	19	51	0	0	29	51	0	0	36	31	0	26	41	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	7	0	0	10	7	0	0	10	10	0	10	10	0
Vehicle Extension [s]	0.0	1.5	3.0	0.0	0.0	1.5	3.0	0.0	0.0	1.5	2.0	0.0	1.5	2.0	0.0
Minimum Recall		No	Yes			No	Yes			No	No		No	No	
Maximum Recall		No	No			No	No			No	No		No	No	
Pedestrian Recall		No	No			No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Calculated Cycle Length [s]	157	157	157	157	157	157	157	157	157	157	157	157
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	6.00	5.70	5.70	6.00	5.70	5.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	4.00	3.70	3.70	4.00	3.70	3.70
g_i, Effective Green Time [s]	13	82	82	10	79	79	20	23	23	20	23	23
g / C, Green / Cycle	0.09	0.52	0.52	0.06	0.50	0.50	0.12	0.14	0.14	0.13	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.07	0.27	0.19	0.03	0.34	0.21	0.11	0.13	0.13	0.12	0.10	0.12
s, saturation flow rate [veh/h]	1767	6737	1577	3431	5053	1577	3431	1855	1775	3431	3532	1577
c, Capacity [veh/h]	151	3520	824	218	2529	789	427	267	255	437	518	231
d1, Uniform Delay [s]	70.87	24.62	22.05	70.93	29.56	24.80	67.65	66.21	66.22	68.04	63.22	64.77
k, delay calibration	0.17	0.50	0.50	0.04	0.50	0.50	0.04	0.23	0.23	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	20.03	0.56	1.23	0.58	1.46	1.64	2.57	20.82	21.61	5.43	0.52	2.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.52	0.36	0.47	0.67	0.42	0.89	0.91	0.91	0.95	0.65	0.80
d, Delay for Lane Group [s/veh]	90.91	25.18	23.28	71.51	31.02	26.43	70.22	87.03	87.83	73.47	63.74	67.21
Lane Group LOS	F	C	C	E	C	C	E	F	F	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.08	11.47	6.84	1.98	15.95	7.99	7.69	11.16	10.75	8.68	6.46	7.35
50th-Percentile Queue Length [ft/ln]	151.91	286.82	170.89	49.43	398.68	199.70	192.37	279.09	268.70	216.93	161.38	183.85
95th-Percentile Queue Length [veh/ln]	10.12	17.03	11.12	3.56	22.50	12.62	12.24	16.64	16.12	13.51	10.62	11.80
95th-Percentile Queue Length [ft/ln]	252.98	425.70	278.09	88.98	562.41	315.58	306.10	416.08	403.12	337.71	265.55	295.03

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	90.91	90.91	25.18	23.28	71.51	71.51	31.02	26.43	70.22	70.22	87.36	87.83	73.47	63.74	67.21
Movement LOS	F	F	C	C	E	E	C	C	E	E	F	F	E	E	E
d_A, Approach Delay [s/veh]	28.73				32.24				79.78				68.74		
Approach LOS	C				C				E				E		
d_I, Intersection Delay [s/veh]	43.04														
Intersection LOS	D														
Intersection V/C	0.739														

Emissions

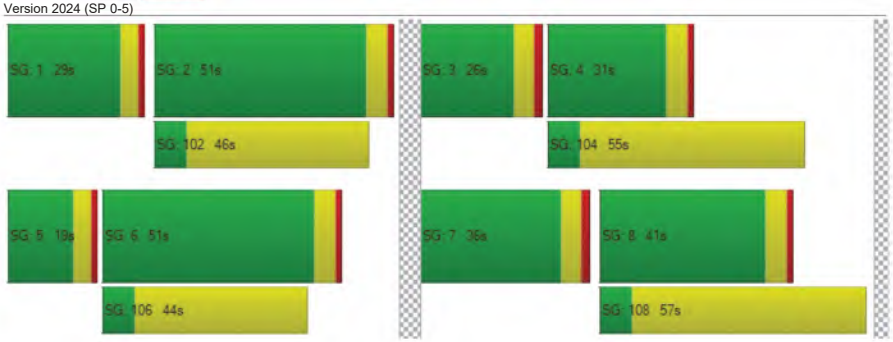
Vehicle Miles Traveled [mph]	52.16	732.56	118.24	22.76	380.29	73.87	94.70	60.47	57.91	43.72	35.44	19.40
Stops [stops/h]	139.33	1052.29	156.74	90.68	1097.00	183.17	352.88	255.98	246.45	397.94	296.03	168.62
Fuel consumption [US gal/h]	5.34	45.40	7.14	3.39	37.43	6.59	11.28	8.20	7.90	10.23	7.48	4.26
CO [g/h]	373.26	3173.40	499.13	237.09	2616.33	460.65	788.30	573.16	552.08	715.22	522.72	297.77
NOx [g/h]	72.62	617.43	97.11	46.13	509.04	89.62	153.37	111.52	107.41	139.16	101.70	57.94
VOC [g/h]	86.51	735.47	115.68	54.95	606.36	106.76	182.70	132.84	127.95	165.76	121.15	69.01

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	67.89	67.89	67.89	67.89
l_p,int, Pedestrian LOS Score for Intersectio	3.544	3.876	2.806	2.997
Crosswalk LOS	D	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	577	577	322	450
d_b, Bicycle Delay [s]	39.74	39.74	55.24	47.17
l_b,int, Bicycle LOS Score for Intersection	2.544	2.753	1.972	2.396
Bicycle LOS	B	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	25.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.874

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	100.0	200.0	100.0	100.0	170.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	57	1777	2	2	18	1704	532	257	5	15	4	9	15
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	61	0	0	0	-168	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	1	0	0	0	160	0	0	5	0	0	5
Total Hourly Volume [veh/h]	1	57	1838	1	2	18	1536	372	257	5	10	4	9	10
Peak Hour Factor	1.000	0.870	0.870	0.870	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	16	528	0	1	5	441	107	74	1	3	1	3	3
Total Analysis Volume [veh/h]	1	66	2113	1	2	21	1766	428	295	6	11	5	10	11
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	112
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	12	40	0	0	15	40	0	0	20	0	0	20	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	12	0	0	0	20	0	0	20	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	245.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	0	0	18	46	0	0	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C
C, Calculated Cycle Length [s]	73	73	73	73	73	73	73	73	73
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	42	42	1	40	40	9	9	2
g / C, Green / Cycle	0.05	0.58	0.58	0.02	0.55	0.55	0.12	0.12	0.03
(v / s)_i Volume / Saturation Flow Rate	0.04	0.57	0.57	0.01	0.50	0.27	0.09	0.09	0.02
s, saturation flow rate [veh/h]	1781	1870	1870	1781	3560	1589	1781	1769	1725
c, Capacity [veh/h]	93	1091	1091	29	1951	871	219	218	51
d1, Uniform Delay [s]	33.95	14.50	14.50	35.64	14.74	10.17	30.66	30.66	34.77
k, delay calibration	0.04	0.45	0.45	0.04	0.15	0.15	0.11	0.11	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.95	19.43	19.46	15.92	2.56	0.61	4.30	4.34	2.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.72	0.97	0.97	0.79	0.91	0.49	0.71	0.72	0.51
d, Delay for Lane Group [s/veh]	37.90	33.93	33.96	51.56	17.30	10.78	34.96	35.01	37.69
Lane Group LOS	D	C	C	D	B	B	C	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.23	19.22	19.23	0.50	9.57	3.11	2.80	2.79	0.48
50th-Percentile Queue Length [ft/ln]	30.77	480.42	480.72	12.43	239.17	77.87	70.00	69.65	12.04
95th-Percentile Queue Length [veh/ln]	2.22	26.41	26.42	0.89	14.64	5.61	5.04	5.01	0.87
95th-Percentile Queue Length [ft/ln]	55.39	660.15	660.51	22.37	365.99	140.17	126.00	125.37	21.67

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.90	37.90	33.95	33.96	51.56	51.56	17.30	10.78	34.98	35.01	35.01	37.69	37.69	37.69
Movement LOS	D	D	C	C	D	D	B	B	C	D	D	D	D	D
d_A, Approach Delay [s/veh]	34.07				16.40				34.98			37.69		
Approach LOS	C				B				C			D		
d_I, Intersection Delay [s/veh]	25.88													
Intersection LOS	C													
Intersection V/C	0.874													

Emissions

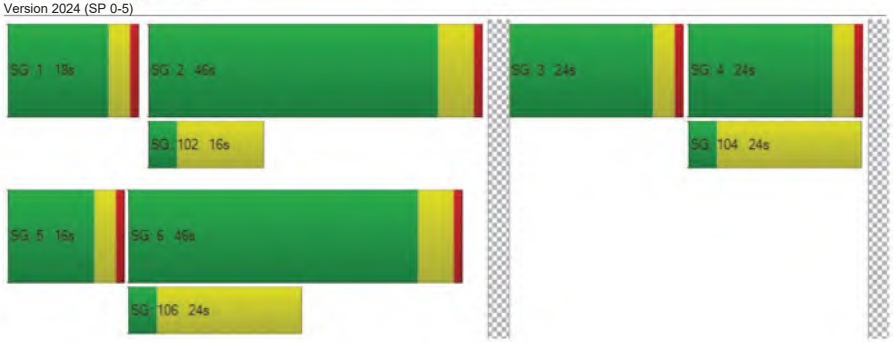
Vehicle Miles Traveled [mph]	23.71	374.03	374.03	9.16	703.10	170.40	37.68	37.46	0.49
Stops [stops/h]	61.10	953.88	954.48	24.68	949.77	154.62	138.98	138.29	23.91
Fuel consumption [US gal/h]	1.83	27.97	27.98	1.01	47.38	9.51	3.43	3.41	0.35
CO [g/h]	127.93	1954.78	1955.57	70.32	3311.74	664.83	239.91	238.65	24.60
NOx [g/h]	24.89	380.33	380.48	13.68	644.35	129.35	46.68	46.43	4.79
VOC [g/h]	29.65	453.04	453.22	16.30	767.53	154.08	55.60	55.31	5.70

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	28.70	0.00	28.70	28.70
l_p,int, Pedestrian LOS Score for Intersectio	3.067	0.000	2.258	1.743
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1103	1103	552	552
d_b, Bicycle Delay [s]	7.29	7.29	19.02	19.02
l_b,int, Bicycle LOS Score for Intersection	3.359	3.503	2.083	1.611
Bicycle LOS	C	D	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	68.3
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.960

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	53	773	21	249	386	750	514	69	78	136	241	520
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	4	0	100	0	0	0	0	17	0	0
Site-Generated Trips [veh/h]	26	99	10	0	-25	-145	-35	-6	-10	-8	-25	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	11	0	0	182	0	0	20	0	0	156
Total Hourly Volume [veh/h]	79	872	24	249	461	423	479	63	48	145	216	364
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	245	7	70	129	119	135	18	13	41	61	102
Total Analysis Volume [veh/h]	89	980	27	280	518	475	538	71	54	163	243	409
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Calculated Cycle Length [s]	88	88	88	88	88	88	88	88	88	88
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	6	25	25	9	28	28	15	15	20	20
g / C, Green / Cycle	0.06	0.28	0.28	0.10	0.32	0.32	0.17	0.17	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.05	0.27	0.27	0.08	0.28	0.30	0.19	0.19	0.23	0.25
s, saturation flow rate [veh/h]	1781	1870	1852	3459	1870	1589	1781	1764	1822	1589
c, Capacity [veh/h]	117	532	527	357	602	511	304	301	415	362
d1, Uniform Delay [s]	40.35	30.83	30.83	38.45	27.95	28.82	36.44	36.44	33.94	33.94
k, delay calibration	0.04	0.35	0.35	0.04	0.37	0.43	0.44	0.44	0.40	0.45
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.71	22.75	22.92	1.44	11.60	23.11	76.51	77.22	44.71	68.75
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.95	0.95	0.78	0.86	0.93	1.09	1.10	1.02	1.08
d, Delay for Lane Group [s/veh]	44.05	53.58	53.75	39.89	39.55	51.94	112.95	113.66	78.65	102.68
Lane Group LOS	D	D	D	D	D	D	F	F	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.99	13.46	13.36	2.79	10.90	11.76	12.82	12.76	13.72	14.38
50th-Percentile Queue Length [ft/ln]	49.69	336.56	334.07	69.84	272.49	293.92	320.49	318.97	342.89	359.55
95th-Percentile Queue Length [veh/ln]	3.58	19.48	19.36	5.03	16.31	17.38	19.53	19.46	20.02	21.51
95th-Percentile Queue Length [ft/ln]	89.45	486.99	483.95	125.71	407.85	434.50	488.19	486.47	500.51	537.79

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.05	53.66	53.75	39.89	39.55	51.94	113.22	113.66	113.66	78.65	78.65	102.59
Movement LOS	D	D	D	D	D	D	F	F	F	E	E	F
d_A, Approach Delay [s/veh]	52.88			44.25			113.30			90.20		
Approach LOS	D			D			F			F		
d_I, Intersection Delay [s/veh]	68.34											
Intersection LOS	E											
Intersection V/C	0.960											

Emissions

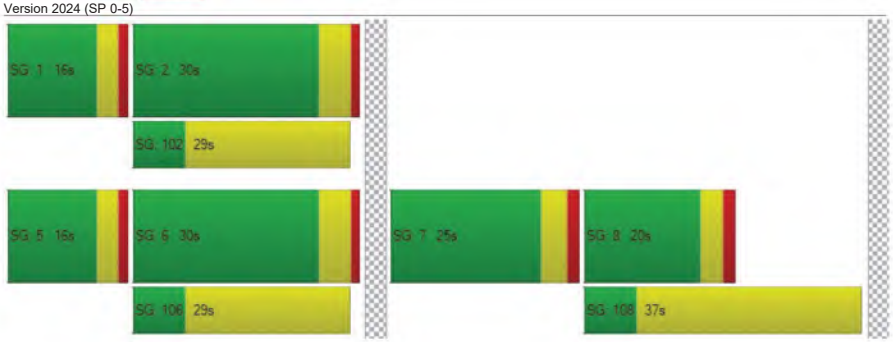
Vehicle Miles Traveled [mph]	51.40	292.14	289.43	195.36	361.41	331.41	25.04	24.84	46.81	43.33
Stops [stops/h]	81.48	551.85	547.77	229.02	446.79	481.93	525.50	523.01	562.22	589.53
Fuel consumption [US gal/h]	3.36	20.59	20.42	13.06	24.56	25.06	11.58	11.55	11.81	13.23
CO [g/h]	235.14	1439.25	1427.55	913.03	1716.58	1751.55	809.72	807.11	825.29	924.44
NOx [g/h]	45.75	280.03	277.75	177.64	333.98	340.79	157.54	157.03	160.57	179.86
VOC [g/h]	54.50	333.56	330.85	211.60	397.83	405.94	187.66	187.05	191.27	214.25

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	33.60	0.00	33.60	33.60
l_p,int, Pedestrian LOS Score for Intersectio	2.677	0.000	2.510	2.683
Crosswalk LOS	B	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	562	562	353	455
d_b, Bicycle Delay [s]	22.68	22.68	29.78	26.19
l_b,int, Bicycle LOS Score for Intersection	2.473	2.760	2.687	3.162
Bicycle LOS	B	C	B	C

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	11.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.814

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	160.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	122	575	254	291	262	88
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	27	0	1	130	0	0
Site-Generated Trips [veh/h]	-23	171	104	-148	-36	-6
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	126	746	359	273	226	82
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	207	100	76	63	23
Total Analysis Volume [veh/h]	140	829	399	303	251	91
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	12	56	40	0	20	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	62	46	0	24	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	53	773	21	249	386	750	514	69	78	136	241	520
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	4	0	100	0	0	0	0	17	0	0
Site-Generated Trips [veh/h]	26	99	10	0	-25	-145	-35	-6	-10	-8	-25	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	11	0	0	182	0	0	20	0	0	156
Total Hourly Volume [veh/h]	79	872	24	249	461	423	479	63	48	145	216	364
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	245	7	70	129	119	135	18	13	41	61	102
Total Analysis Volume [veh/h]	89	980	27	280	518	475	538	71	54	163	243	409
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Calculated Cycle Length [s]	88	88	88	88	88	88	88	88	88	88
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	6	25	25	9	28	28	15	15	20	20
g / C, Green / Cycle	0.06	0.28	0.28	0.10	0.32	0.32	0.17	0.17	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.05	0.27	0.27	0.08	0.28	0.30	0.19	0.19	0.23	0.25
s, saturation flow rate [veh/h]	1781	1870	1852	3459	1870	1589	1781	1764	1822	1589
c, Capacity [veh/h]	117	532	527	357	602	511	304	301	415	362
d1, Uniform Delay [s]	40.35	30.83	30.83	38.45	27.95	28.82	36.44	36.44	33.94	33.94
k, delay calibration	0.04	0.35	0.35	0.04	0.37	0.43	0.44	0.44	0.40	0.45
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.71	22.75	22.92	1.44	11.60	23.11	76.51	77.22	44.71	68.75
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.95	0.95	0.78	0.86	0.93	1.09	1.10	1.02	1.08
d, Delay for Lane Group [s/veh]	44.05	53.58	53.75	39.89	39.55	51.94	112.95	113.66	78.65	102.68
Lane Group LOS	D	D	D	D	D	D	F	F	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.99	13.46	13.36	2.79	10.90	11.76	12.82	12.76	13.72	14.38
50th-Percentile Queue Length [ft/ln]	49.69	336.56	334.07	69.84	272.49	293.92	320.49	318.97	342.89	359.55
95th-Percentile Queue Length [veh/ln]	3.58	19.48	19.36	5.03	16.31	17.38	19.53	19.46	20.02	21.51
95th-Percentile Queue Length [ft/ln]	89.45	486.99	483.95	125.71	407.85	434.50	488.19	486.47	500.51	537.79

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.05	53.66	53.75	39.89	39.55	51.94	113.22	113.66	113.66	78.65	78.65	102.59
Movement LOS	D	D	D	D	D	D	F	F	F	E	E	F
d_A, Approach Delay [s/veh]	52.88			44.25			113.30			90.20		
Approach LOS	D			D			F			F		
d_I, Intersection Delay [s/veh]	68.34											
Intersection LOS	E											
Intersection V/C	0.960											

Emissions

Vehicle Miles Traveled [mph]	51.40	292.14	289.43	195.36	361.41	331.41	25.04	24.84	46.81	43.33
Stops [stops/h]	81.48	551.85	547.77	229.02	446.79	481.93	525.50	523.01	562.22	589.53
Fuel consumption [US gal/h]	3.36	20.59	20.42	13.06	24.56	25.06	11.58	11.55	11.81	13.23
CO [g/h]	235.14	1439.25	1427.55	913.03	1716.58	1751.55	809.72	807.11	825.29	924.44
NOx [g/h]	45.75	280.03	277.75	177.64	333.98	340.79	157.54	157.03	160.57	179.86
VOC [g/h]	54.50	333.56	330.85	211.60	397.83	405.94	187.66	187.05	191.27	214.25

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	33.60	0.00	33.60	33.60
l_p,int, Pedestrian LOS Score for Intersectio	2.677	0.000	2.510	2.683
Crosswalk LOS	B	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	562	562	353	455
d_b, Bicycle Delay [s]	22.68	22.68	29.78	26.19
l_b,int, Bicycle LOS Score for Intersection	2.473	2.760	2.687	3.162
Bicycle LOS	B	C	B	C

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	122	575	254	291	262	88
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	27	0	1	130	0	0
Site-Generated Trips [veh/h]	-23	171	104	-148	-36	-6
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	126	746	359	273	226	82
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	207	100	76	63	23
Total Analysis Volume [veh/h]	140	829	399	303	251	91
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	12	56	40	0	20	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	62	46	0	24	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C
C, Calculated Cycle Length [s]	36	36	36	36	36	36
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	4	20	12	12	6	6
g / C, Green / Cycle	0.11	0.56	0.34	0.34	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.08	0.44	0.21	0.19	0.10	0.10
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1671
c, Capacity [veh/h]	188	1040	635	540	297	278
d1, Uniform Delay [s]	15.66	6.38	10.00	9.72	13.90	13.91
k, delay calibration	0.04	0.15	0.15	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.20	2.05	1.46	1.31	1.89	2.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.80	0.63	0.56	0.59	0.60
d, Delay for Lane Group [s/veh]	17.85	8.43	11.46	11.02	15.79	15.94
Lane Group LOS	B	A	B	B	B	B
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.86	1.22	1.57	1.16	1.22	1.16
50th-Percentile Queue Length [ft/ln]	21.54	30.38	39.19	29.06	30.47	29.02
95th-Percentile Queue Length [veh/ln]	1.55	2.19	2.82	2.09	2.19	2.09
95th-Percentile Queue Length [ft/ln]	38.77	54.68	70.55	52.31	54.85	52.24

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	17.85	8.43	11.46	11.02	15.83	15.94
Movement LOS	B	A	B	B	B	B
d_A, Approach Delay [s/veh]	9.80		11.27		15.86	
Approach LOS	A		B		B	
d_I, Intersection Delay [s/veh]	11.34					
Intersection LOS	B					
Intersection V/C	0.814					

Emissions

Vehicle Miles Traveled [mph]	17.27	102.29	230.43	174.99	41.34	38.98
Stops [stops/h]	86.26	121.65	156.95	116.37	122.03	116.21
Fuel consumption [US gal/h]	2.69	7.10	11.55	8.69	2.94	2.79
CO [g/h]	187.94	496.57	807.65	607.78	205.62	194.70
NOx [g/h]	36.57	96.61	157.14	118.25	40.01	37.88
VOC [g/h]	43.56	115.09	187.18	140.86	47.65	45.12

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	10.87	0.00	10.87
I_p,int, Pedestrian LOS Score for Intersectio	2.763	0.000	2.148
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	3115	2225	1112
d_b, Bicycle Delay [s]	5.58	0.23	3.54
I_b,int, Bicycle LOS Score for Intersection	3.158	2.718	2.124
Bicycle LOS	C	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Signalized	Delay (sec / veh):	27.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.810

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	408	41	74	254	0	0	0	0	11	0	250
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	5	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	-12	0	0	1	64	152	2	17	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	31	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	14	0	0	0	0	0	0	0	14
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	396	41	88	260	95	152	2	17	11	1	264
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	106	11	24	70	26	41	1	5	3	0	71
Total Analysis Volume [veh/h]	12	426	44	95	280	102	163	2	18	12	1	284
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	11	0	0	18	0	0	14	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	9	9	0	9	9	0	0	9	0	0	9	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Calculated Cycle Length [s]	67	67	67	67	67	67
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	21	5	25	9	16
g / C, Green / Cycle	0.02	0.31	0.07	0.37	0.14	0.24
(v / s)_i Volume / Saturation Flow Rate	0.01	0.28	0.06	0.24	0.12	0.21
s, saturation flow rate [veh/h]	1603	1656	1603	1607	1585	1438
c, Capacity [veh/h]	24	515	120	596	224	339
d1, Uniform Delay [s]	32.99	22.36	30.71	17.51	28.14	24.86
k, delay calibration	0.04	0.13	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.78	7.91	4.38	0.44	2.79	2.89
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.91	0.79	0.64	0.82	0.88
d, Delay for Lane Group [s/veh]	38.77	30.27	35.09	17.96	30.93	27.74
Lane Group LOS	D	C	D	B	C	C
Critical Lane Group	No	Yes	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.21	6.95	1.49	3.96	2.90	4.54
50th-Percentile Queue Length [ft/ln]	5.32	173.72	37.18	98.88	72.49	113.59
95th-Percentile Queue Length [veh/ln]	0.38	11.27	2.68	7.12	5.22	8.04
95th-Percentile Queue Length [ft/ln]	9.58	281.80	66.92	177.98	130.49	200.98

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.77	30.27	30.27	35.09	17.96	17.96	30.93	30.93	30.93	27.74	27.74	27.74
Movement LOS	D	C	C	D	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	30.48			21.37			30.93			27.74		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	26.95											
Intersection LOS	C											
Intersection V/C	0.810											

Emissions

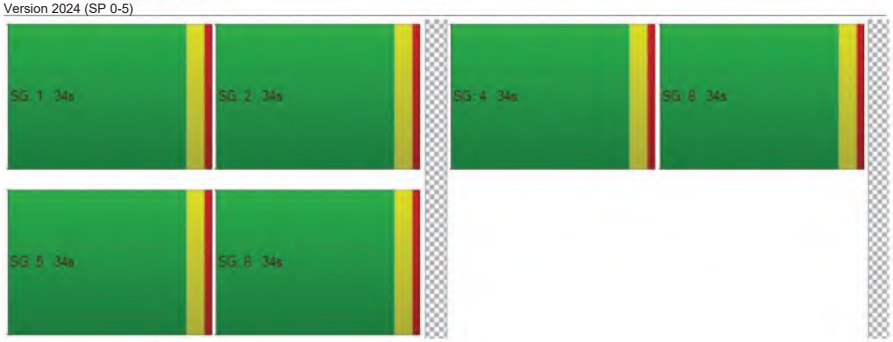
Vehicle Miles Traveled [mph]	4.07	159.43	9.63	38.72	9.95	250.73
Stops [stops/h]	11.38	371.62	79.52	211.51	155.07	242.99
Fuel consumption [US gal/h]	0.44	15.13	2.48	6.62	2.42	13.34
CO [g/h]	30.91	1057.66	173.18	462.76	169.06	932.52
NOx [g/h]	6.01	205.78	33.69	90.04	32.89	181.44
VOC [g/h]	7.16	245.12	40.14	107.25	39.18	216.12

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	891	891	891	891
d_b, Bicycle Delay [s]	10.34	10.34	10.34	10.34
I_b,int, Bicycle LOS Score for Intersection	2.355	2.347	1.862	2.050
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	145.1
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.130

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	410.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	115	53	383	193	45	46	218	278	224	320	839	307
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-1	8	0	-6	5	7	7	0	-9	-26	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	117	0	0	15	0	0	67	0	0	92
Total Hourly Volume [veh/h]	115	52	274	193	39	36	225	285	157	311	813	215
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	15	79	55	11	10	65	82	45	89	234	62
Total Analysis Volume [veh/h]	132	60	315	222	45	41	259	328	180	357	934	247
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	163
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	0	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	35	0	0	40	0	25	45	0	25	45	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	18	0	0	17	0	0	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	100.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	0	0	44	0	29	50	0	29	51	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	0.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C	R
C, Calculated Cycle Length [s]	139	139	139	139	139	139	139	139	139
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	3.50	5.30	3.50	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	1.50	3.30	1.50	4.00	4.00
g_i, Effective Green Time [s]	34	34	20	20	22	43	25	45	45
g / C, Green / Cycle	0.24	0.24	0.14	0.14	0.16	0.31	0.18	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.07	0.23	0.12	0.05	0.15	0.29	0.20	0.50	0.16
s, saturation flow rate [veh/h]	1781	1629	1781	1725	1781	1760	1781	1870	1589
c, Capacity [veh/h]	435	398	258	250	283	542	320	604	514
d1, Uniform Delay [s]	42.96	51.68	58.16	53.58	57.62	46.91	57.14	47.14	37.78
k, delay calibration	0.13	0.40	0.13	0.13	0.28	0.37	0.50	0.50	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.49	28.34	9.95	1.01	23.68	21.07	85.62	253.81	0.90
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.30	0.94	0.86	0.34	0.91	0.94	1.12	1.55	0.48
d, Delay for Lane Group [s/veh]	43.45	80.02	68.11	54.60	81.29	67.98	142.77	300.96	38.68
Lane Group LOS	D	F	E	D	F	E	F	F	D
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.81	15.96	8.36	2.80	10.84	20.21	18.83	63.35	6.93
50th-Percentile Queue Length [ft/ln]	95.28	398.88	209.06	70.00	270.96	505.25	470.64	1583.76	173.21
95th-Percentile Queue Length [veh/ln]	6.86	22.51	13.10	5.04	16.24	27.58	27.45	96.00	11.24
95th-Percentile Queue Length [ft/ln]	171.51	562.65	327.62	126.01	405.94	689.57	686.13	2399.99	281.12

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.45	80.02	80.02	68.11	54.60	54.60	81.29	67.98	67.98	142.77	300.96	38.68
Movement LOS	D	F	F	E	D	D	F	E	E	F	F	D
d_A, Approach Delay [s/veh]	70.50			64.34			72.48			222.12		
Approach LOS	E			E			E			F		
d_I, Intersection Delay [s/veh]	145.12											
Intersection LOS	F											
Intersection V/C	1.130											

Emissions

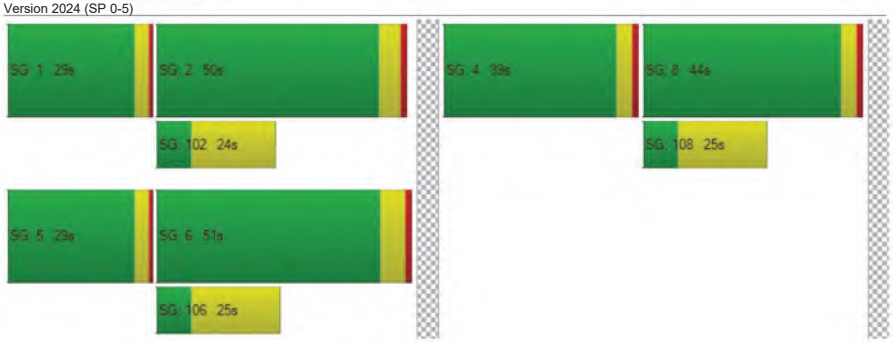
Vehicle Miles Traveled [mph]	227.13	645.24	45.01	17.44	90.69	177.88	161.09	421.44	111.45
Stops [stops/h]	98.65	412.97	216.44	72.48	280.53	523.10	487.26	1639.70	179.32
Fuel consumption [US gal/h]	11.06	34.95	6.13	2.07	9.57	17.24	19.69	83.60	7.52
CO [g/h]	773.23	2442.98	428.15	144.94	668.76	1205.05	1376.57	5843.50	525.86
NOx [g/h]	150.44	475.31	83.30	28.20	130.12	234.46	267.83	1136.93	102.31
VOC [g/h]	179.20	566.18	99.23	33.59	154.99	279.28	319.03	1354.29	121.87

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	58.98	58.98	58.98	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.541	2.301	2.692	0.000
Crosswalk LOS	B	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	572	643	647
d_b, Bicycle Delay [s]	39.10	35.44	32.03	31.82
I_b,int, Bicycle LOS Score for Intersection	2.589	2.093	2.936	4.249
Bicycle LOS	B	B	C	D

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



EPAP PM plus abated Project

Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	48.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.975

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	500.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1224	1679	414	0	37	1252	493	306	130	404	236	88	251
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-44	-36	-8	0	0	6	0	0	0	0	2	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	122	0	0	0	148	0	0	121	0	0	75
Total Hourly Volume [veh/h]	1	1180	1643	284	0	37	1258	345	306	130	283	238	88	176
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	295	411	71	0	9	315	86	77	33	71	60	22	44
Total Analysis Volume [veh/h]	1	1180	1643	284	0	37	1258	345	306	130	283	238	88	176
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	136
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	45	62	0	0	14	29	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	50	68	0	0	19	35	28	0	28	0	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Calculated Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	45	74	74	6	34	59	19	19	17	17	17
g / C, Green / Cycle	0.33	0.54	0.54	0.04	0.25	0.43	0.14	0.14	0.12	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.34	0.36	0.38	0.02	0.25	0.22	0.12	0.12	0.09	0.09	0.11
s, saturation flow rate [veh/h]	3459	3532	1725	1781	5053	1589	1781	1832	1781	1827	1589
c, Capacity [veh/h]	1155	1914	935	81	1279	685	249	257	223	228	199
d1, Uniform Delay [s]	45.28	22.21	23.19	63.30	50.50	28.15	57.19	57.19	57.26	57.22	58.55
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.16	0.16	0.12	0.12	0.24
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.08	1.80	4.55	1.51	21.50	2.64	12.22	11.90	4.89	4.55	23.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.02	0.66	0.71	0.46	0.98	0.50	0.86	0.86	0.73	0.72	0.89
d, Delay for Lane Group [s/veh]	59.36	24.02	27.74	64.81	72.00	30.79	69.41	69.09	62.15	61.78	81.74
Lane Group LOS	F	C	C	E	E	C	E	E	E	E	F
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	21.58	14.64	16.71	1.26	16.30	8.41	8.08	8.29	5.66	5.75	7.25
50th-Percentile Queue Length [ft/ln]	539.60	365.97	417.71	31.57	407.59	210.15	202.10	207.29	141.42	143.70	181.27
95th-Percentile Queue Length [veh/ln]	29.64	20.91	23.41	2.27	22.93	13.16	12.75	13.01	9.56	9.68	11.67
95th-Percentile Queue Length [ft/ln]	741.10	522.84	585.30	56.82	573.14	329.02	318.67	325.34	238.93	241.99	291.67

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	59.36	59.36	24.88	27.74	64.81	64.81	72.00	30.79	69.32	69.09	0.00	62.03	61.78	81.74
Movement LOS	E	F	C	C	E	E	E	C	E	E		E	E	F
d_A, Approach Delay [s/veh]	38.24				63.17				41.99			68.89		
Approach LOS	D				E				D			E		
d_I, Intersection Delay [s/veh]	48.43													
Intersection LOS	D													
Intersection V/C	0.975													

Emissions

Vehicle Miles Traveled [mph]	203.14	217.32	114.14	6.94	235.91	64.70	9.94	10.23	5.13	5.23	5.60
Stops [stops/h]	1142.68	774.99	442.28	33.42	1294.71	222.51	213.99	219.48	149.74	152.15	191.94
Fuel consumption [US gal/h]	28.94	19.40	10.89	1.14	42.61	7.15	4.63	4.74	3.08	3.13	4.22
CO [g/h]	2022.93	1356.24	761.07	79.78	2978.76	499.48	323.44	331.40	215.23	218.47	294.83
NOx [g/h]	393.59	263.88	148.08	15.52	579.56	97.18	62.93	64.48	41.88	42.51	57.36
VOC [g/h]	468.83	314.32	176.39	18.49	690.36	115.76	74.96	76.80	49.88	50.63	68.33

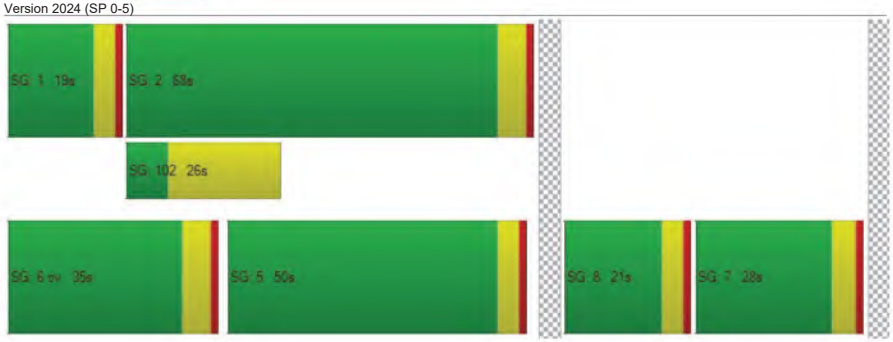
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	57.44
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.538
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	915	429	337	241
d_b, Bicycle Delay [s]	20.02	41.93	47.03	52.59
l_b,int, Bicycle LOS Score for Intersection	3.336	2.523	2.279	2.036
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	51.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.789

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	3	2	0	0	1	2	0	0	0	3	0	0
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	260.0	100.0	100.0	260.0	360.0	100.0	100.0	100.0	160.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	6	125	1673	518	2	253	1422	436	2	376	472	124	516	223	194
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-116	-29	0	0	19	0	0	0	0	0	4	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	147	0	0	0	131	0	0	0	37	0	0	58
Total Hourly Volume [veh/h]	6	125	1557	342	2	253	1441	305	2	376	472	87	520	223	136
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	34	419	92	1	68	387	82	1	101	127	23	140	60	37
Total Analysis Volume [veh/h]	6	134	1674	368	2	272	1549	328	2	404	508	94	559	240	146
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	160
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	50	0	0	20	50	0	0	23	15	0	36	25	0
Amber [s]	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0	0.0	4.5	5.0	0.0	4.5	5.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	39	0	0	0	37	0	0	0	48	0	0	50	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	4.0	0.0	0.0	3.0	4.0	0.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	100.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	56	0	0	25	56	0	0	29	37	0	42	50	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	7	0	0	10	7	0	0	10	10	0	10	10	0
Vehicle Extension [s]	0.0	1.5	3.0	0.0	0.0	1.5	3.0	0.0	0.0	1.5	2.0	0.0	1.5	2.0	0.0
Minimum Recall		No	Yes			No	Yes			No	No		No	No	
Maximum Recall		No	No			No	No			No	No		No	No	
Pedestrian Recall		No	No			No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Calculated Cycle Length [s]	160	160	160	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	5.00	6.00	6.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	4.00	4.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	14	66	66	15	66	66	21	29	29	28	36	36
g / C, Green / Cycle	0.09	0.41	0.41	0.09	0.41	0.41	0.13	0.18	0.18	0.17	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.08	0.25	0.23	0.08	0.30	0.21	0.12	0.17	0.17	0.16	0.07	0.09
s, saturation flow rate [veh/h]	1781	6792	1589	3459	5094	1589	3459	1870	1770	3459	3560	1589
c, Capacity [veh/h]	161	2784	652	318	2095	654	448	335	317	605	801	358
d1, Uniform Delay [s]	71.81	36.96	36.24	71.65	39.84	34.93	68.70	64.56	64.56	64.94	51.53	52.91
k, delay calibration	0.08	0.50	0.50	0.04	0.50	0.50	0.04	0.15	0.15	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.40	0.97	3.52	2.71	2.39	2.74	2.94	13.51	14.11	2.66	0.08	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.60	0.56	0.86	0.74	0.50	0.91	0.92	0.92	0.92	0.30	0.41
d, Delay for Lane Group [s/veh]	82.22	37.93	39.76	74.36	42.22	37.67	71.64	78.06	78.67	67.60	51.60	53.19
Lane Group LOS	F	D	D	E	D	D	E	E	E	E	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.17	13.14	11.81	5.60	17.22	9.83	8.42	13.71	13.03	11.49	4.07	5.10
50th-Percentile Queue Length [ft/ln]	154.26	328.55	295.18	139.88	430.47	245.76	210.48	342.65	325.63	287.20	101.76	127.56
95th-Percentile Queue Length [veh/ln]	10.24	19.09	17.44	9.47	24.02	14.97	13.18	19.78	18.94	17.05	7.33	8.81
95th-Percentile Queue Length [ft/ln]	256.11	477.19	436.06	236.86	600.61	374.31	329.45	494.44	473.60	426.16	183.16	220.17

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	82.22	82.22	37.93	39.76	74.36	74.36	42.22	37.67	71.64	71.64	78.30	78.67	67.60	51.60	53.19
Movement LOS	F	F	D	D	E	E	D	D	E	E	E	E	E	D	D
d_A, Approach Delay [s/veh]	41.08				45.62				75.65				61.31		
Approach LOS	D				D				E				E		
d_I, Intersection Delay [s/veh]	51.22														
Intersection LOS	D														
Intersection V/C	0.789														

Emissions

Vehicle Miles Traveled [mph]	55.73	666.40	146.50	61.17	345.79	73.22	101.33	77.19	73.05	58.41	25.08	15.25
Stops [stops/h]	138.84	1182.79	265.66	251.79	1162.28	221.19	378.86	308.38	293.06	516.96	183.16	114.80
Fuel consumption [US gal/h]	5.40	46.89	10.48	9.37	39.61	7.77	12.18	9.79	9.31	12.95	4.56	2.84
CO [g/h]	377.69	3277.48	732.27	655.15	2768.92	543.40	851.54	684.59	650.89	905.19	319.04	198.69
NOx [g/h]	73.48	637.68	142.47	127.47	538.73	105.73	165.68	133.20	126.64	176.12	62.07	38.66
VOC [g/h]	87.53	759.59	169.71	151.84	641.72	125.94	197.35	158.66	150.85	209.79	73.94	46.05

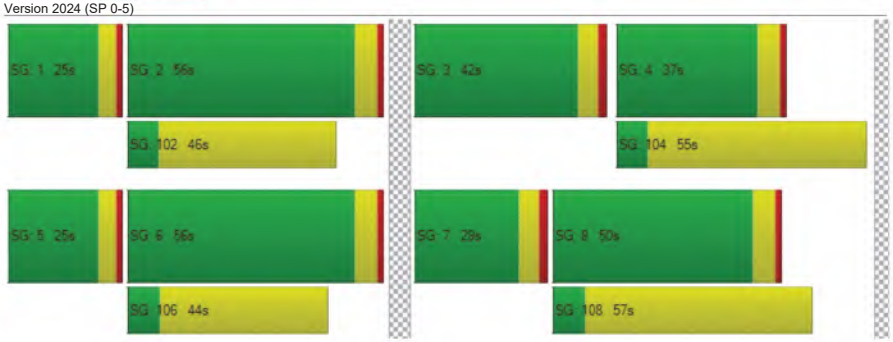
Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	69.38	69.38	69.38	69.38
l_p,int, Pedestrian LOS Score for Intersectio	3.581	3.848	2.838	3.024
Crosswalk LOS	D	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	625	625	388	550
d_b, Bicycle Delay [s]	37.81	37.81	52.00	42.05
l_b,int, Bicycle LOS Score for Intersection	2.518	2.665	2.088	2.387
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	39.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.947

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	100.0	200.0	100.0	100.0	170.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

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Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	11	1588	30	0	34	1590	454	703	9	27	1	6	19
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-144	0	0	0	23	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	9	0	0	0	136	0	0	8	0	0	6
Total Hourly Volume [veh/h]	1	11	1444	21	0	34	1613	318	703	9	19	1	6	13
Peak Hour Factor	1.000	0.890	0.890	0.870	1.000	0.870	0.890	0.890	0.8900	0.8700	0.8900	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	406	6	0	10	453	89	197	3	5	0	2	4
Total Analysis Volume [veh/h]	1	12	1622	24	0	39	1812	357	790	10	21	1	7	15
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	112
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	12	40	0	0	15	40	0	0	20	0	0	20	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	12	0	0	0	20	0	0	20	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	245.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	0	0	18	46	0	0	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C
C, Calculated Cycle Length [s]	82	82	82	82	82	82	82	82	82
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	39	39	2	40	40	20	20	2
g / C, Green / Cycle	0.02	0.48	0.48	0.03	0.49	0.49	0.25	0.25	0.03
(v / s)_i Volume / Saturation Flow Rate	0.01	0.44	0.44	0.02	0.51	0.22	0.23	0.23	0.01
s, saturation flow rate [veh/h]	1781	1870	1860	1781	3560	1589	1781	1772	1674
c, Capacity [veh/h]	30	896	892	52	1750	781	435	433	45
d1, Uniform Delay [s]	39.81	19.82	19.86	39.42	20.80	13.64	30.35	30.37	39.26
k, delay calibration	0.04	0.37	0.38	0.04	0.15	0.15	0.39	0.39	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.56	12.71	13.05	7.96	22.57	0.60	26.44	26.97	3.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.92	0.92	0.75	1.04	0.46	0.94	0.95	0.51
d, Delay for Lane Group [s/veh]	43.37	32.54	32.91	47.38	43.37	14.24	56.78	57.34	42.51
Lane Group LOS	D	C	C	D	F	B	E	E	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.28	16.28	16.34	0.83	18.38	3.58	10.79	10.83	0.49
50th-Percentile Queue Length [ft/ln]	7.10	406.98	408.49	20.80	459.43	89.50	269.85	270.67	12.20
95th-Percentile Queue Length [veh/ln]	0.51	22.90	22.97	1.50	26.08	6.44	16.18	16.22	0.88
95th-Percentile Queue Length [ft/ln]	12.78	572.41	574.22	37.43	652.07	161.10	404.55	405.58	21.97

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.37	43.37	32.72	32.91	47.38	47.38	43.37	14.24	57.05	57.34	57.34	42.51	42.51	42.51
Movement LOS	D	D	C	C	D	D	F	B	E	E	E	D	D	D
d_A, Approach Delay [s/veh]	32.81				38.73				57.06			42.51		
Approach LOS	C				D				E			D		
d_I, Intersection Delay [s/veh]	39.86													
Intersection LOS	D													
Intersection V/C	0.947													

Emissions

Vehicle Miles Traveled [mph]	4.60	291.61	290.85	15.53	721.33	142.12	98.99	98.73	0.44
Stops [stops/h]	12.53	718.59	721.25	36.72	1622.39	158.03	476.46	477.91	21.55
Fuel consumption [US gal/h]	0.37	21.43	21.46	1.58	70.26	8.72	11.46	11.49	0.34
CO [g/h]	26.10	1498.00	1500.30	110.26	4910.88	609.80	800.86	802.99	23.49
NOx [g/h]	5.08	291.46	291.90	21.45	955.48	118.64	155.82	156.23	4.57
VOC [g/h]	6.05	347.18	347.71	25.55	1138.14	141.33	185.61	186.10	5.44

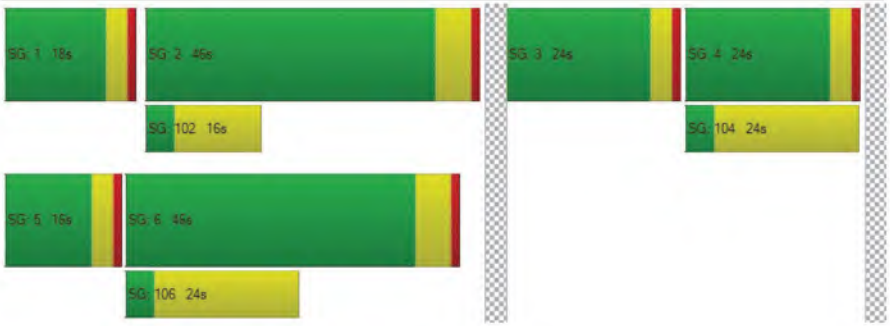
Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0			0.0			8.0		8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00			0.00			0.00		0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00			0.00			0.00		0.00
d_p, Pedestrian Delay [s]	33.17			0.00			33.17		33.17
l_p,int, Pedestrian LOS Score for Intersectio	2.995			0.000			2.385		1.775
Crosswalk LOS	C			F			B		A
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	981			981			490		490
d_b, Bicycle Delay [s]	10.59			10.59			23.23		23.23
l_b,int, Bicycle LOS Score for Intersection	2.935			3.461			2.927		1.607
Bicycle LOS	C			C			C		A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	90.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.030

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

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Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	108	575	28	352	446	809	686	216	57	68	155	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	21	98	10	0	46	0	0	0	0	0	12	0
Site-Generated Trips [veh/h]	-4	-2	-3	0	93	-67	-142	-25	25	9	-12	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	11	0	0	223	0	0	25	0	0	45
Total Hourly Volume [veh/h]	125	671	24	352	585	519	544	191	57	77	155	105
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	184	7	97	161	143	149	52	16	21	43	29
Total Analysis Volume [veh/h]	137	737	26	387	643	570	598	210	63	85	170	115
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Calculated Cycle Length [s]	79	79	79	79	79	79	79	79	79	79
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	8	22	22	11	25	25	15	15	13	13
g / C, Green / Cycle	0.10	0.28	0.28	0.14	0.31	0.31	0.19	0.19	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.08	0.21	0.21	0.11	0.34	0.36	0.24	0.24	0.14	0.07
s, saturation flow rate [veh/h]	1781	1870	1848	3459	1870	1592	1781	1791	1839	1589
c, Capacity [veh/h]	174	516	509	470	588	500	336	338	301	260
d1, Uniform Delay [s]	35.10	26.25	26.25	33.43	27.27	27.27	32.27	32.27	32.32	30.01
k, delay calibration	0.04	0.11	0.11	0.04	0.46	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.02	2.21	2.24	1.40	59.83	89.71	153.32	151.42	2.59	0.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.74	0.74	0.82	1.08	1.15	1.30	1.29	0.85	0.44
d, Delay for Lane Group [s/veh]	38.12	28.46	28.49	34.83	87.10	116.99	185.60	183.69	34.91	30.45
Lane Group LOS	D	C	C	C	F	F	F	F	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.67	6.63	6.56	3.37	19.27	20.56	20.51	20.45	4.83	1.96
50th-Percentile Queue Length [ft/ln]	66.84	165.78	163.91	84.22	481.70	514.07	512.77	511.15	120.73	49.09
95th-Percentile Queue Length [veh/ln]	4.81	10.85	10.76	6.06	27.81	30.50	31.51	31.38	8.43	3.53
95th-Percentile Queue Length [ft/ln]	120.31	271.36	268.89	151.60	695.31	762.57	787.65	784.47	210.83	88.36

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.12	28.48	28.49	34.83	87.43	116.99	185.08	183.69	183.69	34.91	34.91	30.45
Movement LOS	D	C	C	C	F	F	F	F	F	C	C	C
d_A, Approach Delay [s/veh]	29.94			85.24			184.64			33.52		
Approach LOS	C			F			F			C		
d_I, Intersection Delay [s/veh]	89.96											
Intersection LOS	F											
Intersection V/C	1.030											

Emissions

Vehicle Miles Traveled [mph]	79.12	221.64	219.01	269.18	442.31	401.40	32.73	32.80	28.20	12.72
Stops [stops/h]	121.24	300.71	297.31	305.54	873.77	932.48	930.13	927.18	218.99	89.04
Fuel consumption [US gal/h]	4.99	13.01	12.86	17.42	42.30	44.49	22.91	22.77	4.18	1.73
CO [g/h]	348.77	909.30	898.71	1217.83	2956.49	3109.51	1601.71	1591.40	292.33	120.80
NOx [g/h]	67.86	176.92	174.86	236.95	575.23	605.00	311.63	309.63	56.88	23.50
VOC [g/h]	80.83	210.74	208.28	282.24	685.19	720.66	371.21	368.82	67.75	28.00

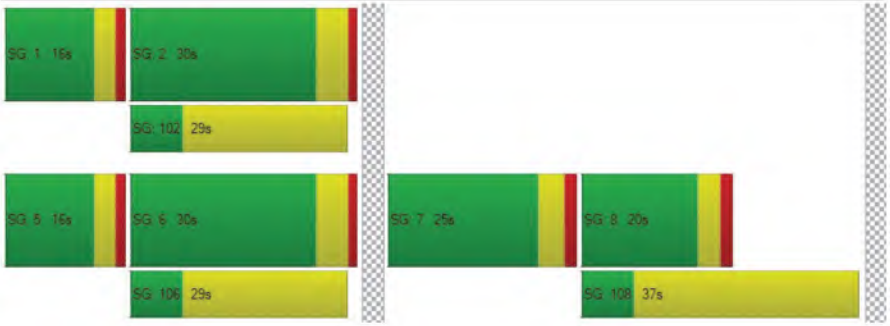
Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.46	0.00	29.46	29.46
l_p,int, Pedestrian LOS Score for Intersectio	2.645	0.000	2.617	2.444
Crosswalk LOS	B	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	622	622	390	504
d_b, Bicycle Delay [s]	18.84	18.84	25.71	22.21
l_b,int, Bicycle LOS Score for Intersection	2.311	3.064	3.038	2.244
Bicycle LOS	B	C	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	18.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.793

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	160.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

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Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	148	314	452	119	397	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	129	0
Site-Generated Trips [veh/h]	-9	136	195	-68	-146	-22
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	15	0	0
Total Hourly Volume [veh/h]	139	450	647	36	380	98
Peak Hour Factor	0.9000	0.9000	0.9000	0.7900	0.7900	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	125	180	11	120	27
Total Analysis Volume [veh/h]	154	500	719	46	481	109
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	164
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	46	94	44	0	60	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	50	100	50	0	64	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	R	L	C
C, Calculated Cycle Length [s]	62	62	62	62	62	62
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	7	39	28	28	14	14
g / C, Green / Cycle	0.11	0.62	0.44	0.44	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.09	0.27	0.38	0.03	0.17	0.17
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1703
c, Capacity [veh/h]	198	1158	830	706	393	376
d1, Uniform Delay [s]	26.98	6.17	15.67	9.93	22.82	22.83
k, delay calibration	0.04	0.15	0.15	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.49	0.36	4.05	0.05	3.17	3.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.43	0.87	0.07	0.77	0.77
d, Delay for Lane Group [s/veh]	29.47	6.54	19.72	9.99	25.99	26.16
Lane Group LOS	C	A	B	A	C	C
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.05	1.87	7.48	0.28	4.19	4.03
50th-Percentile Queue Length [ft/ln]	51.30	46.77	186.96	6.90	104.79	100.87
95th-Percentile Queue Length [veh/ln]	3.69	3.37	11.96	0.50	7.54	7.26
95th-Percentile Queue Length [ft/ln]	92.34	84.19	299.08	12.43	188.62	181.57

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.47	6.54	19.72	9.99	26.05	26.16
Movement LOS	C	A	B	A	C	C
d_A, Approach Delay [s/veh]	11.94		19.13		26.07	
Approach LOS	B		B		C	
d_I, Intersection Delay [s/veh]	18.83					
Intersection LOS	B					
Intersection V/C	0.793					

Emissions

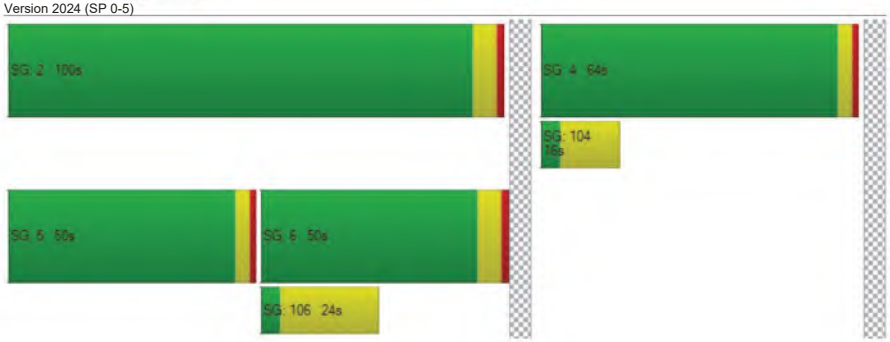
Vehicle Miles Traveled [mph]	19.00	61.69	415.24	26.57	70.76	67.81
Stops [stops/h]	118.59	108.12	432.20	15.96	242.25	233.19
Fuel consumption [US gal/h]	3.76	4.74	24.80	1.28	5.84	5.62
CO [g/h]	262.96	331.13	1733.76	89.38	408.55	392.63
NOx [g/h]	51.16	64.43	337.33	17.39	79.49	76.39
VOC [g/h]	60.94	76.74	401.82	20.71	94.68	91.00

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	23.66	0.00	23.66
l_p,int, Pedestrian LOS Score for Intersectio	2.807	0.000	2.186
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	3018	1413	1926
d_b, Bicycle Delay [s]	8.07	2.69	0.04
l_b,int, Bicycle LOS Score for Intersection	2.639	2.847	2.533
Bicycle LOS	B	C	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Signalized	Delay (sec / veh):	23.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.787

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

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Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	314	19	123	426	0	0	0	0	59	0	99
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	6	0	0	1	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	20	-1	0	0	-9	161	121	0	14	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	10	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	319	19	123	418	171	121	0	14	59	2	99
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	86	5	33	112	46	33	0	4	16	1	27
Total Analysis Volume [veh/h]	22	343	20	132	449	184	130	0	15	63	2	106
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	11	0	0	18	0	0	14	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	9	9	0	9	9	0	0	9	0	0	9	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Calculated Cycle Length [s]	55	55	55	55	55	55
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	19	6	23	6	8
g / C, Green / Cycle	0.03	0.35	0.10	0.43	0.12	0.14
(v / s)_i Volume / Saturation Flow Rate	0.01	0.22	0.08	0.40	0.09	0.11
s, saturation flow rate [veh/h]	1603	1667	1603	1601	1583	1492
c, Capacity [veh/h]	42	580	167	682	183	211
d1, Uniform Delay [s]	26.47	14.97	24.07	15.00	23.71	22.91
k, delay calibration	0.04	0.04	0.04	0.21	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.73	0.42	3.15	10.59	2.92	2.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.52	0.63	0.79	0.93	0.79	0.81
d, Delay for Lane Group [s/veh]	30.20	15.38	27.22	25.59	26.63	25.71
Lane Group LOS	C	B	C	C	C	C
Critical Lane Group	Yes	No	No	Yes	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.29	2.82	1.53	6.97	1.84	2.14
50th-Percentile Queue Length [ft/ln]	7.13	70.43	38.34	174.19	46.04	53.42
95th-Percentile Queue Length [veh/ln]	0.51	5.07	2.76	11.30	3.32	3.85
95th-Percentile Queue Length [ft/ln]	12.83	126.78	69.01	282.41	82.88	96.15

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.20	15.38	15.38	27.22	25.59	25.59	26.63	26.63	26.63	25.71	25.71	25.71
Movement LOS	C	B	B	C	C	C	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	16.23			25.87			26.63			25.71		
Approach LOS	B			C			C			C		
d_I, Intersection Delay [s/veh]	23.40											
Intersection LOS	C											
Intersection V/C	0.787											

Emissions

Vehicle Miles Traveled [mph]	7.46	123.10	13.39	64.22	7.89	144.36
Stops [stops/h]	18.69	184.72	100.54	456.83	120.75	140.09
Fuel consumption [US gal/h]	0.73	8.69	3.05	13.93	1.78	7.61
CO [g/h]	51.16	607.10	212.97	973.75	124.25	532.05
NOx [g/h]	9.95	118.12	41.44	189.46	24.17	103.52
VOC [g/h]	11.86	140.70	49.36	225.68	28.80	123.31

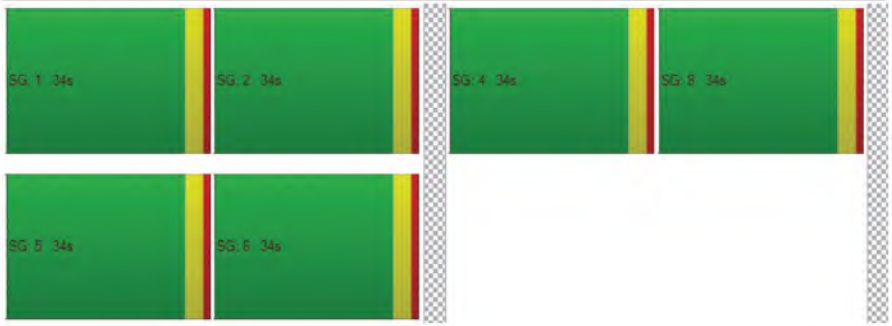
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00	
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00	
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000	
Crosswalk LOS	F	F	F	F	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000	
c_b, Capacity of the bicycle lane [bicycles/h]	1093	1093	1093	1093	
d_b, Bicycle Delay [s]	5.65	5.65	5.65	5.65	
l_b,int, Bicycle LOS Score for Intersection	2.195	2.822	1.799	1.842	
Bicycle LOS	B	C	A	A	

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	232.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.363

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	855.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

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Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	102	74	453	315	125	60	66	907	231	350	734	187
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-6	-7	0	-3	8	6	-23	0	6	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	134	0	0	20	0	0	69	0	0	56
Total Hourly Volume [veh/h]	102	68	312	315	122	48	72	884	162	356	736	131
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	18	80	81	31	12	19	228	42	92	190	34
Total Analysis Volume [veh/h]	105	70	322	325	126	49	74	911	167	367	759	135
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	0	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	35	0	0	40	0	25	45	0	25	45	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	18	0	0	17	0	0	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	100.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	0	0	44	0	29	50	0	29	51	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	0.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C	R
C, Calculated Cycle Length [s]	153	153	153	153	153	153	153	153	153
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	3.50	5.30	3.50	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	1.50	3.30	1.50	4.00	4.00
g_i, Effective Green Time [s]	35	35	31	31	8	45	25	61	61
g / C, Green / Cycle	0.23	0.23	0.20	0.20	0.05	0.29	0.16	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.06	0.24	0.18	0.10	0.04	0.59	0.21	0.41	0.08
s, saturation flow rate [veh/h]	1781	1633	1781	1782	1781	1820	1781	1870	1589
c, Capacity [veh/h]	407	373	359	359	94	535	291	748	635
d1, Uniform Delay [s]	48.40	59.04	59.66	54.09	71.63	54.04	64.04	45.95	30.14
k, delay calibration	0.13	0.49	0.25	0.13	0.04	0.50	0.50	0.50	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.41	59.81	17.18	1.27	5.28	463.12	142.51	36.81	0.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.26	1.05	0.90	0.49	0.78	2.01	1.26	1.02	0.21
d, Delay for Lane Group [s/veh]	48.81	118.85	76.84	55.36	76.91	517.16	206.55	82.76	30.35
Lane Group LOS	D	F	E	E	E	F	F	F	C
Critical Lane Group	No	Yes	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.38	20.68	14.06	6.15	3.03	89.40	22.87	35.80	3.37
50th-Percentile Queue Length [ft/ln]	84.59	517.01	351.57	153.87	75.64	2235.01	571.85	895.09	84.34
95th-Percentile Queue Length [veh/ln]	6.09	28.95	20.21	10.22	5.45	139.94	34.18	46.16	6.07
95th-Percentile Queue Length [ft/ln]	152.27	723.82	505.32	255.59	136.14	3498.39	854.57	1153.96	151.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.81	118.85	118.85	76.84	55.36	55.36	76.91	517.16	517.16	206.55	82.76	30.35
Movement LOS	D	F	F	E	E	E	E	F	F	F	F	C
d_A, Approach Delay [s/veh]	104.06			69.32			488.88			113.18		
Approach LOS	F			E			F			F		
d_I, Intersection Delay [s/veh]	232.34											
Intersection LOS	F											
Intersection V/C	1.363											

Emissions

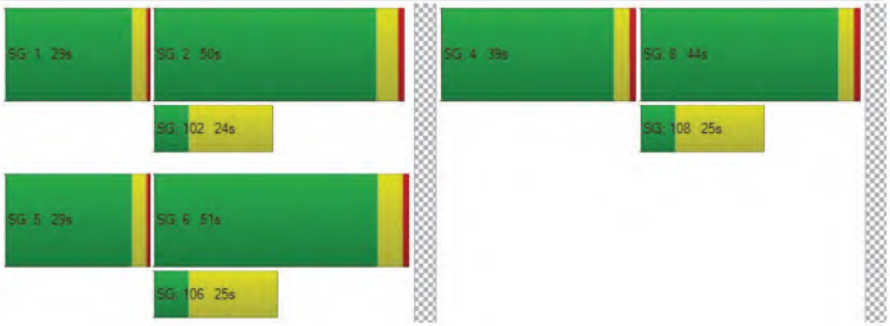
Vehicle Miles Traveled [mph]	180.67	674.49	65.89	35.48	25.91	377.47	165.60	342.48	60.92
Stops [stops/h]	79.59	486.45	330.79	144.78	71.17	2102.91	538.05	842.19	79.36
Fuel consumption [US gal/h]	8.92	39.93	9.62	4.23	2.62	140.58	25.21	31.53	3.78
CO [g/h]	623.51	2791.36	672.54	295.80	182.98	9826.57	1762.38	2204.09	264.21
NOx [g/h]	121.31	543.10	130.85	57.55	35.60	1911.89	342.90	428.84	51.41
VOC [g/h]	144.50	646.92	155.87	68.55	42.41	2277.40	408.45	510.82	61.23

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	65.92	65.92	65.92	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.598	2.272	2.764	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	455	520	584	588
d_b, Bicycle Delay [s]	45.68	41.90	38.35	38.14
l_b,int, Bicycle LOS Score for Intersection	2.601	2.418	3.574	3.733
Bicycle LOS	B	B	D	D

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Cumulative AM no Project

Vistro File: C:\...\AM 918 DU 20240213.vistro Scenario 5 2040 AM with CCSP, No Project
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Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	El Dorado Hills Blvd/Serrano Pkwy	Signalized	HCM 7th Edition	SB Right	1.186	196.7	F
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	EB Right	0.981	55.5	E
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	NB Left	1.179	120.8	F
4	Latrobe Rd/US 50 EB	Signalized	HCM 7th Edition	EB Right	1.013	37.3	D
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	SB Left	0.929	36.2	D
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	NB Left	0.797	41.5	D
7	Latrobe Rd/Golden Foothill Pkwy N	Signalized	HCM 7th Edition	SB Left	0.708	15.4	B
8	Latrobe Rd/Suncast Ln	Signalized	HCM 7th Edition	SB Right	0.930	28.5	C
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	EB Thru	1.207	143.8	F
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	NB Left	0.783	12.1	B
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	WB Right	0.090	14.1	B
12	Latrobe Rd/Royal Oaks Dr	Two-way stop	HCM 7th Edition	WB Left	0.058	27.6	D
13	Golden Foothill/Robert J Mathews	Two-way stop	HCM 7th Edition	NB Right	0.800	10,000.0	F
14	Investment Blvd/Robert J Mathews Pkwy	All-way stop	HCM 7th Edition	SB Thru	2.305	372.9	F
15	Golden Foothill Pkwy/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.389	17.4	C
16	Carson Crossing Rd/Calypso Cir.	Two-way stop	HCM 7th Edition	NB Left	0.508	33.8	D
17	Carson Crossing Rd/Four Seasons Dr	All-way stop	HCM 7th Edition	WB Left	0.126	8.1	A
	White Rock Rd/Carson		HCM 7th				

18	White Rock Rd/Carson Crossing Rd	Signalized	HCM 7th Edition	EB Left	0.443	16.6	B
19	White Rock Rd/Windfield Way	Signalized	HCM 7th Edition	EB Left	0.656	35.0	C
20	White Rock Rd/Post St	Signalized	HCM 7th Edition	NB Left	0.629	44.8	D
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 7th Edition	NB Left	0.770	26.9	C
22	White Rock Rd/Clarksville Crossing	Signalized	HCM 7th Edition	SB Right	0.948	43.1	D
23	White Rock Rd/US 50 EB	Signalized	HCM 7th Edition	EB Left	0.575	11.1	B
24	Silva Valley Pkwy/US 50 WB	Signalized	HCM 7th Edition	WB Left	1.026	52.2	D
25	New Intersection	Two-way stop	HCM 7th Edition	NB Thru	0.007	0.0	A
26	Latrobe/Wetsl-Oviatt	Two-way stop	HCM 7th Edition	EB Left	0.010	14.4	B
27	Latrobe/S. Shingle	Two-way stop	HCM 7th Edition	EB Left	0.146	20.8	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: El Dorado Hills Blvd/Serrano Pkwy

Control Type:	Signalized	Delay (sec / veh):	196.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.186

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	260.0	100.0	100.0	100.0	110.00	100.00	100.00	100.00	100.00	100.00	430.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No			No		
Crosswalk	No				Yes			Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Base Volume Input [veh/h]	5	242	863	301	72	1684	51	27	16	270	494	70	114
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	1	0	0	-13	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	15	0	0	81	0	0	34
Total Hourly Volume [veh/h]	5	242	864	301	72	1671	36	27	16	189	494	70	80
Peak Hour Factor	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	70	248	86	21	480	10	8	5	54	142	20	23
Total Analysis Volume [veh/h]	5	278	993	346	83	1921	41	31	18	217	568	80	92
Presence of On-Street Parking	No			No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	1	6	0	7	7	0	0	8	0
Auxiliary Signal Groups													
Maximum Green [s]	0	25	40	0	25	40	0	35	35	0	0	35	0
Amber [s]	0.0	3.0	4.7	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	12	0	0	12	0	0	0	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	100.0	245.0	0.0	100.0	100.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	29	46	0	29	46	0	39	39	0	0	39	0
Lead / Lag	-	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	3	6	0	3	3	0	3	3	0	0	3	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	4.0	0.0
Minimum Recall		No	No		No	No			No			No	
Maximum Recall		No	No		No	No			No			No	
Pedestrian Recall		No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C
C, Cycle Length [s]	134	134	134	134	134	134	134	134	134	134
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	55	55	8	40	40	22	22	31	31
g / C, Green / Cycle	0.17	0.41	0.41	0.06	0.30	0.30	0.16	0.16	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.16	0.28	0.22	0.05	0.52	0.53	0.02	0.15	0.21	0.21
s, saturation flow rate [veh/h]	1781	3560	1589	1781	1870	1856	1781	1608	1781	1746
c, Capacity [veh/h]	308	1467	655	106	558	554	289	261	417	409
d1, Uniform Delay [s]	54.51	32.16	29.64	62.22	47.06	47.06	47.90	55.12	49.70	49.77
k, delay calibration	0.31	0.04	0.19	0.04	0.50	0.50	0.04	0.07	0.33	0.34
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	24.16	0.21	1.19	4.72	348.86	354.68	0.06	7.28	17.52	18.42
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.68	0.53	0.78	1.76	1.77	0.11	0.90	0.89	0.90
d, Delay for Lane Group [s/veh]	78.67	32.37	30.84	66.94	395.92	401.74	47.96	62.40	67.22	68.19
Lane Group LOS	E	C	C	E	F	F	D	E	E	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	11.22	12.62	8.30	2.87	71.93	72.30	0.90	8.31	14.09	14.00
50th-Percentile Queue Length [ft/ln]	280.41	315.61	207.48	71.84	1798.17	1807.40	22.42	207.73	352.26	349.91
95th-Percentile Queue Length [veh/ln]	16.71	18.45	13.02	5.17	111.31	112.03	1.61	13.04	20.25	20.13
95th-Percentile Queue Length [ft/ln]	417.72	461.28	325.59	129.31	2782.72	2800.70	40.36	325.92	506.16	503.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	78.67	78.67	32.37	30.84	66.94	398.77	401.74	47.96	62.40	62.40	67.56	68.19	68.19
Movement LOS	E	E	C	C	E	F	F	D	E	E	E	E	E
d_A, Approach Delay [s/veh]	40.12				385.36			60.72			67.70		
Approach LOS	D				F			E			E		
d_I, Intersection Delay [s/veh]	196.74												
Intersection LOS	F												
Intersection V/C	1.186												

Emissions

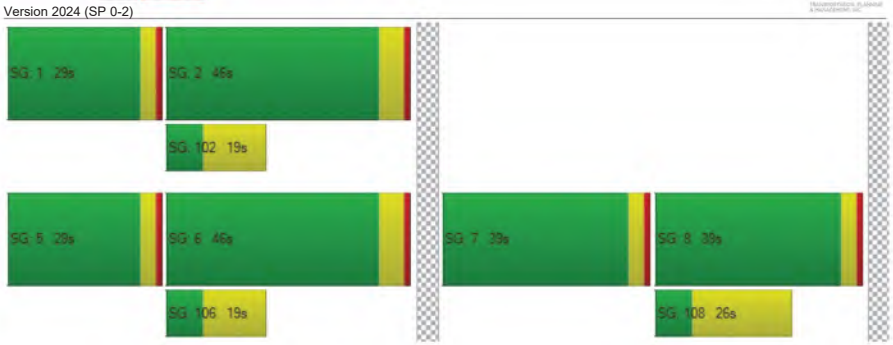
Vehicle Miles Traveled [mph]	67.59	237.16	82.64	12.20	144.23	144.23	1.32	10.04	19.50	19.22
Stops [stops/h]	301.70	679.15	223.24	77.29	1934.75	1944.68	24.12	223.51	379.02	376.49
Fuel consumption [US gal/h]	10.60	23.11	7.78	2.51	108.02	109.31	0.49	4.63	7.99	7.97
CO [g/h]	740.79	1615.64	543.77	175.44	7550.55	7640.43	34.27	323.78	558.80	556.96
NOx [g/h]	144.13	314.35	105.80	34.13	1469.06	1486.55	6.67	63.00	108.72	108.36
VOC [g/h]	171.69	374.44	126.02	40.66	1749.91	1770.74	7.94	75.04	129.51	129.08

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	56.37	56.37	56.37
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.279	2.322	2.404
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	602	602	523	523
d_b, Bicycle Delay [s]	32.68	32.68	36.49	36.49
l_b,int, Bicycle LOS Score for Intersection	2.894	3.259	2.132	2.837
Bicycle LOS	C	C	B	C

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	55.5
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.981

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	500.0	100.0	100.0	100.0	500.0	100.0	100.0	300.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

Scenario 5: 5 2040 AM with CCSP, No Project
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Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	1	420	988	150	1	218	1793	441	150	61	724	68	52	272
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	1	0	0	0	-13	0	0	0	-7	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	45	0	0	0	132	0	0	215	0	0	82
Total Hourly Volume [veh/h]	1	420	989	105	1	218	1780	309	150	61	502	68	52	190
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	113	266	28	0	59	478	83	40	16	135	18	14	51
Total Analysis Volume [veh/h]	1	452	1063	113	1	234	1914	332	161	66	540	73	56	204
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	0	3	8	0
Auxiliary Signal Groups														
Maximum Green [s]	0	20	50	0	0	20	50	0	20	20	0	0	20	0
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	14	0	0	0	24	0	0	0	0	0	31	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	0	24	56	0	24	24	0	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Cycle Length [s]	126	126	126	126	126	126	126	126	126	126	126
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	18	50	50	18	50	50	20	20	20	20	20
g / C, Green / Cycle	0.15	0.40	0.40	0.15	0.40	0.40	0.16	0.16	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.13	0.22	0.22	0.13	0.38	0.21	0.06	0.06	0.19	0.04	0.16
s, saturation flow rate [veh/h]	3459	3560	1779	1781	5094	1589	1781	1831	2813	1781	1643
c, Capacity [veh/h]	508	1410	705	261	2017	629	282	290	446	282	260
d1, Uniform Delay [s]	52.85	29.52	29.53	52.91	36.88	29.10	47.68	47.65	53.09	46.58	53.07
k, delay calibration	0.04	0.13	0.14	0.28	0.13	0.13	0.04	0.04	0.09	0.04	0.42
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.25	0.42	0.92	22.63	3.73	0.83	0.34	0.32	98.76	0.18	50.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.56	0.56	0.90	0.95	0.53	0.40	0.39	1.21	0.26	1.00
d, Delay for Lane Group [s/veh]	55.10	29.94	30.44	75.54	40.61	29.93	48.02	47.98	151.85	46.76	103.56
Lane Group LOS	E	C	C	E	D	C	D	D	F	D	F
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	7.02	8.92	9.03	8.77	18.68	7.53	3.22	3.28	13.16	2.04	11.87
50th-Percentile Queue Length [ft/ln]	175.59	223.10	225.64	219.33	466.91	188.20	80.45	81.90	329.09	50.96	296.64
95th-Percentile Queue Length [veh/ln]	11.37	13.82	13.95	13.63	25.76	12.03	5.79	5.90	20.78	3.67	17.52
95th-Percentile Queue Length [ft/ln]	284.25	345.58	348.81	340.77	644.10	300.69	144.81	147.43	519.51	91.72	437.88

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.10	55.10	30.07	30.44	75.54	75.54	40.61	29.93	48.02	47.98	151.85	46.76	103.56	103.56
Movement LOS	E	E	C	C	E	E	D	C	D	D	F	D	F	F
d_A, Approach Delay [s/veh]	37.06				42.49				121.11			91.11		
Approach LOS	D				D				F			F		
d_I, Intersection Delay [s/veh]	55.47													
Intersection LOS	E													
Intersection V/C	0.981													

Emissions

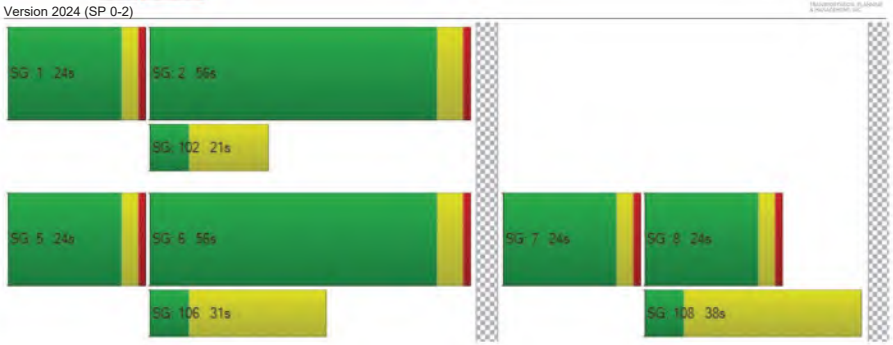
Vehicle Miles Traveled [mph]	85.25	147.53	73.78	56.13	457.13	79.29	7.01	7.14	33.68	3.56	12.68
Stops [stops/h]	400.97	509.46	257.63	250.43	1599.32	214.88	91.86	93.52	751.49	58.18	338.70
Fuel consumption [US gal/h]	12.99	16.17	8.16	8.65	51.37	7.41	1.89	1.93	22.22	1.16	7.87
CO [g/h]	907.79	1130.08	570.45	604.60	3590.75	518.07	132.45	134.85	1553.29	81.26	550.23
NOx [g/h]	176.62	219.87	110.99	117.63	698.63	100.80	25.77	26.24	302.21	15.81	107.06
VOC [g/h]	210.39	261.91	132.21	140.12	832.19	120.07	30.70	31.25	359.99	18.83	127.52

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	52.54	52.54	52.54
I_p,int, Pedestrian LOS Score for Intersectio	0.000	3.683	3.092	2.357
Crosswalk LOS	F	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	798	798	317	317
d_b, Bicycle Delay [s]	22.79	22.79	44.65	44.65
I_b,int, Bicycle LOS Score for Intersection	2.480	2.868	3.180	2.244
Bicycle LOS	B	C	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	120.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.179

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1588	1190	150	3	70	1406	1107	260	92	837	171	104	106
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-1	1	1	0	0	-20	0	0	0	-9	-4	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	45	0	0	0	332	0	0	248	0	0	32
Total Hourly Volume [veh/h]	1	1587	1191	106	3	70	1386	775	260	92	580	167	104	74
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	397	298	27	1	18	347	194	65	23	145	42	26	19
Total Analysis Volume [veh/h]	1	1587	1191	106	3	70	1386	775	260	92	580	167	104	74
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	134
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7						
Maximum Green [s]	0	37	62	0	0	14	39	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	42	68	0	0	19	45	28	0	28	0	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	37	69	69	8	39	72	28	28	11	11	11
g / C, Green / Cycle	0.28	0.51	0.51	0.06	0.29	0.53	0.21	0.21	0.08	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.46	0.24	0.25	0.04	0.27	0.49	0.10	0.10	0.07	0.06	0.07
s, saturation flow rate [veh/h]	3459	3560	1795	1781	5094	1589	1781	1826	1781	1830	1674
c, Capacity [veh/h]	951	1813	914	99	1475	846	366	375	147	151	138
d1, Uniform Delay [s]	36.83	5.68	5.72	63.26	47.14	29.02	47.60	47.59	61.25	61.20	61.36
k, delay calibration	0.30	0.50	0.50	0.04	0.50	0.50	0.08	0.08	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	304.12	0.88	1.86	4.00	12.87	16.21	0.71	0.69	3.57	3.31	4.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.67	0.47	0.49	0.74	0.94	0.92	0.48	0.47	0.79	0.78	0.81
d, Delay for Lane Group [s/veh]	340.96	6.55	7.58	67.25	60.01	45.22	48.31	48.28	64.82	64.51	65.60
Lane Group LOS	F	A	A	E	E	D	D	D	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	53.92	2.45	2.82	2.55	16.54	25.13	5.30	5.42	4.08	4.14	3.96
50th-Percentile Queue Length [ft/ln]	1347.98	61.28	70.49	63.87	413.58	628.21	132.49	135.51	102.05	103.40	99.04
95th-Percentile Queue Length [veh/ln]	83.52	4.41	5.08	4.60	23.21	33.35	9.08	9.24	7.35	7.44	7.13
95th-Percentile Queue Length [ft/ln]	2087.99	110.31	126.88	114.97	580.35	833.74	226.88	230.96	183.69	186.12	178.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	340.9	340.9	6.85	7.58	67.25	67.25	60.01	45.22	48.30	48.28	0.00	64.72	64.91	65.60
Movement LOS	F	F	A	A	E	E	E	D	D	D		E	E	E
d_A, Approach Delay [s/veh]	190.78				55.12				18.24			64.97		
Approach LOS	F				E				B			E		
d_I, Intersection Delay [s/veh]	120.76													
Intersection LOS	F													
Intersection V/C	1.179													

Emissions

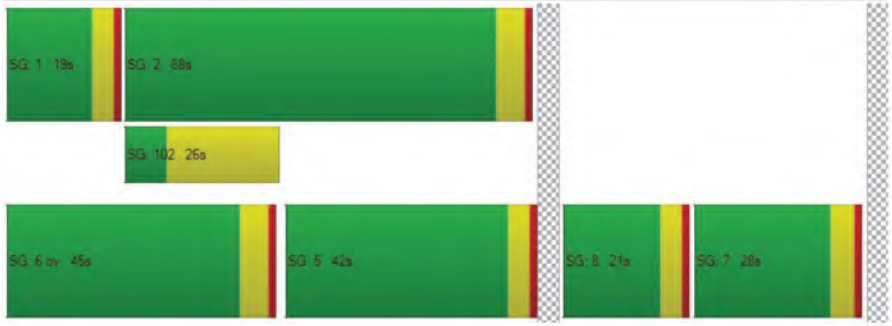
Vehicle Miles Traveled [mph]	271.98	145.74	76.40	13.74	260.84	145.85	8.05	8.23	3.68	3.74	3.55
Stops [stops/h]	2854.54	129.77	74.63	67.63	1313.74	665.17	140.28	143.48	108.05	109.48	104.86
Fuel consumption [US gal/h]	137.12	7.85	4.25	2.31	42.20	20.40	2.82	2.88	2.28	2.30	2.21
CO [g/h]	9585.00	548.78	296.76	161.52	2949.80	1426.05	196.87	201.36	159.06	161.02	154.78
NOx [g/h]	1864.89	106.77	57.74	31.43	573.92	277.46	38.30	39.18	30.95	31.33	30.11
VOC [g/h]	2221.42	127.18	68.78	37.43	683.64	330.50	45.63	46.67	36.86	37.32	35.87

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		57.44	
l_p,int, Pedestrian LOS Score for Intersectio	0.000		0.000		0.000		2.365	
Crosswalk LOS	F		F		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	915		576		337		241	
d_b, Bicycle Delay [s]	20.02		34.45		47.03		52.59	
l_b,int, Bicycle LOS Score for Intersection	3.171		2.932		2.140		1.871	
Bicycle LOS	C		C		B		A	

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 4: Latrobe Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	37.3
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.013

Intersection Setup

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	2	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	300.00	570.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No			No		
Crosswalk	No			No				No			Yes		

Volumes

Name	Latrobe Rd			El Dorado Hills Blvd			US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Base Volume Input [veh/h]	0	2400	463	0	529	1886	0	0	1410	0	0	529
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	1	0	0	-33	0	0	-25	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	139	0	0	0	0	0	416	0	0	159
Total Hourly Volume [veh/h]	0	2401	325	0	529	1853	0	0	969	0	0	370
Peak Hour Factor	1.0000	0.8400	0.8400	1.000	0.840	0.840	1.000	1.0000	0.8400	1.0000	1.0000	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	715	97	0	157	551	0	0	288	0	0	110
Total Analysis Volume [veh/h]	0	2858	387	0	630	2206	0	0	1154	0	0	440
Presence of On-Street Parking	No		No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	74.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	50	0	0	39	50	0	0	0	45	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No				No			
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
l2, Clearance Lost Time [s]	0.0	4.2	0.0	0.0	2.6	4.2	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	2.5	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Minimum Recall		No			No	No				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	R	
C, Cycle Length [s]	68	68	68	68	68	
L, Total Lost Time per Cycle [s]	6.20	6.20	4.60	6.20	4.60	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	4.20	4.20	2.60	4.20	2.60	
g_i, Effective Green Time [s]	32	32	26	35	22	
g / C, Green / Cycle	0.47	0.47	0.38	0.51	0.33	
(v / s)_i Volume / Saturation Flow Rate	0.42	0.24	0.35	0.32	0.41	
s, saturation flow rate [veh/h]	6792	1589	1781	6792	2813	
c, Capacity [veh/h]	3159	739	670	3476	927	
d1, Uniform Delay [s]	16.79	12.85	20.49	12.00	22.80	
k, delay calibration	0.50	0.50	0.15	0.50	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	4.85	2.64	9.26	0.89	111.12	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.90	0.52	0.94	0.63	1.25	
d, Delay for Lane Group [s/veh]	21.64	15.49	29.74	12.90	133.92	
Lane Group LOS	C	B	C	B	F	
Critical Lane Group	Yes	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	9.11	3.88	9.75	4.84	21.06	
50th-Percentile Queue Length [ft/ln]	227.79	96.98	243.76	120.92	526.57	
95th-Percentile Queue Length [veh/ln]	14.06	6.98	14.87	8.44	32.41	
95th-Percentile Queue Length [ft/ln]	351.54	174.56	371.78	211.09	810.33	

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	21.64	15.49	29.74	29.74	12.90	0.00	0.00	0.00	133.92	0.00	0.00	0.00
Movement LOS		C	B	C	C	B				F			
d_A, Approach Delay [s/veh]		20.91			16.64				133.92			0.00	
Approach LOS		C			B				F			A	
d_I, Intersection Delay [s/veh]	37.26												
Intersection LOS	D												
Intersection V/C	1.013												

Emissions

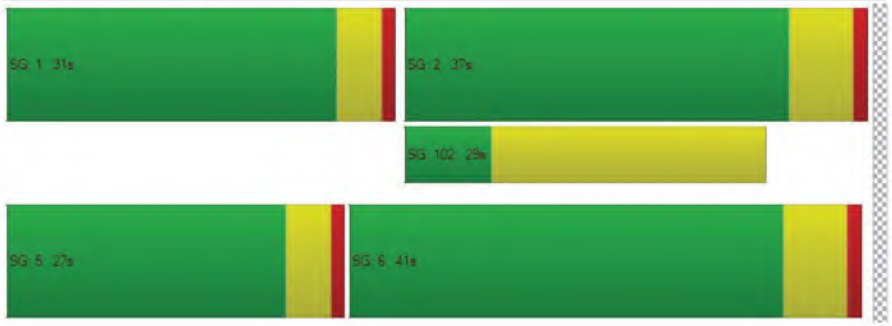
Vehicle Miles Traveled [mph]	413.54	56.00	107.90	377.82	82.58	
Stops [stops/h]	1929.48	205.37	516.19	1024.25	2230.20	
Fuel consumption [US gal/h]	50.75	5.69	13.93	31.48	47.17	
CO [g/h]	3547.65	397.96	973.70	2200.22	3296.97	
NOx [g/h]	690.24	77.43	189.45	428.08	641.47	
VOC [g/h]	822.20	92.23	225.66	509.92	764.10	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00	0.00
d_p, Pedestrian Delay [s]	0.00		0.00		0.00	23.89
I_p,int, Pedestrian LOS Score for Intersectio	0.000		0.000		0.000	2.263
Crosswalk LOS	F		F		F	B
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	906		1024		659	0
d_b, Bicycle Delay [s]	10.18		8.10		15.29	34.00
I_b,int, Bicycle LOS Score for Intersection	2.956		2.470		1.560	1.560
Bicycle LOS	C		B		A	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	36.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.929

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	73	2071	262	4	570	2319	403	184	10	32	1	74	33	604
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	2	0	0	0	-58	0	0	0	-1	0	-4	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	79	0	0	0	121	0	0	9	0	0	0	181
Total Hourly Volume [veh/h]	1	73	2073	183	4	570	2261	282	184	10	22	1	70	33	423
Peak Hour Factor	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.9800	0.9800	0.9800	0.980	0.980	0.980	0.980
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	19	529	47	1	145	577	72	47	3	6	0	18	8	108
Total Analysis Volume [veh/h]	1	74	2115	187	4	582	2307	288	188	10	22	1	71	34	432
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	123
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	5	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	50	0	15	15	50	0	15	20	0	0	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	3.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.5	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	1.5	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	245.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	19	19	56	0	19	24	0	0	19	19	0
Lead / Lag	-	Lead	-	-	Lead	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	4	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	No			No	No			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	103	103	103	103	103	103	103	103	103	103	103	103
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	4	49	49	15	60	60	8	8	8	15	15	15
g / C, Green / Cycle	0.04	0.48	0.48	0.15	0.58	0.58	0.08	0.08	0.08	0.15	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.02	0.42	0.12	0.17	0.45	0.18	0.05	0.01	0.01	0.04	0.14	0.14
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	1870	1589	1781	1625	1589
c, Capacity [veh/h]	132	2420	755	505	2970	927	268	145	123	260	237	232
d1, Uniform Delay [s]	48.61	24.21	16.05	43.89	16.34	10.92	46.26	43.98	44.36	39.07	43.84	43.84
k, delay calibration	0.04	0.04	0.04	0.07	0.04	0.04	0.08	0.08	0.08	0.08	0.42	0.42
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.44	0.41	0.06	75.69	0.17	0.07	2.50	0.15	0.51	0.42	51.83	52.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.87	0.25	1.16	0.78	0.31	0.70	0.07	0.18	0.28	0.99	0.99
d, Delay for Lane Group [s/veh]	50.05	24.63	16.11	119.58	16.51	10.99	48.76	44.13	44.87	39.49	95.68	96.33
Lane Group LOS	D	C	B	F	B	B	D	D	D	D	F	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.97	14.66	2.57	11.65	12.68	3.18	2.42	0.24	0.54	1.64	9.33	9.17
50th-Percentile Queue Length [ft/ln]	24.20	366.55	64.36	291.21	316.91	79.46	60.57	6.04	13.51	41.03	233.16	229.19
95th-Percentile Queue Length [veh/ln]	1.74	20.94	4.63	18.39	18.52	5.72	4.36	0.43	0.97	2.95	14.33	14.13
95th-Percentile Queue Length [ft/ln]	43.56	523.54	115.86	459.86	462.89	143.04	109.03	10.87	24.32	73.86	358.37	353.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.05	50.05	24.63	16.11	119.5	119.5	16.51	10.99	48.76	44.13	44.87	39.49	39.49	95.68	96.02
Movement LOS	D	D	C	B	F	F	B	B	D	D	D	D	D	F	F
d_A, Approach Delay [s/veh]	24.76				35.00				48.16			88.44			
Approach LOS	C				C				D			F			
d_I, Intersection Delay [s/veh]	36.15														
Intersection LOS	D														
Intersection V/C	0.929														

Emissions

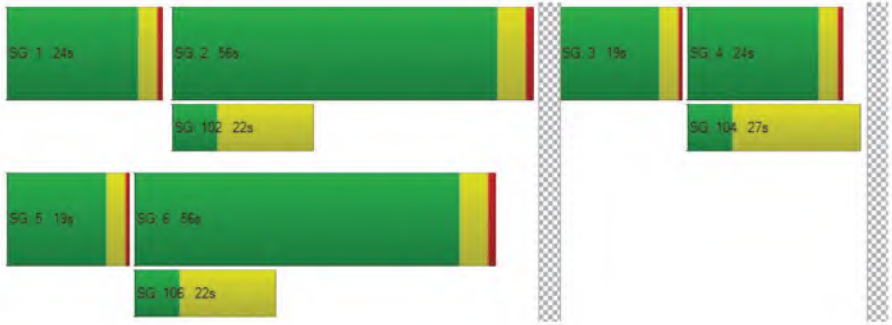
Vehicle Miles Traveled [mph]	16.74	472.02	41.73	84.79	333.82	41.67	23.98	1.28	2.81	25.27	82.66	80.89
Stops [stops/h]	67.89	1542.54	90.29	817.00	1333.66	111.47	169.93	8.47	18.95	57.56	327.07	321.50
Fuel consumption [US gal/h]	1.83	38.55	2.83	22.26	28.86	2.98	3.79	0.19	0.42	1.94	9.80	9.62
CO [g/h]	127.78	2694.83	197.82	1556.15	2017.32	207.97	265.01	13.22	29.43	135.38	684.67	672.68
NOx [g/h]	24.86	524.32	38.49	302.77	392.50	40.46	51.56	2.57	5.73	26.34	133.21	130.88
VOC [g/h]	29.61	624.55	45.85	360.65	467.53	48.20	61.42	3.06	6.82	31.38	158.68	155.90

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	40.92	0.00	40.92	40.92
I_p,int, Pedestrian LOS Score for Intersectio	3.495	0.000	2.593	2.871
Crosswalk LOS	C	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	984	984	399	302
d_b, Bicycle Delay [s]	13.25	13.25	32.87	37.00
I_b,int, Bicycle LOS Score for Intersection	2.910	3.056	1.749	2.629
Bicycle LOS	C	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	41.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.797

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	2	0	0	1	2	0	0	1	1	0	2
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	260.0	100.0	100.0	260.0	360.0	100.0	100.0	300.0	400.00	100.00	300.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	2	157	1794	426	1	98	1858	469	2	355	447	90	517	381	257
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	2	2	0	0	-63	0	0	0	0	0	-15	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	128	0	0	0	141	0	0	0	27	0	0	77
Total Hourly Volume [veh/h]	2	157	1796	300	1	98	1795	328	2	355	447	63	502	381	180
Peak Hour Factor	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	0.9400	0.9400	0.9400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	42	478	80	0	26	477	87	1	94	119	17	134	101	48
Total Analysis Volume [veh/h]	2	167	1911	319	1	104	1910	349	2	378	476	67	534	405	191
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	160
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Overl	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	3	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups				2,3											
Maximum Green [s]	0	15	45	36	0	25	45	0	0	21	25	0	36	35	0
Amber [s]	0.0	4.0	4.7	4.5	0.0	4.0	4.7	0.0	0.0	4.5	4.7	0.0	4.5	4.7	0.0
All red [s]	0.0	1.0	1.0	1.5	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	5	0	0	0	5	0	0	0	4	0	0	5	0
Pedestrian Clearance [s]	0	0	28	0	0	0	24	0	0	0	31	0	0	31	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	3.0	3.7	4.0	0.0	3.0	3.7	0.0	0.0	4.0	3.7	0.0	4.0	3.7	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	58	42	0	25	58	0	0	27	35	0	42	50	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	9	9	9	0	9	9	0	0	9	9	0	9	9	0
Vehicle Extension [s]	0.0	1.0	1.5	1.0	0.0	1.0	1.5	0.0	0.0	1.0	1.5	0.0	1.0	1.5	0.0
Minimum Recall		No	Yes	No		No	Yes			No	No		No	No	
Maximum Recall		No	No	No		No	No			No	No		No	No	
Pedestrian Recall		No	No	No		No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	160	160	160	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	5.00	5.70	6.00	5.00	5.70	5.70	6.00	5.70	5.70	6.00	5.70	5.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.70	0.00	3.00	3.70	3.70	4.00	3.70	3.70	4.00	3.70	3.70
g_i, Effective Green Time [s]	10	78	111	9	77	77	20	24	24	27	31	31
g / C, Green / Cycle	0.06	0.49	0.69	0.06	0.48	0.48	0.12	0.15	0.15	0.17	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.05	0.28	0.20	0.03	0.38	0.22	0.11	0.13	0.04	0.16	0.11	0.12
s, saturation flow rate [veh/h]	3431	6737	1577	3431	5053	1577	3431	3532	1577	3431	3532	1577
c, Capacity [veh/h]	212	3298	1091	193	2445	763	419	521	232	572	678	303
d1, Uniform Delay [s]	74.05	29.10	9.51	73.50	34.25	27.36	69.31	67.22	60.74	52.45	44.34	44.68
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.58	0.75	0.68	0.89	2.56	1.97	3.09	2.76	0.25	3.17	0.31	0.81
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.58	0.29	0.54	0.78	0.46	0.91	0.91	0.29	0.93	0.60	0.63
d, Delay for Lane Group [s/veh]	76.63	29.85	10.20	74.39	36.81	29.33	72.40	69.98	60.99	55.62	44.66	45.49
Lane Group LOS	E	C	B	E	D	C	E	E	E	E	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.53	13.37	4.52	2.10	20.40	9.10	7.90	9.83	2.47	9.50	5.71	5.52
50th-Percentile Queue Length [ft/ln]	88.15	334.22	113.04	52.57	509.92	227.39	197.48	245.76	61.65	237.45	142.74	137.92
95th-Percentile Queue Length [veh/ln]	6.35	19.37	8.01	3.79	27.80	14.04	12.51	14.97	4.44	14.55	9.63	9.37
95th-Percentile Queue Length [ft/ln]	158.67	484.13	200.22	94.63	695.09	351.05	312.71	374.31	110.98	363.81	240.71	234.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	76.63	76.63	29.85	10.20	74.39	74.39	36.81	29.33	72.40	72.40	69.98	60.99	55.62	44.66	45.49
Movement LOS	E	E	C	B	E	E	D	C	E	E	E	E	E	D	D
d_A, Approach Delay [s/veh]	30.53				37.38				70.32				49.98		
Approach LOS	C				D				E				D		
d_I, Intersection Delay [s/veh]	41.52														
Intersection LOS	D														
Intersection V/C	0.797														

Emissions

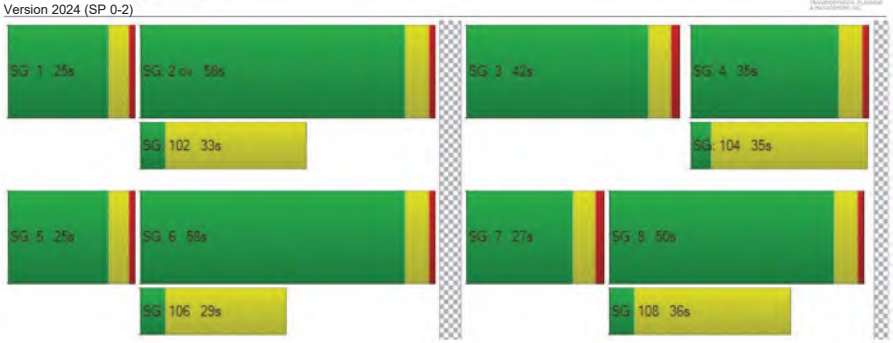
Vehicle Miles Traveled [mph]	67.35	761.60	127.13	23.43	426.27	77.89	94.70	118.62	16.70	55.98	42.46	20.02
Stops [stops/h]	158.67	1203.18	101.74	94.63	1376.78	204.65	355.46	442.37	55.49	427.41	256.93	124.13
Fuel consumption [US gal/h]	6.28	49.61	6.46	3.57	46.04	7.30	11.46	14.10	1.83	10.71	6.85	3.28
CO [g/h]	439.27	3467.47	451.38	249.48	3218.02	510.11	801.08	985.91	127.59	748.58	478.65	229.13
NOx [g/h]	85.47	674.64	87.82	48.54	626.11	99.25	155.86	191.82	24.82	145.65	93.13	44.58
VOC [g/h]	101.81	803.62	104.61	57.82	745.81	118.22	185.66	228.49	29.57	173.49	110.93	53.10

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	72.20	71.25	71.25	71.25
I_p,int, Pedestrian LOS Score for Intersectio	3.671	3.936	2.941	3.043
Crosswalk LOS	D	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	654	654	366	554
d_b, Bicycle Delay [s]	36.25	36.25	53.38	41.83
I_b,int, Bicycle LOS Score for Intersection	2.601	2.880	2.032	2.555
Bicycle LOS	B	C	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	15.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.708

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0	0	1	1	0	1	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	300.0	200.0	100.0	100.0	100.0	320.00	100.00	320.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	74	1954	3	2	19	1885	577	279	6	21	5	11	15
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	4	0	0	0	-78	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	1	0	0	0	173	0	0	6	0	0	5
Total Hourly Volume [veh/h]	1	74	1958	2	2	19	1807	404	279	6	15	5	11	10
Peak Hour Factor	1.000	0.870	0.870	0.870	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	21	563	1	1	5	519	116	80	2	4	1	3	3
Total Analysis Volume [veh/h]	1	85	2251	2	2	22	2077	464	321	7	17	6	13	11
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	ProtP	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	5	34	0	0	15	34	0	0	36	0	0	16	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	11	0	0	0	18	0	0	24	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	20	40	0	0	20	40	0	0	40	0	0	20	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		Yes	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	C
C, Cycle Length [s]	67	67	67	67	67	67	67	67	67	67
L, Total Lost Time per Cycle [s]	6.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	42	37	37	1	34	34	9	9	9	2
g / C, Green / Cycle	0.63	0.55	0.55	0.02	0.51	0.51	0.13	0.13	0.13	0.03
(v / s)_i Volume / Saturation Flow Rate	0.24	0.41	0.41	0.01	0.41	0.29	0.09	0.09	0.01	0.02
s, saturation flow rate [veh/h]	364	3560	1869	1781	5094	1589	1781	1785	1589	1740
c, Capacity [veh/h]	342	1951	1024	31	2574	803	239	239	213	58
d1, Uniform Delay [s]	13.01	11.75	11.75	32.95	13.91	11.63	27.81	27.80	25.52	32.01
k, delay calibration	0.15	0.15	0.32	0.04	0.15	0.17	0.11	0.11	0.11	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.54	0.88	3.37	14.47	0.89	1.01	3.49	3.48	0.16	2.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.25	0.76	0.76	0.78	0.81	0.58	0.69	0.69	0.08	0.52
d, Delay for Lane Group [s/veh]	13.55	12.63	15.12	47.42	14.80	12.65	31.29	31.28	25.68	34.65
Lane Group LOS	B	B	B	D	B	B	C	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.42	7.20	8.27	0.47	6.27	3.62	2.63	2.63	0.24	0.51
50th-Percentile Queue Length [ft/ln]	10.54	180.06	206.82	11.80	156.82	90.57	65.71	65.82	5.94	12.63
95th-Percentile Queue Length [veh/ln]	0.76	11.60	12.99	0.85	10.38	6.52	4.73	4.74	0.43	0.91
95th-Percentile Queue Length [ft/ln]	18.96	290.10	324.75	21.24	259.51	163.03	118.29	118.48	10.70	22.73

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.55	13.55	13.49	15.12	47.42	47.42	14.80	12.65	31.29	31.28	25.68	34.65	34.65	34.65
Movement LOS	B	B	B	B	D	D	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	13.49				14.72				31.01			34.65		
Approach LOS	B				B				C			C		
d_I, Intersection Delay [s/veh]	15.35													
Intersection LOS	B													
Intersection V/C	0.708													

Emissions

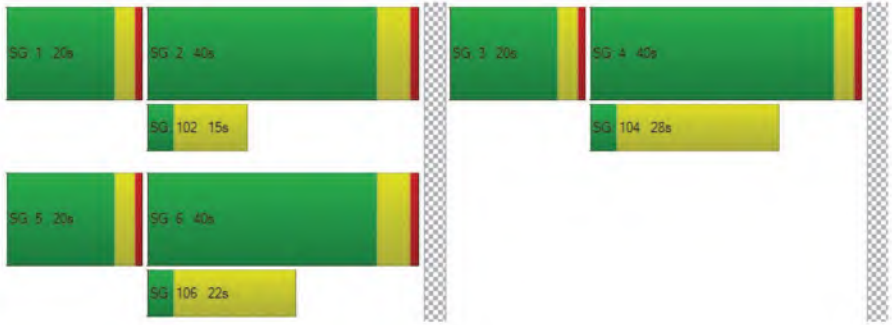
Vehicle Miles Traveled [mph]	30.40	522.18	274.18	9.56	827.75	184.92	39.45	39.52	4.09	0.57
Stops [stops/h]	22.60	772.40	443.59	25.31	1009.05	194.27	140.95	141.18	12.74	27.09
Fuel consumption [US gal/h]	1.61	29.56	16.12	1.02	52.69	10.99	3.45	3.45	0.33	0.38
CO [g/h]	112.78	2066.35	1127.13	71.42	3682.95	768.10	240.87	241.29	22.91	26.89
NOx [g/h]	21.94	402.04	219.30	13.90	716.57	149.44	46.87	46.95	4.46	5.23
VOC [g/h]	26.14	478.90	261.22	16.55	853.56	178.01	55.82	55.92	5.31	6.23

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.05	0.00	26.05	26.05
l_p,int, Pedestrian LOS Score for Intersectio	3.268	0.000	2.458	1.743
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1013	1013	1072	477
d_b, Bicycle Delay [s]	8.18	8.18	7.22	19.48
l_b,int, Bicycle LOS Score for Intersection	2.846	3.053	2.139	1.617
Bicycle LOS	C	C	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Latrobe Rd/Suncast Ln

Control Type:	Signalized	Delay (sec / veh):	28.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.930

Intersection Setup

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Approach	Northbound			Southbound		Eastbound	
Lane Configuration							
Turning Movement	U-turn	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			No		Yes	

Volumes

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Base Volume Input [veh/h]	1	155	1839	1449	463	193	104
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	4	-78	0	0	-1
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	139	0	31
Total Hourly Volume [veh/h]	1	155	1843	1371	324	193	72
Peak Hour Factor	1.0000	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	45	530	394	93	55	21
Total Analysis Volume [veh/h]	1	178	2118	1576	372	222	83
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permissive	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	5	2	6	0	3	0
Auxiliary Signal Groups							
Maximum Green [s]	0	12	40	40	0	20	0
Amber [s]	0.0	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No	No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	46	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-
Minimum Green [s]	0	5	5	5	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall		No	No	No		No	
Maximum Recall		No	No	No		No	
Pedestrian Recall		No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	L	R
C, Cycle Length [s]	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	9	53	40	40	12	12
g / C, Green / Cycle	0.12	0.71	0.53	0.53	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.10	0.59	0.52	0.56	0.12	0.05
s, saturation flow rate [veh/h]	1781	3560	1870	1752	1781	1589
c, Capacity [veh/h]	221	2528	996	933	279	249
d1, Uniform Delay [s]	32.02	7.79	17.11	17.54	30.50	28.17
k, delay calibration	0.08	0.16	0.42	0.46	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.99	1.15	21.39	40.42	5.13	0.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.84	0.98	1.04	0.80	0.33
d, Delay for Lane Group [s/veh]	37.01	8.94	38.50	57.96	35.63	28.95
Lane Group LOS	D	A	D	F	D	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.36	8.60	19.78	24.10	4.12	1.34
50th-Percentile Queue Length [ft/ln]	84.07	215.08	494.43	602.41	103.05	33.50
95th-Percentile Queue Length [veh/ln]	6.05	13.41	27.07	33.25	7.42	2.41
95th-Percentile Queue Length [ft/ln]	151.32	335.33	676.77	831.29	185.50	60.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.01	37.01	8.94	45.93	57.96	35.63	28.95
Movement LOS	D	D	A	D	E	D	C
d_A, Approach Delay [s/veh]	11.13			48.23		33.81	
Approach LOS	B			D		C	
d_I, Intersection Delay [s/veh]	28.53						
Intersection LOS	C						
Intersection V/C	0.930						

Emissions

Vehicle Miles Traveled [mph]	124.50	1473.18	344.28	344.28	74.90	28.00
Stops [stops/h]	161.58	826.74	950.29	1157.81	198.07	64.38
Fuel consumption [US gal/h]	7.37	69.07	27.05	32.06	5.79	2.00
CO [g/h]	514.90	4827.77	1891.04	2240.82	404.54	139.62
NOx [g/h]	100.18	939.31	367.93	435.98	78.71	27.16
VOC [g/h]	119.33	1118.88	438.27	519.33	93.76	32.36

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.89	0.00	29.89
I_p,int, Pedestrian LOS Score for Intersectio	3.071	0.000	2.311
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1068	1068	534
d_b, Bicycle Delay [s]	8.14	8.14	20.13
I_b,int, Bicycle LOS Score for Intersection	3.454	3.281	1.560
Bicycle LOS	C	C	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	143.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.207

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	60	778	21	276	401	877	613	90	86	136	351	604
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	2	0	0	-32	-47	3	0	-10	-6	-8	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	6	0	0	249	0	0	23	0	0	181
Total Hourly Volume [veh/h]	61	780	15	276	369	581	616	90	53	130	343	423
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	219	4	78	104	163	173	25	15	37	96	119
Total Analysis Volume [veh/h]	69	876	17	310	415	653	692	101	60	146	385	475
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Cycle Length [s]	89	89	89	89	89	89	89	89	89	89
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	4	23	23	12	30	30	15	15	20	20
g / C, Green / Cycle	0.05	0.26	0.26	0.14	0.34	0.34	0.17	0.17	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.04	0.24	0.24	0.17	0.22	0.41	0.24	0.24	0.29	0.30
s, saturation flow rate [veh/h]	1781	1870	1857	1781	1870	1589	1781	1771	1845	1589
c, Capacity [veh/h]	91	483	480	241	640	544	301	299	416	358
d1, Uniform Delay [s]	41.56	32.09	32.09	38.35	24.64	29.16	36.85	36.85	34.35	34.35
k, delay calibration	0.04	0.27	0.27	0.50	0.22	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.80	17.02	17.10	156.65	2.24	106.50	206.58	208.57	142.06	164.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.93	0.93	1.29	0.65	1.20	1.42	1.42	1.28	1.33
d, Delay for Lane Group [s/veh]	46.36	49.11	49.20	195.01	26.89	135.66	243.43	245.43	176.41	199.01
Lane Group LOS	D	D	D	F	C	F	F	F	F	F
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.59	11.35	11.29	15.30	6.89	26.18	23.65	23.69	25.11	23.88
50th-Percentile Queue Length [ft/ln]	39.83	283.79	282.18	382.46	172.19	654.48	591.36	592.16	627.70	597.11
95th-Percentile Queue Length [veh/ln]	2.87	16.88	16.80	24.04	11.19	38.66	36.67	36.75	37.74	36.62
95th-Percentile Queue Length [ft/ln]	71.70	421.93	419.92	601.11	279.80	966.44	916.70	918.67	943.42	915.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.36	49.15	49.20	195.01	26.89	135.66	244.20	245.43	245.43	176.41	176.41	199.01
Movement LOS	D	D	D	F	C	F	F	F	F	F	F	F
d_A, Approach Delay [s/veh]	48.95			116.25			244.43			187.08		
Approach LOS	D			F			F			F		
d_I, Intersection Delay [s/veh]	143.84											
Intersection LOS	F											
Intersection V/C	1.207											

Emissions

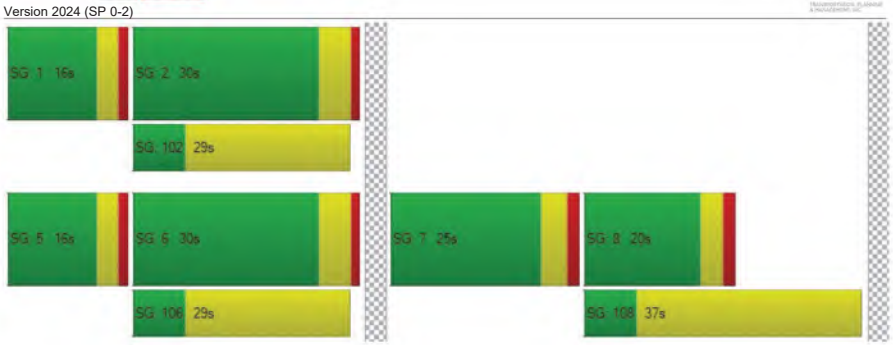
Vehicle Miles Traveled [mph]	39.85	258.73	257.00	215.62	288.65	454.19	32.13	32.04	58.73	52.53
Stops [stops/h]	64.68	460.78	458.15	620.97	279.58	1062.64	960.15	961.46	1019.15	969.49
Fuel consumption [US gal/h]	2.65	17.67	17.57	31.05	17.12	52.96	27.78	27.90	27.11	26.75
CO [g/h]	185.14	1235.39	1227.84	2170.20	1196.66	3701.66	1941.69	1950.31	1894.85	1869.98
NOx [g/h]	36.02	240.36	238.89	422.24	232.83	720.21	377.78	379.46	368.67	363.83
VOC [g/h]	42.91	286.31	284.56	502.96	277.34	857.89	450.01	452.00	439.15	433.39

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.03	0.00	34.03	34.03
I_p,int, Pedestrian LOS Score for Intersectio	2.621	0.000	2.697	2.723
Crosswalk LOS	B	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	557	557	350	451
d_b, Bicycle Delay [s]	23.08	23.08	30.20	26.60
I_b,int, Bicycle LOS Score for Intersection	2.358	2.902	3.005	3.518
Bicycle LOS	B	C	C	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	12.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.783

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	122	582	265	358	277	109
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-7	0	0	-48	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	93	0	33
Total Hourly Volume [veh/h]	115	582	265	217	280	76
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	162	74	60	78	21
Total Analysis Volume [veh/h]	128	647	294	241	311	84
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	12	40	40	0	20	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	46	46	0	24	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	36	36	36	36	36	36
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	4	17	10	10	9	9
g / C, Green / Cycle	0.10	0.48	0.27	0.27	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.07	0.35	0.16	0.15	0.17	0.05
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1589
c, Capacity [veh/h]	182	898	500	425	430	384
d1, Uniform Delay [s]	15.62	7.42	11.46	11.38	12.53	10.92
k, delay calibration	0.04	0.15	0.15	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.87	1.57	1.57	1.70	2.32	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.72	0.59	0.57	0.72	0.22
d, Delay for Lane Group [s/veh]	17.50	8.99	13.03	13.08	14.85	11.20
Lane Group LOS	B	A	B	B	B	B
Critical Lane Group	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.77	1.53	1.36	1.13	2.03	0.44
50th-Percentile Queue Length [ft/ln]	19.29	38.19	33.97	28.23	50.86	11.10
95th-Percentile Queue Length [veh/ln]	1.39	2.75	2.45	2.03	3.66	0.80
95th-Percentile Queue Length [ft/ln]	34.72	68.75	61.15	50.81	91.55	19.98

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	17.50	8.99	13.03	13.08	14.85	11.20
Movement LOS	B	A	B	B	B	B
d_A, Approach Delay [s/veh]	10.40		13.05		14.07	
Approach LOS	B		B		B	
d_I, Intersection Delay [s/veh]	12.08					
Intersection LOS	B					
Intersection V/C	0.783					

Emissions

Vehicle Miles Traveled [mph]	15.79	79.83	169.79	139.18	73.04	19.73
Stops [stops/h]	77.62	153.69	136.71	113.59	204.68	44.66
Fuel consumption [US gal/h]	2.43	6.71	9.00	7.41	5.08	1.25
CO [g/h]	169.57	468.96	629.02	517.77	354.93	87.41
NOx [g/h]	32.99	91.24	122.38	100.74	69.06	17.01
VOC [g/h]	39.30	108.69	145.78	120.00	82.26	20.26

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	10.79	0.00	10.79
l_p,int, Pedestrian LOS Score for Intersectio	2.600	0.000	2.229
Crosswalk LOS	B	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	2236	2236	1118
d_b, Bicycle Delay [s]	0.25	0.25	3.48
l_b,int, Bicycle LOS Score for Intersection	2.838	2.596	1.560
Bicycle LOS	C	B	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	14.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.090

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	658	0	14	360	0	0	0	0	0	0	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-7	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	651	0	14	360	0	0	0	0	0	0	39
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	177	0	4	98	0	0	0	0	0	0	10
Total Analysis Volume [veh/h]	0	708	0	14	391	0	0	0	0	0	0	39
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			Yes	Yes
Storage Area [veh]	0	0	1	1
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
d_M, Delay for Movement [s/veh]	8.08	0.00	0.00	9.06	0.00	0.00	27.90	22.96	10.47	26.03	23.78	14.10
Movement LOS	A	A	A	A	A	A	D	C	B	D	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.02	0.02	0.02	0.00	0.00	0.00	0.29	0.29	0.29
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.59	0.59	0.59	0.00	0.00	0.00	7.35	7.35	7.35
d_A, Approach Delay [s/veh]	0.00			0.31			20.45			14.10		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	0.59											
Intersection LOS	B											

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Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Two-way stop	Delay (sec / veh):	27.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.058

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	422	48	74	286	0	0	0	0	12	0	250
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-7	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	415	48	74	286	0	0	0	0	12	0	250
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	112	13	20	77	0	0	0	0	3	0	67
Total Analysis Volume [veh/h]	0	446	52	80	308	0	0	0	0	13	0	269
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.45
d_M, Delay for Movement [s/veh]	7.87	0.00	0.00	8.65	0.00	0.00	41.14	20.29	9.92	27.63	26.42	17.74
Movement LOS	A	A	A	A	A	A	E	C	A	D	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00	2.90	2.90	2.90
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	6.07	0.00	0.00	0.00	0.00	0.00	72.46	72.46	72.46
d_A, Approach Delay [s/veh]	0.00			1.78			23.78			18.20		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	4.99											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.800

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	13	560	229	53	0	1106	182
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	3	-10	-17	0	-55	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	15	563	219	36	0	1051	183
Peak Hour Factor	1.0000	0.9060	0.9060	0.9060	0.9060	1.0000	0.9060	0.9060
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	155	60	10	0	290	50
Total Analysis Volume [veh/h]	0	17	621	242	40	0	1160	202
Pedestrian Volume [ped/h]	0			0		0		

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.80	0.00	0.00	0.00	0.91	0.00
d_M, Delay for Movement [s/veh]	10000.00	10000.00	10000.00	0.00	0.00	36.54	15.61	0.00
Movement LOS	F	F	F	A	A	E	C	A
95th-Percentile Queue Length [veh/ln]	82.64	82.64	82.64	0.00	0.00	8.66	8.66	8.66
95th-Percentile Queue Length [ft/ln]	2066.12	2066.12	2066.12	0.00	0.00	216.40	216.40	216.40
d_A, Approach Delay [s/veh]	10000.00			0.00		13.30		
Approach LOS	F			A		B		
d_I, Intersection Delay [s/veh]	2803.73							
Intersection LOS	F							

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Intersection Level Of Service Report
Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Control Type:	All-way stop	Delay (sec / veh):	372.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.305

Intersection Setup

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Base Volume Input [veh/h]	16	229	88	2	30	1009	55	19	21	0	258	55	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	-75	6	3	0	0	-55	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	229	88	2	30	1009	0	25	24	0	258	0	70
Peak Hour Factor	0.8300	0.8300	0.8300	1.000	0.830	0.830	0.830	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	69	27	1	9	304	0	8	7	0	78	0	21
Total Analysis Volume [veh/h]	19	276	106	2	36	1216	0	30	29	0	311	0	84
Pedestrian Volume [ped/h]	0			0				0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	538	1254	422	512
Degree of Utilization, x	0.75	2.31	0.14	0.77

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	6.41	93.77	0.48	6.90
95th-Percentile Queue Length [ft]	160.28	2344.34	12.05	172.50
Approach Delay [s/veh]	26.83	608.53	12.90	30.00
Approach LOS	D	F	B	D
Intersection Delay [s/veh]	372.91			
Intersection LOS	F			

Intersection Level Of Service Report
Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	17.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.389

Intersection Setup

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00			30.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	No		No			No		

Volumes

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Base Volume Input [veh/h]	175	151	1	131	225	0	67	128
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-25	0	-2	0	0	2	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	175	126	1	129	225	0	69	129
Peak Hour Factor	0.9500	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	33	0	34	59	0	18	34
Total Analysis Volume [veh/h]	184	133	1	136	237	0	73	136
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.39	0.17	0.00	0.00	0.00	0.00	0.06	0.00
d_M, Delay for Movement [s/veh]	17.36	10.53	8.82	0.00	0.00	11.77	8.24	0.00
Movement LOS	C	B	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	1.82	0.61	0.00	0.00	0.00	0.20	0.20	0.00
95th-Percentile Queue Length [ft/ln]	45.41	15.21	0.05	0.05	0.05	4.91	4.91	0.00
d_A, Approach Delay [s/veh]	14.49		0.02			2.88		
Approach LOS	B		A			A		
d_I, Intersection Delay [s/veh]	5.78							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 16: Carson Crossing Rd/Calypso Cir.

Control Type:	Two-way stop	Delay (sec / veh):	33.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.508

Intersection Setup

Name			Carson Crossing Rd		Carson Crossing Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	190.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			Carson Crossing Rd		Carson Crossing Rd	
Base Volume Input [veh/h]	134	128	233	92	194	152
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-25	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	134	128	208	92	194	154
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	35	57	25	53	42
Total Analysis Volume [veh/h]	146	139	226	100	211	167
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.51	0.17	0.00	0.00	0.17	0.00
d_M, Delay for Movement [s/veh]	33.77	25.68	0.00	0.00	8.52	0.00
Movement LOS	D	D	A	A	A	A
95th-Percentile Queue Length [veh/ln]	4.91	4.91	0.00	0.00	0.62	0.00
95th-Percentile Queue Length [ft/ln]	122.63	122.63	0.00	0.00	15.40	0.00
d_A, Approach Delay [s/veh]	29.83		0.00		4.76	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	10.41					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 17: Carson Crossing Rd/Four Seasons Dr

Control Type:	All-way stop	Delay (sec / veh):	8.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.126

Intersection Setup

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	500.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	500.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Base Volume Input [veh/h]	67	10	12	202	20	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	0	-25	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	69	10	12	177	20	18
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	3	3	48	5	5
Total Analysis Volume [veh/h]	75	11	13	192	22	20
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	715	741	690	763	763	724
Degree of Utilization, x	0.06	0.06	0.02	0.13	0.13	0.06

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.19	0.18	0.06	0.43	0.43	0.18
95th-Percentile Queue Length [ft]	4.79	4.61	1.44	10.73	10.73	4.61
Approach Delay [s/veh]	7.96		8.09			8.28
Approach LOS	A		A			A
Intersection Delay [s/veh]	8.08					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Signalized	Delay (sec / veh):	16.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.443

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	200.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	65	0	18	66	1	8	4	343	152	60	603	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	0	0	0	0	0	0	-25	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	67	0	18	66	1	8	4	343	127	60	603	15
Peak Hour Factor	0.9700	1.0000	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	0	5	17	0	2	1	88	33	15	155	4
Total Analysis Volume [veh/h]	69	0	19	68	1	8	4	354	131	62	622	15
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	25	0	0	25	0	15	45	0	15	45	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	21	0	0	11	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	30	0	0	30	0	20	40	0	20	40	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	9	0	0	9	0	9	9	0	9	9	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	C	L	C	R	L	C	R
C, Cycle Length [s]	46	46	46	46	46	46	46	46	46	46
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	6	6	6	6	0	9	9	5	14	14
g / C, Green / Cycle	0.13	0.13	0.13	0.12	0.01	0.20	0.20	0.11	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.04	0.00	0.01	0.05	0.00	0.11	0.09	0.04	0.19	0.01
s, saturation flow rate [veh/h]	1603	1683	1431	1584	1603	3204	1431	1603	3204	1431
c, Capacity [veh/h]	216	227	193	198	17	629	281	175	947	423
d1, Uniform Delay [s]	18.01	0.00	17.47	18.52	22.60	16.71	16.37	18.99	14.18	11.55
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.84	0.00	0.22	1.24	7.24	0.79	1.20	1.21	0.78	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.00	0.10	0.39	0.24	0.56	0.47	0.35	0.66	0.04
d, Delay for Lane Group [s/veh]	18.86	0.00	17.69	19.76	29.84	17.50	17.57	20.20	14.96	11.58
Lane Group LOS	B	A	B	B	C	B	B	C	B	B
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.64	0.00	0.17	0.74	0.07	1.53	1.15	0.60	2.45	0.10
50th-Percentile Queue Length [ft/ln]	15.94	0.00	4.21	18.43	1.81	38.26	28.82	15.11	61.31	2.41
95th-Percentile Queue Length [veh/ln]	1.15	0.00	0.30	1.33	0.13	2.75	2.08	1.09	4.41	0.17
95th-Percentile Queue Length [ft/ln]	28.70	0.00	7.59	33.17	3.26	68.87	51.88	27.21	110.36	4.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.86	0.00	17.69	19.76	19.76	19.76	29.84	17.50	17.57	20.20	14.96	11.58
Movement LOS	B	A	B	B	B	B	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	18.61			19.76			17.62			15.35		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	16.64											
Intersection LOS	B											
Intersection V/C	0.443											

Emissions

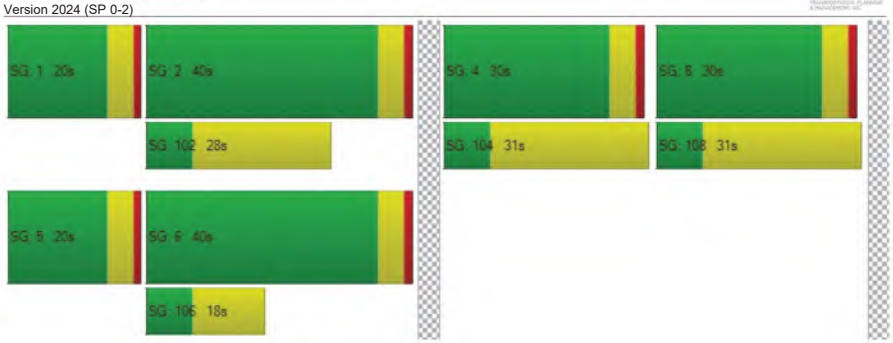
Vehicle Miles Traveled [mph]	20.48	0.00	5.64	1.72	0.57	50.69	18.76	52.17	523.43	12.62
Stops [stops/h]	50.09	0.00	13.24	57.90	5.69	240.43	90.56	47.49	385.28	7.56
Fuel consumption [US gal/h]	1.38	0.00	0.37	0.70	0.08	4.68	1.74	2.67	25.57	0.60
CO [g/h]	96.80	0.00	26.13	48.94	5.54	326.86	121.69	186.29	1787.38	41.71
NOx [g/h]	18.83	0.00	5.08	9.52	1.08	63.60	23.68	36.24	347.76	8.12
VOC [g/h]	22.43	0.00	6.05	11.34	1.28	75.75	28.20	43.17	414.24	9.67

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	13.24	13.24	13.24	13.24
l_p,int, Pedestrian LOS Score for Intersectio	2.316	1.723	2.607	2.599
Crosswalk LOS	B	A	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1091	1091	1527	1527
d_b, Bicycle Delay [s]	4.73	4.73	1.28	1.28
l_b,int, Bicycle LOS Score for Intersection	1.705	1.687	1.963	2.136
Bicycle LOS	A	A	A	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 19: White Rock Rd/Windfield Way

Control Type:	Signalized	Delay (sec / veh):	35.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.656

Intersection Setup

Name	Windfield Way						White Rock Rd			White Rock Rd			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00			
Grade [%]	0.00			0.00			0.00			0.00			
Curb Present	No			No			No			No			
Crosswalk	Yes			Yes			Yes			No			

Volumes

Name	Windfield Way						White Rock Rd			White Rock Rd			
Base Volume Input [veh/h]	72	5	243	5	5	0	5	644	184	0	499	505	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	73	0	0	0	0	0	55	0	0	0	2
Total Hourly Volume [veh/h]	72	5	170	5	5	0	5	644	129	0	499	505	3
Peak Hour Factor	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000	1.0000	0.9700	0.9700	1.000	0.970	0.970	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	19	1	44	1	1	0	1	166	33	0	129	130	1
Total Analysis Volume [veh/h]	74	5	175	5	5	0	5	664	133	0	514	521	3
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	31.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi
Signal Group	3	8	0	7	4	0	5	2	0	0	1	6	0
Auxiliary Signal Groups													
Maximum Green [s]	25	25	0	10	10	0	9	19	0	0	44	54	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	2.0	1.0	0.0	0.0	2.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	26	0	0	13	0	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	245.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	15	15	0	15	25	0	0	50	60	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	3	3	0	5	3	0	5	7	0	0	3	7	0
Vehicle Extension [s]	1.0	1.0	0.0	3.0	1.0	0.0	3.0	3.6	0.0	0.0	1.0	3.6	0.0
Minimum Recall	No	No		No	No		No	Yes			No	Yes	
Maximum Recall	No	No		No	No		No	No			No	No	
Pedestrian Recall	No	No		No	No		No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	6	15	1	10	1	46	46	36	81	81
g / C, Green / Cycle	0.05	0.13	0.01	0.08	0.01	0.38	0.38	0.30	0.68	0.68
(v / s)_i Volume / Saturation Flow Rate	0.04	0.11	0.00	0.00	0.00	0.19	0.08	0.29	0.14	0.14
s, saturation flow rate [veh/h]	1781	1596	1781	1870	1781	3560	1589	1781	1870	1866
c, Capacity [veh/h]	96	204	12	152	12	1354	604	537	1262	1259
d1, Uniform Delay [s]	56.04	51.41	59.33	50.78	59.34	28.34	25.16	41.16	7.39	7.39
k, delay calibration	0.04	0.04	0.11	0.04	0.11	0.50	0.50	0.24	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.85	4.76	19.50	0.03	19.95	1.27	0.84	18.67	0.37	0.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.88	0.40	0.03	0.40	0.49	0.22	0.96	0.21	0.21
d, Delay for Lane Group [s/veh]	60.89	56.16	78.83	50.81	79.29	29.61	26.00	59.83	7.76	7.76
Lane Group LOS	E	E	E	D	E	C	C	E	A	A
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.34	5.58	0.22	0.14	0.22	7.49	2.72	17.53	2.55	2.55
50th-Percentile Queue Length [ft/ln]	58.57	139.55	5.48	3.51	5.50	187.21	67.97	438.14	63.82	63.70
95th-Percentile Queue Length [veh/ln]	4.22	9.46	0.39	0.25	0.40	11.98	4.89	24.39	4.59	4.59
95th-Percentile Queue Length [ft/ln]	105.43	236.42	9.86	6.32	9.90	299.40	122.35	609.78	114.87	114.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	60.89	56.16	56.16	78.83	50.81	0.00	79.29	29.61	26.00	59.83	59.83	7.76	7.76
Movement LOS	E	E	E	E	D		E	C	C	E	E	A	A
d_A, Approach Delay [s/veh]	57.54			64.82			29.32			33.55			
Approach LOS	E			E			C			C			
d_I, Intersection Delay [s/veh]	34.98												
Intersection LOS	C												
Intersection V/C	0.656												

Emissions

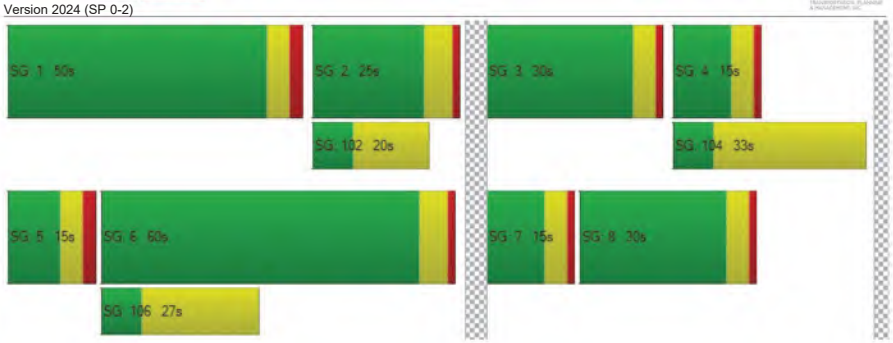
Vehicle Miles Traveled [mph]	28.51	69.36	0.17	0.17	4.21	558.77	111.92	128.09	65.36	65.23
Stops [stops/h]	70.28	167.46	6.57	4.21	6.60	449.30	81.57	525.77	76.58	76.43
Fuel consumption [US gal/h]	2.48	5.84	0.12	0.08	0.29	29.49	5.76	14.44	3.53	3.52
CO [g/h]	173.28	408.03	8.65	5.74	20.30	2061.06	402.74	1009.07	246.61	246.12
NOx [g/h]	33.71	79.39	1.68	1.12	3.95	401.01	78.36	196.33	47.98	47.89
VOC [g/h]	40.16	94.57	2.00	1.33	4.70	477.67	93.34	233.86	57.15	57.04

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.394	1.962	2.781	0.000
Crosswalk LOS	B	A	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	417	167	317	900
d_b, Bicycle Delay [s]	37.60	50.42	42.50	18.15
I_b,int, Bicycle LOS Score for Intersection	2.099	1.576	2.267	1.994
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 20: White Rock Rd/Post St

Control Type:	Signalized	Delay (sec / veh):	44.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.629

Intersection Setup

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Approach	Northbound			Southbound			Eastbound				Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	300.0	100.0	100.0	100.0	200.00	100.00	400.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00				30.00		
Grade [%]	0.00			0.00			0.00				0.00		
Curb Present	No			No			No				No		
Crosswalk	Yes			Yes			No				No		

Volumes

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	60	7	28	115	11	210	0	243	666	62	56	885	214
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	-4	0	0	2	0	0	-12	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	62	0	0	0	19	0	0	64
Total Hourly Volume [veh/h]	60	7	20	115	11	144	0	243	668	43	56	873	150
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	1.000	0.910	0.910	0.910	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	2	5	32	3	40	0	67	184	12	15	240	41
Total Analysis Volume [veh/h]	66	8	22	126	12	158	0	267	734	47	62	959	165
Presence of On-Street Parking	No		No	No		No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0				0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0				0		
v_co, Outbound Pedestrian Volume crossing	0			0			0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0				0		
Bicycle Volume [bicycles/h]	0			0			0				0		

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TKEAR

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	160
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	71.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups													
Maximum Green [s]	7	23	0	7	25	0	0	14	31	0	15	34	0
Amber [s]	3.5	5.0	0.0	3.5	5.0	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.7	1.0	0.0	1.0	1.0	0.0	0.0	2.0	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	24	0	0	0	21	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.2	4.0	0.0	2.5	4.0	0.0	0.0	3.5	2.5	0.0	3.0	2.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	100.0	0.0	100.0	100.0	0.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	29	0	13	31	0	0	28	80	0	20	72	0
Lead / Lag	Lead	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	3	9	0	3	9	0	0	9	9	0	9	9	0
Vehicle Extension [s]	1.0	1.5	0.0	1.0	1.5	0.0	0.0	1.0	1.5	0.0	1.0	1.5	0.0
Minimum Recall		No			No			No	Yes		No	No	
Maximum Recall		No			No			No	No		No	No	
Pedestrian Recall		No			No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	160	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	6.00	6.00	6.00	6.00	5.50	4.50	4.50	5.00	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	4.00	4.00	4.00	4.00	3.50	2.50	2.50	3.00	2.50	2.50
g_i, Effective Green Time [s]	9	9	19	19	65	102	102	8	45	45
g / C, Green / Cycle	0.06	0.06	0.12	0.12	0.41	0.64	0.64	0.05	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.04	0.01	0.07	0.11	0.15	0.21	0.03	0.03	0.27	0.10
s, saturation flow rate [veh/h]	1790	1589	1781	1606	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	101	89	211	190	723	2272	1014	94	1005	449
d1, Uniform Delay [s]	74.34	72.27	66.91	69.53	33.23	13.20	10.80	74.33	56.42	46.00
k, delay calibration	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.87	0.53	1.01	5.68	1.45	0.38	0.09	2.87	2.66	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.25	0.60	0.89	0.37	0.32	0.05	0.66	0.95	0.37
d, Delay for Lane Group [s/veh]	78.21	72.80	67.91	75.21	34.69	13.58	10.89	77.20	59.08	46.18
Lane Group LOS	E	E	E	E	C	B	B	E	E	D
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.12	0.88	4.98	7.20	7.68	6.21	0.66	2.59	19.42	5.37
50th-Percentile Queue Length [ft/ln]	78.12	22.12	124.52	180.03	191.88	155.28	16.56	64.85	485.42	134.16
95th-Percentile Queue Length [veh/ln]	5.62	1.59	8.64	11.60	12.22	10.30	1.19	4.67	26.64	9.17
95th-Percentile Queue Length [ft/ln]	140.61	39.82	216.03	290.05	305.46	257.46	29.81	116.73	666.08	229.13

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	78.21	78.21	72.80	67.91	75.21	75.21	34.69	34.69	13.58	10.89	77.20	59.08	46.18
Movement LOS	E	E	E	E	E	E	C	C	B	B	E	E	D
d_A, Approach Delay [s/veh]	76.97			72.10			18.84				58.23		
Approach LOS	E			E			B				E		
d_I, Intersection Delay [s/veh]	44.76												
Intersection LOS	D												
Intersection V/C	0.629												

Emissions

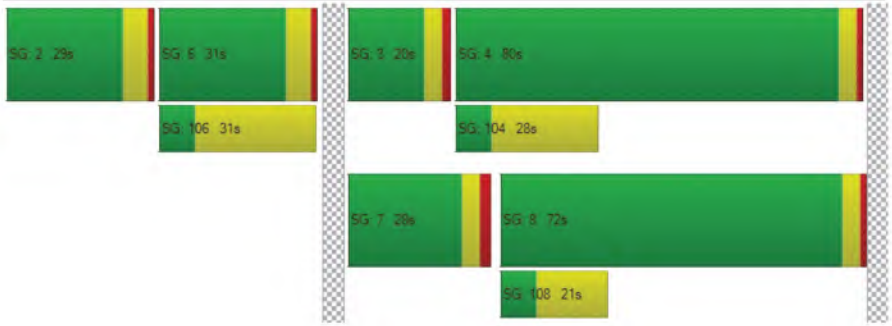
Vehicle Miles Traveled [mph]	3.70	1.10	5.86	7.90	27.99	76.95	4.93	21.71	335.80	57.78
Stops [stops/h]	70.31	19.91	112.07	162.03	172.69	279.50	14.91	58.37	873.75	120.74
Fuel consumption [US gal/h]	1.72	0.48	2.60	3.82	3.99	6.74	0.39	2.19	30.18	4.60
CO [g/h]	120.12	33.63	181.84	267.15	278.97	471.17	27.21	153.09	2109.56	321.26
NOx [g/h]	23.37	6.54	35.38	51.98	54.28	91.67	5.29	29.78	410.44	62.51
VOC [g/h]	27.84	7.80	42.14	61.91	64.65	109.20	6.31	35.48	488.91	74.46

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	69.38	69.38	69.38	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.058	2.336	2.883	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	288	313	944	844
d_b, Bicycle Delay [s]	58.65	56.95	22.31	26.74
I_b,int, Bicycle LOS Score for Intersection	1.731	2.150	2.220	2.591
Bicycle LOS	A	B	B	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	26.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.770

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	2	2	0	1	2	0	1	2	0	1
Entry Pocket Length [ft]	300.00	100.00	300.00	200.00	100.00	200.00	300.00	100.00	200.00	500.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	300.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	129	55	474	219	51	48	223	336	271	414	989	335
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	1	0	-2	0	0	2	0	-5	-12	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	143	0	0	14	0	0	81	0	0	101
Total Hourly Volume [veh/h]	129	55	332	219	49	34	223	338	190	409	977	234
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	16	95	63	14	10	64	97	55	118	281	67
Total Analysis Volume [veh/h]	148	63	382	252	56	39	256	389	218	470	1123	269
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	153
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	1	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups			1,4									
Maximum Green [s]	0	35	25	0	40	0	25	45	0	25	44	0
Amber [s]	0.0	3.2	3.0	0.0	3.2	0.0	3.0	5.0	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.5	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	28	0	0	24	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.2	1.5	0.0	2.2	0.0	1.5	4.0	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	150.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	29	0	45	0	29	50	0	29	50	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	5	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	2.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No	No		No		No	No		No	No	
Maximum Recall		No	No		No		No	No		No	No	
Pedestrian Recall		No	No		No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	87	87	87	87	87	87	87	87	87	87	87	87
L, Total Lost Time per Cycle [s]	4.20	4.20	3.50	4.20	4.20	4.20	3.50	6.00	6.00	3.50	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	0.00	2.20	2.20	2.20	1.50	4.00	4.00	1.50	4.00	4.00
g_i, Effective Green Time [s]	10	10	50	16	16	16	9	28	28	15	34	34
g / C, Green / Cycle	0.12	0.12	0.57	0.18	0.18	0.18	0.10	0.32	0.32	0.17	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.08	0.03	0.14	0.13	0.03	0.02	0.07	0.11	0.14	0.14	0.32	0.17
s, saturation flow rate [veh/h]	1781	1870	2813	1944	1870	1589	3459	3560	1589	3459	3560	1589
c, Capacity [veh/h]	211	221	1594	393	342	291	345	1156	516	585	1404	627
d1, Uniform Delay [s]	37.08	35.19	9.51	35.49	30.10	29.93	38.29	22.39	23.11	34.95	23.45	19.32
k, delay calibration	0.13	0.13	0.04	0.13	0.13	0.13	0.04	0.11	0.11	0.04	0.14	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.22	0.87	0.03	2.18	0.28	0.26	1.19	0.17	0.55	1.00	1.41	0.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.28	0.24	0.64	0.16	0.13	0.74	0.34	0.42	0.80	0.80	0.43
d, Delay for Lane Group [s/veh]	42.30	36.06	9.54	37.68	30.37	30.19	39.49	22.56	23.66	35.95	24.86	19.92
Lane Group LOS	D	D	A	D	C	C	D	C	C	D	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.30	1.26	1.69	2.65	1.00	0.70	2.68	2.98	3.49	4.79	9.98	3.94
50th-Percentile Queue Length [ft/ln]	82.40	31.53	42.34	66.32	25.10	17.45	67.02	74.46	87.33	119.63	249.47	98.39
95th-Percentile Queue Length [veh/ln]	5.93	2.27	3.05	4.78	1.81	1.26	4.83	5.36	6.29	8.37	15.16	7.08
95th-Percentile Queue Length [ft/ln]	148.31	56.76	76.22	119.38	45.18	31.41	120.64	134.02	157.20	209.32	378.98	177.10

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.30	36.06	9.54	37.68	30.37	30.19	39.49	22.56	23.66	35.95	24.86	19.92
Movement LOS	D	D	A	D	C	C	D	C	C	D	C	B
d_A, Approach Delay [s/veh]	20.53			35.66			27.86			26.94		
Approach LOS	C			D			C			C		
d_I, Intersection Delay [s/veh]	26.95											
Intersection LOS	C											
Intersection V/C	0.770											

Emissions

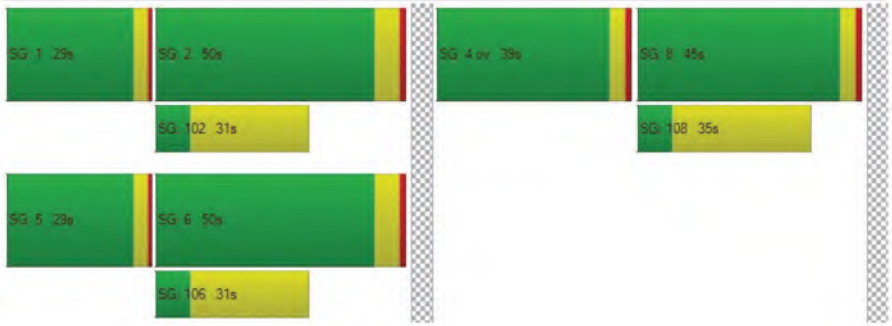
Vehicle Miles Traveled [mph]	253.80	108.03	655.07	51.09	11.35	7.91	89.64	136.21	76.33	212.08	506.72	121.38
Stops [stops/h]	135.75	51.95	139.52	218.54	41.35	28.75	220.84	245.34	143.88	394.18	822.01	162.10
Fuel consumption [US gal/h]	12.47	5.20	28.48	5.24	1.04	0.72	6.97	8.75	4.99	14.35	31.08	6.98
CO [g/h]	871.77	363.25	1990.68	366.46	72.83	50.60	487.01	611.53	348.60	1002.81	2172.65	488.11
NOx [g/h]	169.62	70.67	387.31	71.30	14.17	9.84	94.76	118.98	67.82	195.11	422.72	94.97
VOC [g/h]	202.04	84.19	461.36	84.93	16.88	11.73	112.87	141.73	80.79	232.41	503.53	113.13

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			0.0		
M_corner, Corner Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	33.39			33.39			33.39			0.00		
l_p,int, Pedestrian LOS Score for Intersectio	2.908			2.641			3.023			0.000		
Crosswalk LOS	C			B			C			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	796			934			1007			1007		
d_b, Bicycle Delay [s]	15.83			12.42			10.78			10.78		
l_b,int, Bicycle LOS Score for Intersection	2.774			2.155			2.338			3.179		
Bicycle LOS	C			B			B			C		

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 22: White Rock Rd/Clarksville Crossing

Control Type:	Signalized	Delay (sec / veh):	43.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.948

Intersection Setup

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	180.00	460.00	100.00	100.00	290.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	0	0	5	4	0	354	3	1026	0	4	1384	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	2	0	0	-17	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	5	4	0	354	3	1028	0	4	1367	31
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	2	1	0	113	1	329	0	1	438	10
Total Analysis Volume [veh/h]	0	0	6	5	0	454	4	1318	0	5	1753	40
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	20	0	0	20	0	20	50	0	20	50	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	5.0	0.0	4.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	5.0	0.0	3.0	5.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	R
C, Cycle Length [s]	93	93	93	93	93	93	93	93	93	93
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	7.00	7.00	5.00	7.00	7.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	5.00	5.00	3.00	5.00	5.00
g_i, Effective Green Time [s]	1	1	20	20	1	49	49	1	49	49
g / C, Green / Cycle	0.01	0.01	0.22	0.22	0.01	0.53	0.53	0.01	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.00	0.29	0.00	0.35	0.35	0.00	0.49	0.03
s, saturation flow rate [veh/h]	1870	1589	1781	1589	1781	1870	1870	1781	3560	1589
c, Capacity [veh/h]	16	14	384	343	11	993	993	13	1894	846
d1, Uniform Delay [s]	0.00	45.72	28.58	36.34	45.88	15.75	15.75	45.79	19.99	10.41
k, delay calibration	0.11	0.11	0.11	0.50	0.11	0.18	0.18	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	20.35	0.01	164.65	18.97	1.29	1.29	16.88	2.38	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.44	0.01	1.32	0.36	0.66	0.66	0.38	0.93	0.05
d, Delay for Lane Group [s/veh]	0.00	66.07	28.59	200.99	64.84	17.04	17.04	62.67	22.37	10.43
Lane Group LOS	A	E	C	F	E	B	B	E	C	B
Critical Lane Group	No	Yes	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.00	0.21	0.09	23.24	0.15	9.69	9.69	0.18	16.41	0.38
50th-Percentile Queue Length [ft/ln]	0.00	5.34	2.20	580.91	3.72	242.25	242.25	4.39	410.19	9.51
95th-Percentile Queue Length [veh/ln]	0.00	0.38	0.16	35.66	0.27	14.79	14.79	0.32	23.05	0.68
95th-Percentile Queue Length [ft/ln]	0.00	9.62	3.96	891.38	6.70	369.87	369.87	7.90	576.27	17.12

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	66.07	28.59	28.59	200.99	64.84	17.04	17.04	62.67	22.37	10.43
Movement LOS	A	A	E	C	C	F	E	B	B	E	C	B
d_A, Approach Delay [s/veh]	66.07			199.11			17.19			22.22		
Approach LOS	E			F			B			C		
d_I, Intersection Delay [s/veh]	43.08											
Intersection LOS	D											
Intersection V/C	0.948											

Emissions

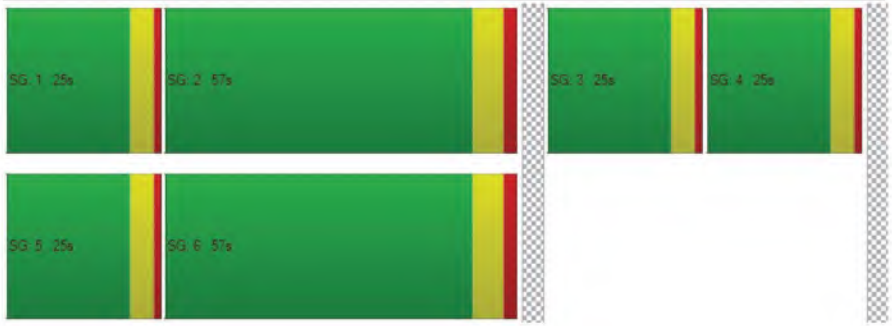
Vehicle Miles Traveled [mph]	0.00	0.30	2.37	215.36	1.80	297.36	297.36	0.87	305.80	6.98
Stops [stops/h]	0.00	8.32	3.42	904.02	5.79	376.99	376.99	6.83	1276.69	14.80
Fuel consumption [US gal/h]	0.00	0.14	0.15	32.43	0.16	16.61	16.61	0.14	27.62	0.45
CO [g/h]	0.00	9.71	10.18	2266.58	11.12	1161.03	1161.03	9.60	1930.81	31.73
NOx [g/h]	0.00	1.89	1.98	440.99	2.16	225.89	225.89	1.87	375.67	6.17
VOC [g/h]	0.00	2.25	2.36	525.30	2.58	269.08	269.08	2.23	447.48	7.35

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	432	432	1081	1081
d_b, Bicycle Delay [s]	28.43	28.43	9.78	9.78
l_b,int, Bicycle LOS Score for Intersection	1.570	2.317	2.650	3.043
Bicycle LOS	A	B	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 23: White Rock Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	11.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.575

Intersection Setup

Name	White Rock Rd			White Rock Rd			US 50 EB					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			No		

Volumes

Name	White Rock Rd			White Rock Rd			US 50 EB					
Base Volume Input [veh/h]	0	425	610	0	1303	320	243	0	116	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	1	-1	0	-17	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	12	0	0	0
Total Hourly Volume [veh/h]	3	426	609	0	1286	320	243	0	104	0	0	0
Peak Hour Factor	0.8300	0.8300	1.0000	1.0000	0.8300	0.8300	0.8300	1.0000	0.8300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	128	152	0	387	96	73	0	31	0	0	0
Total Analysis Volume [veh/h]	4	513	609	0	1549	386	293	0	125	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	4	0	0	0	0	0
Auxiliary Signal Groups												
Maximum Green [s]	0	62	0	0	62	0	45	0	0	0	0	0
Amber [s]	0.0	5.0	0.0	0.0	5.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
l2, Clearance Lost Time [s]	0.0	5.0	0.0	0.0	5.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	20.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	0.0	245.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	69	0	0	69	0	51	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	9	0	0	9	0	8	0	0	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	1.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		Yes			Yes		No					
Maximum Recall		No			No		No					
Pedestrian Recall		No			No		No					

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	R	
C, Cycle Length [s]	120	120	120	120	120	120	120	
L, Total Lost Time per Cycle [s]	7.00	7.00	7.00	7.00	6.00	6.00	6.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	5.00	5.00	5.00	5.00	4.00	4.00	4.00	
g_i, Effective Green Time [s]	95	95	95	95	12	12	12	
g / C, Green / Cycle	0.79	0.79	0.79	0.79	0.10	0.10	0.10	
(v / s)_i Volume / Saturation Flow Rate	0.14	0.38	0.44	0.24	0.08	0.08	0.08	
s, saturation flow rate [veh/h]	3560	1589	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	2808	1254	2808	1254	183	183	164	
d1, Uniform Delay [s]	3.13	4.34	4.74	3.54	52.62	52.62	52.41	
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.14	1.35	0.79	0.64	3.04	3.04	2.79	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.18	0.49	0.55	0.31	0.80	0.80	0.76	
d, Delay for Lane Group [s/veh]	3.27	5.69	5.52	4.17	55.66	55.66	55.20	
Lane Group LOS	A	A	A	A	E	E	E	
Critical Lane Group	No	No	Yes	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	1.30	4.55	5.98	2.33	4.47	4.47	3.80	
50th-Percentile Queue Length [ft/ln]	32.39	113.83	149.43	58.27	111.78	111.78	94.88	
95th-Percentile Queue Length [veh/ln]	2.33	8.05	9.99	4.20	7.94	7.94	6.83	
95th-Percentile Queue Length [ft/ln]	58.29	201.32	249.66	104.88	198.47	198.47	170.79	

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	3.27	5.69	0.00	5.52	4.17	55.66	0.00	55.20	0.00	0.00	0.00
Movement LOS		A	A		A	A	E		E			
d_A, Approach Delay [s/veh]	4.58			5.25			55.52			0.00		
Approach LOS	A			A			E			A		
d_I, Intersection Delay [s/veh]	11.08											
Intersection LOS	B											
Intersection V/C	0.575											

Emissions

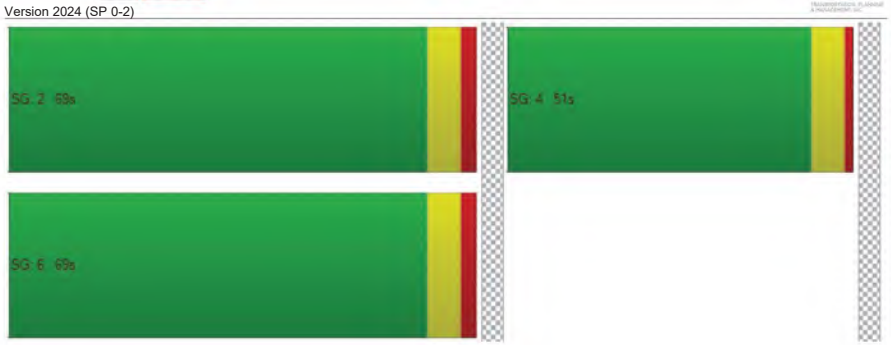
Vehicle Miles Traveled [mph]	89.49	106.24	274.50	68.40	8.87	8.87	7.57	
Stops [stops/h]	77.73	136.60	358.62	69.92	134.13	134.13	113.86	
Fuel consumption [US gal/h]	4.45	5.83	15.02	3.53	2.77	2.77	2.34	
CO [g/h]	311.40	407.73	1050.09	246.75	193.30	193.30	163.89	
NOx [g/h]	60.59	79.33	204.31	48.01	37.61	37.61	31.89	
VOC [g/h]	72.17	94.49	243.37	57.19	44.80	44.80	37.98	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1033	1033	750	0
d_b, Bicycle Delay [s]	14.02	14.02	23.44	60.00
I_b,int, Bicycle LOS Score for Intersection	2.485	3.156	2.269	4.132
Bicycle LOS	B	C	B	D

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 24: Silva Valley Pkwy/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	52.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.026

Intersection Setup

Name	White Rock Rd			Silva Valley Pkwy			US 50 WB			US 50 WB		
Approach	Northbound			Southbound			Westbound			Northeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			No		

Volumes

Name	White Rock Rd			Silva Valley Pkwy			US 50 WB			US 50 WB		
Base Volume Input [veh/h]	0	590	78	0	518	719	1105	0	398	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	0	0	-3	0	-14	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	47	0	0	30	0	0	0
Total Hourly Volume [veh/h]	0	591	78	0	515	672	1091	0	368	0	0	0
Peak Hour Factor	0.7900	0.7900	1.0000	1.0000	0.7900	0.7900	0.7900	0.7900	0.7900	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	187	20	0	163	213	345	0	116	0	0	0
Total Analysis Volume [veh/h]	0	748	78	0	652	851	1381	0	466	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Maximum Green [s]	20	54	0	0	26	0	0	23	0	0	0	0
Amber [s]	3.7	4.8	0.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0
All red [s]	0.5	2.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
l2, Clearance Lost Time [s]	2.2	4.8	0.0	0.0	4.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	125	70	0	0	70	0	0	50	0	0	0	0
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	8	8	0	0	8	0	0	8	0	0	0	0
Vehicle Extension [s]	2.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		Yes			Yes			No				
Maximum Recall		No			No			No				
Pedestrian Recall		No			No			No				

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	R	
C, Cycle Length [s]	120	120	120	120	120	120	120	
L, Total Lost Time per Cycle [s]	6.80	6.80	6.80	6.80	5.80	5.80	5.80	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	4.80	4.80	4.80	4.80	3.80	3.80	3.80	
g_i, Effective Green Time [s]	63	63	63	63	44	44	44	
g / C, Green / Cycle	0.53	0.53	0.53	0.53	0.37	0.37	0.37	
(v / s)_i Volume / Saturation Flow Rate	0.21	0.05	0.18	0.54	0.39	0.39	0.29	
s, saturation flow rate [veh/h]	3560	1589	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	1875	837	1875	837	656	656	585	
d1, Uniform Delay [s]	17.02	14.14	16.46	28.40	37.90	37.90	33.87	
k, delay calibration	0.50	0.50	0.50	0.50	0.47	0.47	0.25	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.64	0.22	0.51	35.31	48.81	48.81	5.74	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.40	0.09	0.35	1.02	1.05	1.05	0.80	
d, Delay for Lane Group [s/veh]	17.65	14.36	16.97	63.71	86.71	86.71	39.61	
Lane Group LOS	B	B	B	F	F	F	D	
Critical Lane Group	No	No	No	Yes	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	6.27	1.11	5.28	31.01	27.76	27.76	12.91	
50th-Percentile Queue Length [ft/ln]	156.76	27.72	131.97	775.37	694.11	694.11	322.85	
95th-Percentile Queue Length [veh/ln]	10.38	2.00	9.05	40.70	37.75	37.75	18.81	
95th-Percentile Queue Length [ft/ln]	259.42	49.90	226.16	1017.52	943.84	943.84	470.18	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	17.65	14.36	0.00	16.97	63.71	86.71	86.71	39.61	0.00	0.00	0.00
Movement LOS		B	B		B	F	F	F	D			
d_A, Approach Delay [s/veh]	17.34			43.43			74.83			0.00		
Approach LOS	B			D			E			A		
d_I, Intersection Delay [s/veh]	52.16											
Intersection LOS	D											
Intersection V/C	1.026											

Emissions

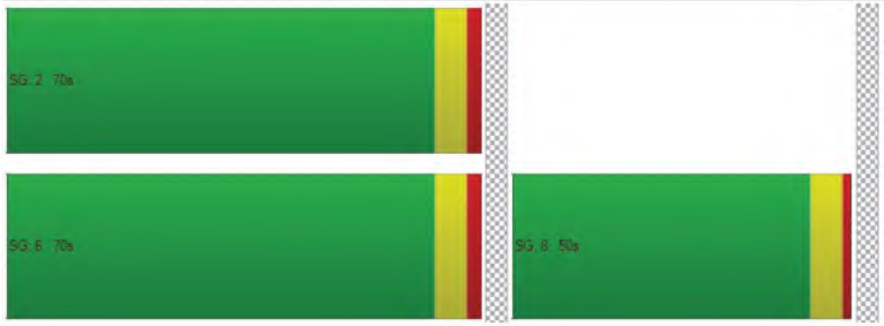
Vehicle Miles Traveled [mph]	132.55	13.82	89.15	116.36	45.34	45.34	30.60	
Stops [stops/h]	376.21	33.27	316.72	930.44	832.93	832.93	387.41	
Fuel consumption [US gal/h]	10.22	0.98	7.67	20.96	18.65	18.65	7.16	
CO [g/h]	714.55	68.55	536.22	1465.33	1303.69	1303.69	500.22	
NOx [g/h]	139.02	13.34	104.33	285.10	253.65	253.65	97.33	
VOC [g/h]	165.60	15.89	124.27	339.61	302.14	302.14	115.93	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1053	1053	737	0
d_b, Bicycle Delay [s]	13.44	13.44	23.94	60.00
l_b,int, Bicycle LOS Score for Intersection	2.241	2.838	4.657	4.132
Bicycle LOS	B	C	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 25: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Base Volume Input [veh/h]	0	658	360	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-7	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	651	360	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	163	90	0	0	0
Total Analysis Volume [veh/h]	0	651	360	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	10.26
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.26	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 26: Latrobe/Wetsl-Oviatt

Control Type:	Two-way stop	Delay (sec / veh):	14.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Base Volume Input [veh/h]	0	466	260	38	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-7	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	459	260	38	4	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	115	65	10	1	0
Total Analysis Volume [veh/h]	0	459	260	38	4	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.85	0.00	0.00	0.00	14.44	9.84
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.79	0.79
d_A, Approach Delay [s/veh]	0.00		0.00		14.44	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.08					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 27: Latrobe/S. Shingle

Control Type:	Two-way stop	Delay (sec / veh):	20.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.146

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Base Volume Input [veh/h]	6	241	41	52	127	9	48	87	0	37	75	47
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-7	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	234	41	52	127	9	48	87	0	37	75	47
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	59	10	13	32	2	12	22	0	9	19	12
Total Analysis Volume [veh/h]	6	234	41	52	127	9	48	87	0	37	75	47
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free			Free			Stop			Stop		
Flared Lane							No			No		
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance							No			No		
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.00	0.00	0.15	0.20	0.00	0.11	0.17	0.06
d_M, Delay for Movement [s/veh]	7.49	0.00	0.00	7.86	0.00	0.00	20.77	18.03	13.71	19.20	16.85	13.37
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.09	0.09	0.09	1.51	1.51	1.51	1.46	1.46	1.46
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.26	2.26	2.26	2.26	37.82	37.82	37.82	36.47	36.47	36.47
d_A, Approach Delay [s/veh]	0.16			2.17			19.01			16.37		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	7.37											
Intersection LOS	C											

Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	651	374	39	0
2	631	363	38	0
3	618	355	37	0
4	579	333	35	0
5	514	295	31	0
6	508	292	30	0
7	501	288	30	0
8	456	262	27	0
9	449	258	27	0
10	443	254	27	0
11	384	221	23	0
12	358	206	21	0
13	352	202	21	0
14	260	150	16	0
15	260	150	16	0
16	182	105	11	0
17	104	60	6	0
18	104	60	6	0
19	59	34	4	0
20	33	19	2	0
21	20	11	1	0
22	7	4	0	0
23	7	4	0	0
24	7	4	0	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1025	1	39	No	No	No	No	No	No	No	No	No	No
2	1	994	1	38	No	No	No	No	No	No	No	No	No	No
3	1	973	1	37	No	No	No	No	No	No	No	No	No	No
4	1	912	1	35	No	No	No	No	No	No	No	No	No	No
5	1	809	1	31	No	No	No	No	No	No	No	No	No	No
6	1	800	1	30	No	No	No	No	No	No	No	No	No	No
7	1	789	1	30	No	No	No	No	No	No	No	No	No	No
8	1	718	1	27	No	No	No	No	No	No	No	No	No	No
9	1	707	1	27	No	No	No	No	No	No	No	No	No	No
10	1	697	1	27	No	No	No	No	No	No	No	No	No	No
11	1	605	1	23	No	No	No	No	No	No	No	No	No	No
12	1	564	1	21	No	No	No	No	No	No	No	No	No	No
13	1	554	1	21	No	No	No	No	No	No	No	No	No	No
14	1	410	1	16	No	No	No	No	No	No	No	No	No	No
15	1	410	1	16	No	No	No	No	No	No	No	No	No	No
16	1	287	1	11	No	No	No	No	No	No	No	No	No	No
17	1	164	1	6	No	No	No	No	No	No	No	No	No	No
18	1	164	1	6	No	No	No	No	No	No	No	No	No	No
19	1	93	1	4	No	No	No	No	No	No	No	No	No	No
20	1	52	1	2	No	No	No	No	No	No	No	No	No	No
21	1	31	1	1	No	No	No	No	No	No	No	No	No	No
22	1	11	1	0	No	No	No	No	No	No	No	No	No	No
23	1	11	1	0	No	No	No	No	No	No	No	No	No	No
24	1	11	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.1	20.4
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:09	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	39	0
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1064	1064
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 12: Latrobe Rd/Royal Oaks Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	463	360	262	0
2	449	349	254	0
3	440	342	249	0
4	412	320	233	0
5	366	284	207	0
6	361	281	204	0
7	357	277	202	0
8	324	252	183	0
9	319	248	181	0
10	315	245	178	0
11	273	212	155	0
12	255	198	144	0
13	250	194	141	0
14	185	144	105	0
15	185	144	105	0
16	130	101	73	0
17	74	58	42	0
18	74	58	42	0
19	42	32	24	0
20	23	18	13	0
21	14	11	8	0
22	5	4	3	0
23	5	4	3	0
24	5	4	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	823	1	262	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
2	2	798	1	254	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
3	2	782	1	249	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
4	2	732	1	233	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
5	2	650	1	207	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
6	2	642	1	204	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
7	2	634	1	202	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
8	2	576	1	183	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
9	2	567	1	181	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
10	2	560	1	178	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
11	2	485	1	155	No	Yes	Yes	Yes	No	No	No	No	No	No
12	2	453	1	144	No	No	Yes	Yes	No	No	No	No	No	No
13	2	444	1	141	No	No	Yes	Yes	No	No	No	No	No	No
14	2	329	1	105	No	No	No	No	No	No	No	No	No	No
15	2	329	1	105	No	No	No	No	No	No	No	No	No	No
16	2	231	1	73	No	No	No	No	No	No	No	No	No	No
17	2	132	1	42	No	No	No	No	No	No	No	No	No	No
18	2	132	1	42	No	No	No	No	No	No	No	No	No	No
19	2	74	1	24	No	No	No	No	No	No	No	No	No	No
20	2	41	1	13	No	No	No	No	No	No	No	No	No	No
21	2	25	1	8	No	No	No	No	No	No	No	No	No	No
22	2	9	1	3	No	No	No	No	No	No	No	No	No	No
23	2	9	1	3	No	No	No	No	No	No	No	No	No	No
24	2	9	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					7	11	13	13	0	4	7	10	10	4

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	18.2	23.8
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:19	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	262	0
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1085	1085
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 13: Golden Foothill/Robert J Mathews

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	1234	255	578
2	1197	247	561
3	1172	242	549
4	1098	227	514
5	975	201	457
6	963	199	451
7	950	196	445
8	864	179	405
9	851	176	399
10	839	173	393
11	728	150	341
12	679	140	318
13	666	138	312
14	494	102	231
15	494	102	231
16	346	71	162
17	197	41	92
18	197	41	92
19	111	23	52
20	62	13	29
21	37	8	17
22	12	3	6
23	12	3	6
24	12	3	6

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1489	1	578	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1444	1	561	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1414	1	549	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1325	1	514	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	1176	1	457	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	1162	1	451	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1	1146	1	445	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	1	1043	1	405	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	1	1027	1	399	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	1	1012	1	393	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	1	878	1	341	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	1	819	1	318	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
13	1	804	1	312	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
14	1	596	1	231	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
15	1	596	1	231	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
16	1	417	1	162	No	Yes	Yes	Yes	No	No	No	No	No	No
17	1	238	1	92	No	No	No	No	No	No	No	No	No	No
18	1	238	1	92	No	No	No	No	No	No	No	No	No	No
19	1	134	1	52	No	No	No	No	No	No	No	No	No	No
20	1	75	1	29	No	No	No	No	No	No	No	No	No	No
21	1	45	1	17	No	No	No	No	No	No	No	No	No	No
22	1	15	1	6	No	No	No	No	No	No	No	No	No	No
23	1	15	1	6	No	No	No	No	No	No	No	No	No	No
24	1	15	1	6	No	No	No	No	No	No	No	No	No	No
Hours Met					15	16	16	16	13	13	15	15	15	11

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	10000
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1605:33
Delay Condition Met	Yes
Volume on Minor Street Approach During Same Hour	578
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	2067
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	Yes
Warrant Met for Intersection	**Yes**

Signal Warrants Report For Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	333	1041	328	49
2	323	1010	318	48
3	316	989	312	47
4	296	926	292	44
5	263	822	259	39
6	260	812	256	38
7	256	802	253	38
8	233	729	230	34
9	230	718	226	34
10	226	708	223	33
11	196	614	194	29
12	183	573	180	27
13	180	562	177	26
14	133	416	131	20
15	133	416	131	20
16	93	291	92	14
17	53	167	52	8
18	53	167	52	8
19	30	94	30	4
20	17	52	16	2
21	10	31	10	1
22	3	10	3	0
23	3	10	3	0
24	3	10	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1374	1	328	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1333	1	318	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1305	1	312	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1222	1	292	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	1085	1	259	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	1072	1	256	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
7	1	1058	1	253	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
8	1	962	1	230	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
9	1	948	1	226	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
10	1	934	1	223	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
11	1	810	1	194	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
12	1	756	1	180	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
13	1	742	1	177	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
14	1	549	1	131	No	Yes	Yes	Yes	No	No	Yes	Yes	No	No
15	1	549	1	131	No	Yes	Yes	Yes	No	No	Yes	Yes	No	No
16	1	384	1	92	No	No	No	Yes	No	No	No	No	No	No
17	1	220	1	52	No	No	No	No	No	No	No	No	No	No
18	1	220	1	52	No	No	No	No	No	No	No	No	No	No
19	1	124	1	30	No	No	No	No	No	No	No	No	No	No
20	1	69	1	16	No	No	No	No	No	No	No	No	No	No
21	1	41	1	10	No	No	No	No	No	No	No	No	No	No
22	1	13	1	3	No	No	No	No	No	No	No	No	No	No
23	1	13	1	3	No	No	No	No	No	No	No	No	No	No
24	1	13	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					13	15	15	16	12	13	15	15	13	5

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	30	12.9
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2:44	0:10
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	328	49
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1751	1751
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	198	355	301
2	192	344	292
3	188	337	286
4	176	316	268
5	156	280	238
6	154	277	235
7	152	273	232
8	139	248	211
9	137	245	208
10	135	241	205
11	117	209	178
12	109	195	166
13	107	192	163
14	79	142	120
15	79	142	120
16	55	99	84
17	32	57	48
18	32	57	48
19	18	32	27
20	10	18	15
21	6	11	9
22	2	4	3
23	2	4	3
24	2	4	3

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	553	2	301	No	Yes	Yes	Yes	No	No	No	Yes	No	No
2	2	536	2	292	No	Yes	Yes	Yes	No	No	No	Yes	No	No
3	2	525	2	286	No	Yes	Yes	Yes	No	No	No	Yes	No	No
4	2	492	2	268	No	Yes	Yes	Yes	No	No	No	No	No	No
5	2	436	2	238	No	No	Yes	Yes	No	No	No	No	No	No
6	2	431	2	235	No	No	Yes	Yes	No	No	No	No	No	No
7	2	425	2	232	No	No	Yes	Yes	No	No	No	No	No	No
8	2	387	2	211	No	No	No	Yes	No	No	No	No	No	No
9	2	382	2	208	No	No	No	Yes	No	No	No	No	No	No
10	2	376	2	205	No	No	No	Yes	No	No	No	No	No	No
11	2	326	2	178	No	No	No	No	No	No	No	No	No	No
12	2	304	2	166	No	No	No	No	No	No	No	No	No	No
13	2	299	2	163	No	No	No	No	No	No	No	No	No	No
14	2	221	2	120	No	No	No	No	No	No	No	No	No	No
15	2	221	2	120	No	No	No	No	No	No	No	No	No	No
16	2	154	2	84	No	No	No	No	No	No	No	No	No	No
17	2	89	2	48	No	No	No	No	No	No	No	No	No	No
18	2	89	2	48	No	No	No	No	No	No	No	No	No	No
19	2	50	2	27	No	No	No	No	No	No	No	No	No	No
20	2	28	2	15	No	No	No	No	No	No	No	No	No	No
21	2	17	2	9	No	No	No	No	No	No	No	No	No	No
22	2	6	2	3	No	No	No	No	No	No	No	No	No	No
23	2	6	2	3	No	No	No	No	No	No	No	No	No	No
24	2	6	2	3	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	10	0	0	0	3	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.5
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:12
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	301
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	854
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 16: Carson Crossing Rd/Calypso Cir.

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	348	300	262
2	338	291	254
3	331	285	249
4	310	267	233
5	275	237	207
6	271	234	204
7	268	231	202
8	244	210	183
9	240	207	181
10	237	204	178
11	205	177	155
12	191	165	144
13	188	162	141
14	139	120	105
15	139	120	105
16	97	84	73
17	56	48	42
18	56	48	42
19	31	27	24
20	17	15	13
21	10	9	8
22	3	3	3
23	3	3	3
24	3	3	3

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	648	1	262	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
2	2	629	1	254	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
3	2	616	1	249	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
4	2	577	1	233	No	Yes	Yes	Yes	No	No	No	Yes	No	No
5	2	512	1	207	No	Yes	Yes	Yes	No	No	No	Yes	No	No
6	2	505	1	204	No	Yes	Yes	Yes	No	No	No	Yes	No	No
7	2	499	1	202	No	Yes	Yes	Yes	No	No	No	No	No	No
8	2	454	1	183	No	No	Yes	Yes	No	No	No	No	No	No
9	2	447	1	181	No	No	Yes	Yes	No	No	No	No	No	No
10	2	441	1	178	No	No	Yes	Yes	No	No	No	No	No	No
11	2	382	1	155	No	No	No	Yes	No	No	No	No	No	No
12	2	356	1	144	No	No	No	Yes	No	No	No	No	No	No
13	2	350	1	141	No	No	No	Yes	No	No	No	No	No	No
14	2	259	1	105	No	No	No	No	No	No	No	No	No	No
15	2	259	1	105	No	No	No	No	No	No	No	No	No	No
16	2	181	1	73	No	No	No	No	No	No	No	No	No	No
17	2	104	1	42	No	No	No	No	No	No	No	No	No	No
18	2	104	1	42	No	No	No	No	No	No	No	No	No	No
19	2	58	1	24	No	No	No	No	No	No	No	No	No	No
20	2	32	1	13	No	No	No	No	No	No	No	No	No	No
21	2	19	1	8	No	No	No	No	No	No	No	No	No	No
22	2	6	1	3	No	No	No	No	No	No	No	No	No	No
23	2	6	1	3	No	No	No	No	No	No	No	No	No	No
24	2	6	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					3	7	10	13	0	0	1	6	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	29.8
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2:10
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	262
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	910
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 17: Carson Crossing Rd/Four Seasons Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	79	189	38
2	77	183	37
3	75	180	36
4	70	168	34
5	62	149	30
6	62	147	30
7	61	146	29
8	55	132	27
9	55	130	26
10	54	129	26
11	47	112	22
12	43	104	21
13	43	102	21
14	32	76	15
15	32	76	15
16	22	53	11
17	13	30	6
18	13	30	6
19	7	17	3
20	4	9	2
21	2	6	1
22	1	2	0
23	1	2	0
24	1	2	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	268	1	38	No	No	No	No	No	No	No	No	No	No
2	3	260	1	37	No	No	No	No	No	No	No	No	No	No
3	3	255	1	36	No	No	No	No	No	No	No	No	No	No
4	3	238	1	34	No	No	No	No	No	No	No	No	No	No
5	3	211	1	30	No	No	No	No	No	No	No	No	No	No
6	3	209	1	30	No	No	No	No	No	No	No	No	No	No
7	3	207	1	29	No	No	No	No	No	No	No	No	No	No
8	3	187	1	27	No	No	No	No	No	No	No	No	No	No
9	3	185	1	26	No	No	No	No	No	No	No	No	No	No
10	3	183	1	26	No	No	No	No	No	No	No	No	No	No
11	3	159	1	22	No	No	No	No	No	No	No	No	No	No
12	3	147	1	21	No	No	No	No	No	No	No	No	No	No
13	3	145	1	21	No	No	No	No	No	No	No	No	No	No
14	3	108	1	15	No	No	No	No	No	No	No	No	No	No
15	3	108	1	15	No	No	No	No	No	No	No	No	No	No
16	3	75	1	11	No	No	No	No	No	No	No	No	No	No
17	3	43	1	6	No	No	No	No	No	No	No	No	No	No
18	3	43	1	6	No	No	No	No	No	No	No	No	No	No
19	3	24	1	3	No	No	No	No	No	No	No	No	No	No
20	3	13	1	2	No	No	No	No	No	No	No	No	No	No
21	3	8	1	1	No	No	No	No	No	No	No	No	No	No
22	3	3	1	0	No	No	No	No	No	No	No	No	No	No
23	3	3	1	0	No	No	No	No	No	No	No	No	No	No
24	3	3	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	8.3
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:05
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	38
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	306
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 25: New Intersection

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	651	360	0
2	631	349	0
3	618	342	0
4	579	320	0
5	514	284	0
6	508	281	0
7	501	277	0
8	456	252	0
9	449	248	0
10	443	245	0
11	384	212	0
12	358	198	0
13	352	194	0
14	260	144	0
15	260	144	0
16	182	101	0
17	104	58	0
18	104	58	0
19	59	32	0
20	33	18	0
21	20	11	0
22	7	4	0
23	7	4	0
24	7	4	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1011	1	0	No	No	No	No	No	No	No	No	No	No
2	1	980	1	0	No	No	No	No	No	No	No	No	No	No
3	1	960	1	0	No	No	No	No	No	No	No	No	No	No
4	1	899	1	0	No	No	No	No	No	No	No	No	No	No
5	1	798	1	0	No	No	No	No	No	No	No	No	No	No
6	1	789	1	0	No	No	No	No	No	No	No	No	No	No
7	1	778	1	0	No	No	No	No	No	No	No	No	No	No
8	1	708	1	0	No	No	No	No	No	No	No	No	No	No
9	1	697	1	0	No	No	No	No	No	No	No	No	No	No
10	1	688	1	0	No	No	No	No	No	No	No	No	No	No
11	1	596	1	0	No	No	No	No	No	No	No	No	No	No
12	1	556	1	0	No	No	No	No	No	No	No	No	No	No
13	1	546	1	0	No	No	No	No	No	No	No	No	No	No
14	1	404	1	0	No	No	No	No	No	No	No	No	No	No
15	1	404	1	0	No	No	No	No	No	No	No	No	No	No
16	1	283	1	0	No	No	No	No	No	No	No	No	No	No
17	1	162	1	0	No	No	No	No	No	No	No	No	No	No
18	1	162	1	0	No	No	No	No	No	No	No	No	No	No
19	1	91	1	0	No	No	No	No	No	No	No	No	No	No
20	1	51	1	0	No	No	No	No	No	No	No	No	No	No
21	1	31	1	0	No	No	No	No	No	No	No	No	No	No
22	1	11	1	0	No	No	No	No	No	No	No	No	No	No
23	1	11	1	0	No	No	No	No	No	No	No	No	No	No
24	1	11	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	10.3
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1011
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 26: Latrobe/Wetsl-Oviatt

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	459	298	4
2	445	289	4
3	436	283	4
4	409	265	4
5	363	235	3
6	358	232	3
7	353	229	3
8	321	209	3
9	317	206	3
10	312	203	3
11	271	176	2
12	252	164	2
13	248	161	2
14	184	119	2
15	184	119	2
16	129	83	1
17	73	48	1
18	73	48	1
19	41	27	0
20	23	15	0
21	14	9	0
22	5	3	0
23	5	3	0
24	5	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	757	1	4	No	No	No	No	No	No	No	No	No	No
2	1	734	1	4	No	No	No	No	No	No	No	No	No	No
3	1	719	1	4	No	No	No	No	No	No	No	No	No	No
4	1	674	1	4	No	No	No	No	No	No	No	No	No	No
5	1	598	1	3	No	No	No	No	No	No	No	No	No	No
6	1	590	1	3	No	No	No	No	No	No	No	No	No	No
7	1	582	1	3	No	No	No	No	No	No	No	No	No	No
8	1	530	1	3	No	No	No	No	No	No	No	No	No	No
9	1	523	1	3	No	No	No	No	No	No	No	No	No	No
10	1	515	1	3	No	No	No	No	No	No	No	No	No	No
11	1	447	1	2	No	No	No	No	No	No	No	No	No	No
12	1	416	1	2	No	No	No	No	No	No	No	No	No	No
13	1	409	1	2	No	No	No	No	No	No	No	No	No	No
14	1	303	1	2	No	No	No	No	No	No	No	No	No	No
15	1	303	1	2	No	No	No	No	No	No	No	No	No	No
16	1	212	1	1	No	No	No	No	No	No	No	No	No	No
17	1	121	1	1	No	No	No	No	No	No	No	No	No	No
18	1	121	1	1	No	No	No	No	No	No	No	No	No	No
19	1	68	1	0	No	No	No	No	No	No	No	No	No	No
20	1	38	1	0	No	No	No	No	No	No	No	No	No	No
21	1	23	1	0	No	No	No	No	No	No	No	No	No	No
22	1	8	1	0	No	No	No	No	No	No	No	No	No	No
23	1	8	1	0	No	No	No	No	No	No	No	No	No	No
24	1	8	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.4
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	4
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	761
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 27: Latrobe/S. Shingle

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	281	188	159	135
2	273	182	154	131
3	267	179	151	128
4	250	167	142	120
5	222	149	126	107
6	219	147	124	105
7	216	145	122	104
8	197	132	111	95
9	194	130	110	93
10	191	128	108	92
11	166	111	94	80
12	155	103	87	74
13	152	102	86	73
14	112	75	64	54
15	112	75	64	54
16	79	53	45	38
17	45	30	25	22
18	45	30	25	22
19	25	17	14	12
20	14	9	8	7
21	8	6	5	4
22	3	2	2	1
23	3	2	2	1
24	3	2	2	1

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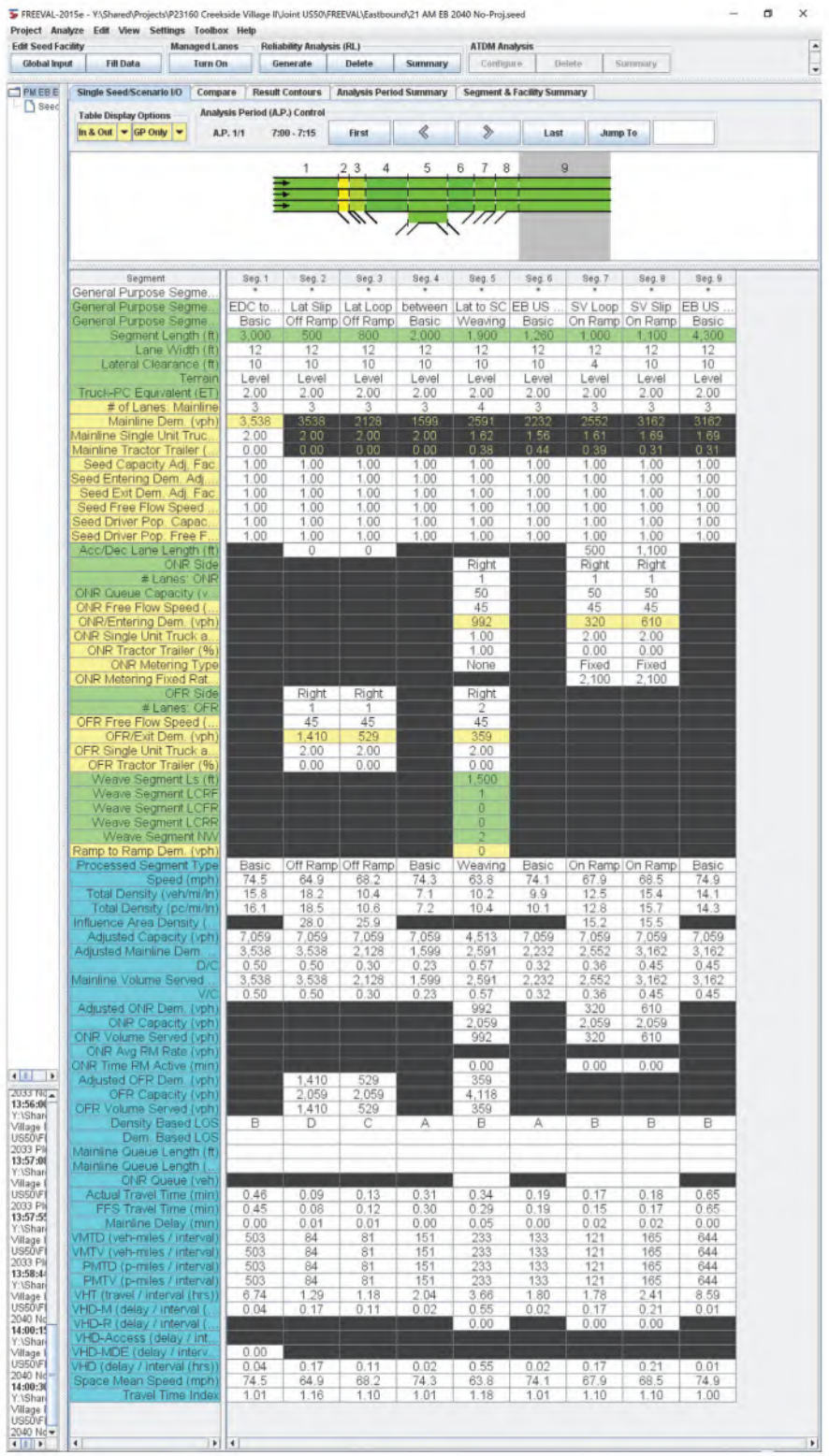
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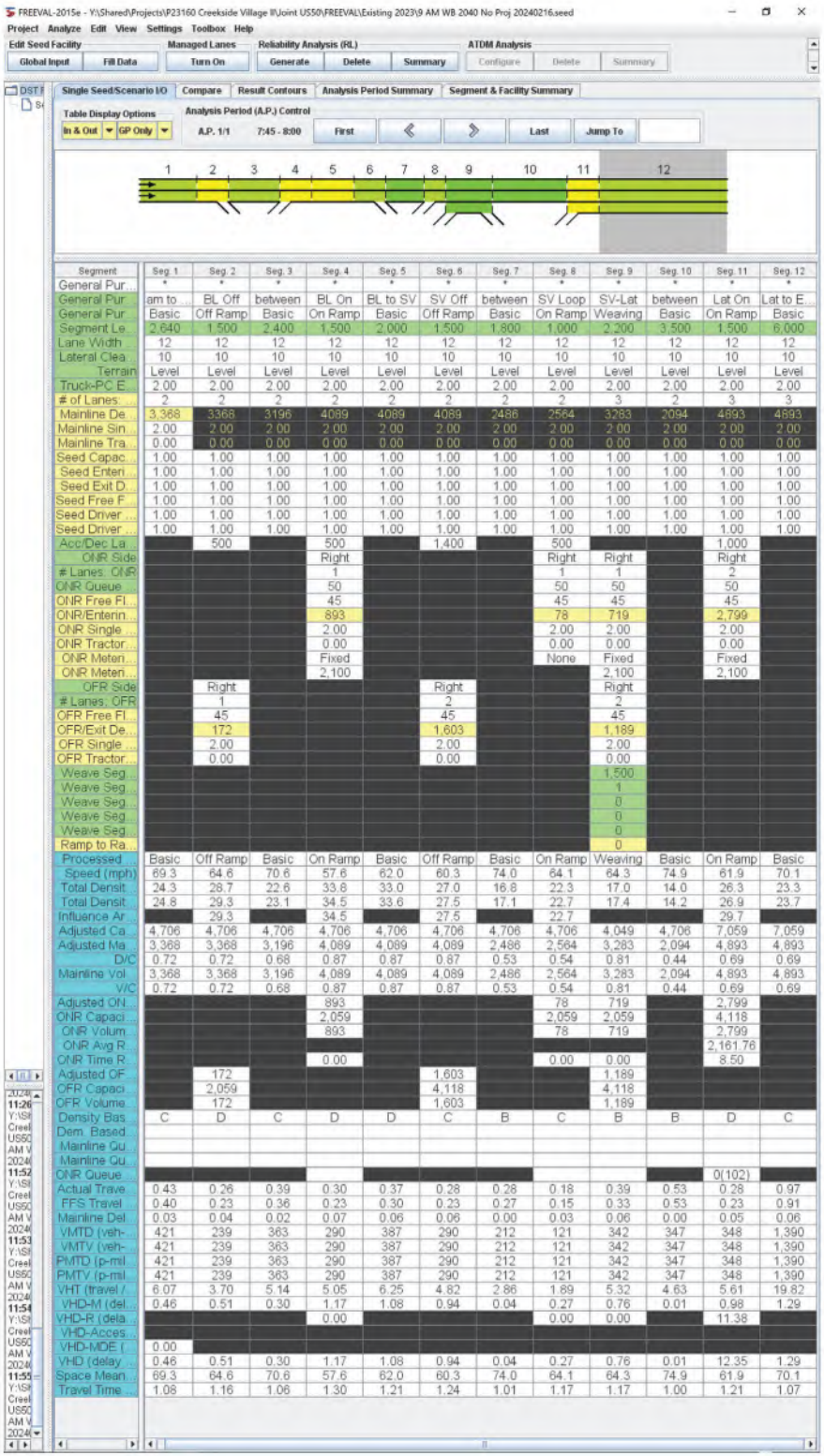
Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	469	1	159	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
2	1	455	1	154	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
3	1	446	1	151	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
4	1	417	1	142	No	Yes	Yes	Yes	No	No	No	No	No	No
5	1	371	1	126	No	No	Yes	Yes	No	No	No	No	No	No
6	1	366	1	124	No	No	Yes	Yes	No	No	No	No	No	No
7	1	361	1	122	No	No	Yes	Yes	No	No	No	No	No	No
8	1	329	1	111	No	No	No	Yes	No	No	No	No	No	No
9	1	324	1	110	No	No	No	Yes	No	No	No	No	No	No
10	1	319	1	108	No	No	No	Yes	No	No	No	No	No	No
11	1	277	1	94	No	No	No	No	No	No	No	No	No	No
12	1	258	1	87	No	No	No	No	No	No	No	No	No	No
13	1	254	1	86	No	No	No	No	No	No	No	No	No	No
14	1	187	1	64	No	No	No	No	No	No	No	No	No	No
15	1	187	1	64	No	No	No	No	No	No	No	No	No	No
16	1	132	1	45	No	No	No	No	No	No	No	No	No	No
17	1	75	1	25	No	No	No	No	No	No	No	No	No	No
18	1	75	1	25	No	No	No	No	No	No	No	No	No	No
19	1	42	1	14	No	No	No	No	No	No	No	No	No	No
20	1	23	1	8	No	No	No	No	No	No	No	No	No	No
21	1	14	1	5	No	No	No	No	No	No	No	No	No	No
22	1	5	1	2	No	No	No	No	No	No	No	No	No	No
23	1	5	1	2	No	No	No	No	No	No	No	No	No	No
24	1	5	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	10	0	0	0	3	3	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.4	19
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:43	0:42
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	159	135
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	763	763
Number of Approaches on Intersection	4	4
Total Volume Condition Met	No	No
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	





Segment	Seg. 1	Seg. 2	Seg. 3	Seg. 4	Seg. 5	Seg. 6	Seg. 7	Seg. 8	Seg. 9	Seg. 10	Seg. 11	Seg. 12
General Pur...	*	*	*	*	*	*	*	*	*	*	*	*
General Pur...	am to ...	BL Off	between	BL On	BL to SV	SV Off	between	SV Loop	SV-Lat	between	Lat On	Lat to E...
General Pur...	Basic	Off Ramp	Basic	On Ramp	Basic	Off Ramp	Basic	On Ramp	Weaving	Basic	On Ramp	Basic
Segment Le...	2,640	1,500	2,400	1,500	2,000	1,500	1,800	1,000	2,200	3,500	1,500	6,000
Lane Width ...	12	12	12	12	12	12	12	12	12	12	12	12
Lateral Clea...	10	10	10	10	10	10	10	10	10	10	10	10
Terrain	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
Truck-PC E...	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
# of Lanes ...	2	2	2	2	2	2	2	2	3	2	3	3
Mainline De...	3,368	3368	3196	4089	4089	4089	2486	2564	3283	2094	4893	4893
Mainline Sin...	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Mainline Tra...	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Seed Capac...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Enteri...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Exit D...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Free F...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Driver ...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seed Driver ...	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Acc/Dec La...		500		500		1,400		500			1,000	
ONR Side				Right				Right	Right		Right	
# Lanes, ONR				1				1	1		2	
ONR Queue ...				50				50	50		50	
ONR Free Fl...				45				45	45		45	
ONR/Enterin...				893				78	719		2,799	
ONR Single ...				2.00				2.00	2.00		2.00	
ONR Tractor...				0.00				0.00	0.00		0.00	
ONR Meteri...				Fixed				None	Fixed		Fixed	
ONR Meteri...				2,100					2,100		2,100	
OFR Side		Right				Right			Right			
# Lanes, OFR		1				2			2			
OFR Free Fl...		45				45			45			
OFR/Exit De...		172				1,603			1,189			
OFR Single ...		2.00				2.00			2.00			
OFR Tractor...		0.00				0.00			0.00			
Weave Seg...									1,500			
Weave Seg...									1			
Weave Seg...									0			
Weave Seg...									0			
Weave Seg...									0			
Ramp to Ra...									0			
Processed ...	Basic	Off Ramp	Basic	On Ramp	Basic	Off Ramp	Basic	On Ramp	Weaving	Basic	On Ramp	Basic
Speed (mph)	69.3	64.6	70.6	57.6	62.0	60.3	74.0	64.1	64.3	74.9	61.9	70.1
Total Densit...	24.3	28.7	22.6	33.8	33.0	27.0	16.8	22.3	17.0	14.0	26.3	23.3
Total Densit...	24.8	29.3	23.1	34.5	33.6	27.5	17.1	22.7	17.4	14.2	26.9	23.7
Influence Ar...		29.3		34.5		27.5		22.7			29.7	
Adjusted Ca...	4,706	4,706	4,706	4,706	4,706	4,706	4,706	4,706	4,049	4,706	7,059	7,059
Adjusted Ma...	3,368	3,368	3,196	4,089	4,089	4,089	2,486	2,564	3,283	2,094	4,893	4,893
D/C	0.72	0.72	0.68	0.87	0.87	0.87	0.53	0.54	0.81	0.44	0.69	0.69
Mainline Vol	3,368	3,368	3,196	4,089	4,089	4,089	2,486	2,564	3,283	2,094	4,893	4,893
V/C	0.72	0.72	0.68	0.87	0.87	0.87	0.53	0.54	0.81	0.44	0.69	0.69
Adjusted ON...				893				78	719		2,799	
ONR Capaci...				2,059				2,059	2,059		4,118	
ONR Volum...				893				78	719		2,799	
ONR Avg R...											2,161.76	
ONR Time R...				0.00				0.00	0.00		8.50	
Adjusted OF...		172				1,603			1,189			
OFR Capaci...		2,059				4,118			4,118			
OFR Volume...		172				1,603			1,189			
Density Bas...	C	D	C	D	D	C	B	C	B	B	D	C
Dem. Based ...												
Mainline Qu...												
Mainline Qu...												
ONR Queue ...											0(102)	
Actual Trave...	0.43	0.26	0.39	0.30	0.37	0.28	0.28	0.18	0.39	0.53	0.28	0.97
FFS Travel ...	0.40	0.23	0.36	0.23	0.30	0.23	0.27	0.15	0.33	0.53	0.23	0.91
Mainline Del...	0.03	0.04	0.02	0.07	0.06	0.06	0.00	0.03	0.06	0.00	0.05	0.06
VMTD (veh-...	421	239	363	290	387	290	212	121	342	347	348	1,390
VMTV (veh-...	421	239	363	290	387	290	212	121	342	347	348	1,390
PMTD (p-mil...	421	239	363	290	387	290	212	121	342	347	348	1,390
PMTV (p-mil...	421	239	363	290	387	290	212	121	342	347	348	1,390
VHT (travel / ...	6.07	3.70	5.14	5.05	6.25	4.82	2.86	1.89	5.32	4.63	5.61	19.82
VHD-M (del...	0.46	0.51	0.30	1.17	1.08	0.94	0.04	0.27	0.76	0.01	0.98	1.29
VHD-R (dela...				0.00				0.00	0.00		11.38	
VHD-Acces...												
VHD-MDE (...	0.00											
VHD (delay ...	0.46	0.51	0.30	1.17	1.08	0.94	0.04	0.27	0.76	0.01	12.35	1.29
Space Mean ...	69.3	64.6	70.6	57.6	62.0	60.3	74.0	64.1	64.3	74.9	61.9	70.1
Travel Time ...	1.08	1.16	1.06	1.30	1.21	1.24	1.01	1.17	1.17	1.00	1.21	1.07

Cumulative PM no Project

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Scenario 5 2040 PM with CCSP, No Project
2/14/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	El Dorado Hills Blvd/Serrano Pkwy	Signalized	HCM 7th Edition	NB Thru	0.989	63.1	E
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	NB Left	0.978	69.6	E
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	NB Left	1.074	71.5	E
4	Latrobe Rd/US 50 EB	Signalized	HCM 7th Edition	EB Right	0.962	61.7	E
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	SB Left	1.068	70.5	E
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	NB Left	0.798	48.9	D
7	Latrobe Rd/Golden Foothill Pkwy N	Signalized	HCM 7th Edition	SB Left	0.813	23.9	C
8	Latrobe Rd/Suncast Ln	Signalized	HCM 7th Edition	SB Right	0.999	45.6	D
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	EB Left	1.244	217.0	F
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	NB Left	0.789	19.6	B
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	WB Left	0.012	27.2	D
12	Latrobe Rd/Royal Oaks Dr	Two-way stop	HCM 7th Edition	WB Left	0.416	44.1	E
13	Golden Foothill/Robert J Mathews	Two-way stop	HCM 7th Edition	NB Left	229.236	10,000.0	F
14	Investment Blvd/Robert J Mathews Pkwy	All-way stop	HCM 7th Edition	NB Thru	1.845	273.2	F
15	Golden Foothill Pkwy/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.630	35.4	E
16	Carson Crossing Rd/Calypso Cir.	Two-way stop	HCM 7th Edition	NB Left	0.971	152.3	F
17	Carson Crossing Rd/Four Seasons Dr	All-way stop	HCM 7th Edition	NB Thru	0.222	8.7	A
18	White Rock Rd/Carson Crossing Rd	Signalized	HCM 7th Edition	EB Left	0.574	17.4	B
19	White Rock Rd/Windfield Way	Signalized	HCM 7th Edition	SB Thru	0.640	34.8	C
20	White Rock Rd/Post St	Signalized	HCM 7th Edition	NB Left	0.668	44.9	D
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 7th Edition	EB Left	0.893	33.5	C
22	White Rock Rd/Clarksville Crossing	Signalized	HCM 7th Edition	SB Right	1.007	57.5	E
23	White Rock Rd/US 50 EB	Signalized	HCM 7th Edition	NB Right	1.068	38.0	D
24	Silva Valley Pkwy/US 50 WB	Signalized	HCM 7th Edition	WB Right	0.753	27.5	C
25	New Intersection	Two-way stop	HCM 7th Edition	SB Thru	0.006	0.0	A
26	Latrobe/Wetsl-Oviatt	Two-way stop	HCM 7th Edition	EB Left	0.078	16.3	C
27	Latrobe/S. Shingle	Two-way stop	HCM 7th Edition	WB Left	0.159	20.0	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: El Dorado Hills Blvd/Serrano Pkwy

Control Type:	Signalized	Delay (sec / veh):	63.1
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.989

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	260.0	100.0	100.0	100.0	110.00	100.00	100.00	100.00	100.00	100.00	430.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No			No		
Crosswalk	No				Yes			Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Base Volume Input [veh/h]	3	131	1772	406	35	1147	74	62	29	110	339	66	22
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-14	0	0	-4	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	22	0	0	33	0	0	7
Total Hourly Volume [veh/h]	3	131	1758	406	35	1143	52	62	29	77	339	66	15
Peak Hour Factor	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	38	505	117	10	328	15	18	8	22	97	19	4
Total Analysis Volume [veh/h]	3	151	2021	467	40	1314	60	71	33	89	390	76	17
Presence of On-Street Parking	No			No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	1	6	0	7	7	0	0	8	0
Auxiliary Signal Groups													
Maximum Green [s]	0	25	40	0	25	40	0	35	35	0	0	35	0
Amber [s]	0.0	3.0	4.7	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	12	0	0	12	0	0	0	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	100.0	245.0	0.0	100.0	100.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	29	46	0	29	46	0	39	39	0	0	39	0
Lead / Lag	-	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	3	6	0	3	3	0	3	3	0	0	3	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	4.0	0.0
Minimum Recall		No	No		No	No			No			No	
Maximum Recall		No	No		No	No			No			No	
Pedestrian Recall		No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C
C, Cycle Length [s]	83	83	83	83	83	83	83	83	83	83
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	40	40	2	33	33	8	8	15	15
g / C, Green / Cycle	0.11	0.48	0.48	0.03	0.40	0.40	0.10	0.10	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.09	0.57	0.29	0.02	0.37	0.37	0.04	0.07	0.14	0.14
s, saturation flow rate [veh/h]	1781	3560	1589	1781	1870	1841	1781	1657	1781	1793
c, Capacity [veh/h]	193	1711	764	51	750	739	175	163	321	324
d1, Uniform Delay [s]	36.37	21.70	15.96	40.32	23.77	23.82	35.36	36.65	32.44	32.44
k, delay calibration	0.04	0.08	0.10	0.04	0.23	0.23	0.04	0.04	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.90	82.54	0.72	9.47	10.10	10.58	0.56	2.57	4.92	4.89
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	1.18	0.61	0.79	0.92	0.92	0.41	0.75	0.75	0.75
d, Delay for Lane Group [s/veh]	39.27	104.24	16.67	49.80	33.88	34.40	35.92	39.23	37.36	37.33
Lane Group LOS	D	F	B	D	C	C	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.04	33.54	5.74	0.91	13.39	13.34	1.36	2.49	4.92	4.95
50th-Percentile Queue Length [ft/ln]	75.90	838.61	143.56	22.71	334.75	333.46	33.95	62.16	123.00	123.73
95th-Percentile Queue Length [veh/ln]	5.47	48.45	9.67	1.64	19.39	19.33	2.44	4.48	8.56	8.60
95th-Percentile Queue Length [ft/ln]	136.63	1211.25	241.81	40.88	484.78	483.20	61.11	111.89	213.94	214.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.27	39.27	104.2	16.67	49.80	34.12	34.40	35.92	39.23	39.23	37.35	37.33	37.33
Movement LOS	D	D	F	B	D	C	C	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	84.97				34.58			38.01			37.35		
Approach LOS	F				C			D			D		
d_I, Intersection Delay [s/veh]	63.14												
Intersection LOS	E												
Intersection V/C	0.989												

Emissions

Vehicle Miles Traveled [mph]	36.78	482.68	111.53	5.88	101.62	100.39	3.03	5.21	12.60	12.68
Stops [stops/h]	131.14	2897.82	248.03	39.24	578.36	576.13	58.65	107.39	212.51	213.78
Fuel consumption [US gal/h]	4.12	95.44	8.49	1.09	15.44	15.38	0.97	1.78	3.52	3.54
CO [g/h]	288.12	6671.30	593.56	76.53	1079.22	1075.30	67.66	124.54	246.24	247.69
NOx [g/h]	56.06	1297.99	115.49	14.89	209.98	209.21	13.16	24.23	47.91	48.19
VOC [g/h]	66.78	1546.14	137.56	17.74	250.12	249.21	15.68	28.86	57.07	57.41

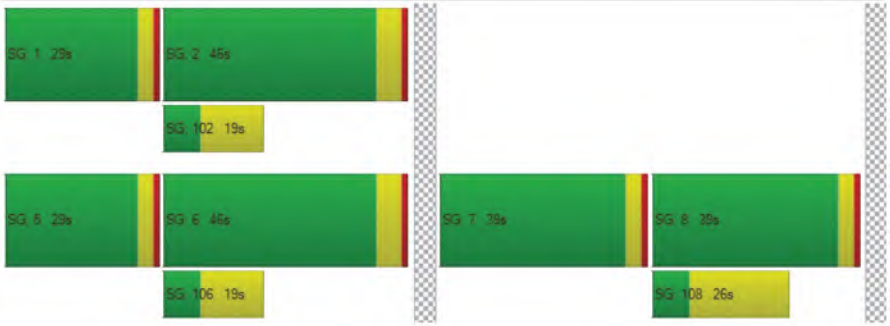
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	31.40	31.40	31.40
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.366	2.157	2.280
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	967	967	840	840
d_b, Bicycle Delay [s]	11.12	11.12	14.02	14.02
l_b,int, Bicycle LOS Score for Intersection	3.737	2.744	1.933	2.368
Bicycle LOS	D	B	A	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	69.6
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.978

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	500.0	100.0	100.0	100.0	500.0	100.0	100.0	300.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	5	445	1623	173	4	218	1176	198	390	53	619	69	107	295
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-6	-14	0	0	0	-4	0	0	0	-1	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	52	0	0	0	59	0	0	185	0	0	89
Total Hourly Volume [veh/h]	5	439	1609	121	4	218	1172	139	390	53	433	69	107	206
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	118	433	33	1	59	315	37	105	14	116	19	29	55
Total Analysis Volume [veh/h]	5	472	1730	130	4	234	1260	149	419	57	466	74	115	222
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Overlap	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	5	3	8	0
Auxiliary Signal Groups											5,7			
Maximum Green [s]	0	20	50	0	0	20	50	0	20	20	20	0	20	0
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	14	0	0	0	24	0	0	0	0	0	31	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	2.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	0	24	56	0	24	24	24	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	4	0	5	0
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No	No		No	
Maximum Recall		No	No			No	No			No	No		No	
Pedestrian Recall		No	No			No	No			No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Cycle Length [s]	122	122	122	122	122	122	122	122	122	122	122
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	20	48	48	18	46	46	18	18	66	20	20
g / C, Green / Cycle	0.16	0.39	0.39	0.15	0.37	0.37	0.15	0.15	0.55	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.27	0.35	0.35	0.13	0.25	0.09	0.13	0.13	0.17	0.08	0.20
s, saturation flow rate [veh/h]	1799	3560	1804	1781	5094	1589	1781	1801	2813	927	1675
c, Capacity [veh/h]	325	1390	704	265	1910	596	270	273	1534	196	275
d1, Uniform Delay [s]	53.59	34.60	34.84	50.97	31.63	26.27	50.63	50.55	15.10	48.12	50.95
k, delay calibration	0.26	0.13	0.35	0.26	0.13	0.13	0.26	0.25	0.04	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	219.51	2.47	12.14	21.34	0.47	0.26	18.98	17.50	0.04	0.45	129.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.47	0.88	0.90	0.90	0.66	0.25	0.88	0.87	0.30	0.38	1.23
d, Delay for Lane Group [s/veh]	273.09	37.07	46.97	72.31	32.10	26.53	69.61	68.05	15.14	48.57	180.57
Lane Group LOS	F	D	D	E	C	C	E	E	B	D	F
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	14.81	16.49	18.92	8.50	9.90	2.93	8.51	8.41	3.50	2.11	18.24
50th-Percentile Queue Length [ft/ln]	370.36	412.22	473.10	212.57	247.46	73.37	212.75	210.34	87.38	52.77	456.10
95th-Percentile Queue Length [veh/ln]	24.48	23.15	26.06	13.28	15.06	5.28	13.29	13.17	6.29	3.80	27.72
95th-Percentile Queue Length [ft/ln]	612.05	578.70	651.46	332.12	376.45	132.07	332.35	329.27	157.29	94.98	692.98

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	273.0	273.0	39.94	46.97	72.31	72.31	32.10	26.53	68.93	68.05	15.14	48.57	180.57	180.57
Movement LOS	F	F	D	D	E	E	C	C	E	E	B	D	F	F
d_A, Approach Delay [s/veh]	87.92				37.41				42.27			156.80		
Approach LOS	F				D				D			F		
d_I, Intersection Delay [s/veh]	69.58													
Intersection LOS	E													
Intersection V/C	0.978													

Emissions

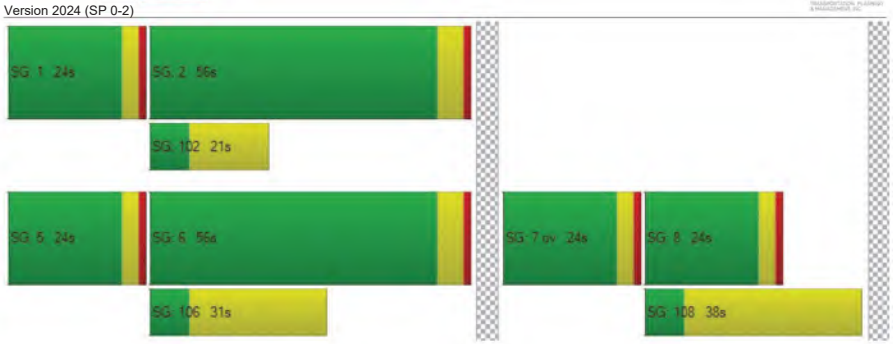
Vehicle Miles Traveled [mph]	89.77	231.31	118.73	56.84	300.93	35.59	14.83	14.85	29.06	3.61	16.43
Stops [stops/h]	875.89	974.87	559.43	251.36	877.84	86.76	251.57	248.73	206.65	62.40	539.32
Fuel consumption [US gal/h]	40.47	29.32	17.06	8.58	29.46	3.10	5.37	5.28	3.77	1.22	16.04
CO [g/h]	2828.91	2049.60	1192.21	599.41	2059.32	216.90	375.28	369.32	263.79	85.60	1121.00
NOx [g/h]	550.40	398.78	231.96	116.62	400.67	42.20	73.02	71.86	51.32	16.65	218.11
VOC [g/h]	655.63	475.01	276.31	138.92	477.27	50.27	86.97	85.59	61.13	19.84	259.80

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	50.39	50.39	50.39
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.585	3.721	2.398
Crosswalk LOS	F	D	D	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	826	826	328	328
d_b, Bicycle Delay [s]	20.98	20.98	42.53	42.53
l_b,int, Bicycle LOS Score for Intersection	2.871	2.369	3.419	2.385
Bicycle LOS	C	B	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	71.5
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.074

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

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Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1441	1689	425	0	37	1298	534	306	130	409	257	92	251
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-27	-20	-4	0	0	-5	0	0	0	-2	-1	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	126	0	0	0	160	0	0	122	0	0	75
Total Hourly Volume [veh/h]	1	1414	1669	295	0	37	1293	374	306	130	285	256	92	176
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	354	417	74	0	9	323	94	77	33	71	64	23	44
Total Analysis Volume [veh/h]	1	1414	1669	295	0	37	1293	374	306	130	285	256	92	176
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	136
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	45	62	0	0	14	29	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	50	68	0	0	19	35	28	0	28	0	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	45	74	74	6	34	59	19	19	17	17	17
g / C, Green / Cycle	0.33	0.54	0.54	0.04	0.25	0.43	0.14	0.14	0.13	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.41	0.36	0.39	0.02	0.26	0.24	0.12	0.12	0.10	0.10	0.11
s, saturation flow rate [veh/h]	3459	3532	1722	1781	5053	1589	1781	1832	1781	1826	1589
c, Capacity [veh/h]	1155	1913	933	81	1278	684	250	257	223	228	199
d1, Uniform Delay [s]	45.28	22.48	23.52	63.30	50.81	28.83	57.16	57.15	57.64	57.60	58.54
k, delay calibration	0.11	0.50	0.50	0.04	0.50	0.50	0.16	0.16	0.16	0.15	0.24
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	103.02	1.91	4.89	1.51	28.19	3.12	12.10	11.78	7.97	7.49	23.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.22	0.67	0.72	0.46	1.01	0.55	0.86	0.86	0.77	0.77	0.89
d, Delay for Lane Group [s/veh]	148.31	24.40	28.41	64.81	78.99	31.95	69.25	68.93	65.60	65.09	81.66
Lane Group LOS	F	C	C	E	F	C	E	E	E	E	F
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	35.86	15.11	17.31	1.26	17.39	9.37	8.07	8.28	6.25	6.34	7.25
50th-Percentile Queue Length [ft/ln]	896.41	377.68	432.78	31.57	434.63	234.18	201.87	207.05	156.16	158.54	181.18
95th-Percentile Queue Length [veh/ln]	51.78	21.48	24.13	2.27	24.40	14.39	12.73	13.00	10.35	10.47	11.66
95th-Percentile Queue Length [ft/ln]	1294.60	537.04	603.37	56.82	610.02	359.66	318.37	325.04	258.63	261.79	291.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	148.3	148.3	25.31	28.41	64.81	64.81	78.99	31.95	69.16	68.93	0.00	65.44	65.09	81.66
Movement LOS	F	F	C	C	E	E	F	C	E	E		E	E	F
d_A, Approach Delay [s/veh]	77.09				68.36				41.78			70.82		
Approach LOS	E				E				D			E		
d_I, Intersection Delay [s/veh]	71.54													
Intersection LOS	E													
Intersection V/C	1.074													

Emissions

Vehicle Miles Traveled [mph]	242.35	220.54	115.83	6.96	243.34	70.39	9.94	10.23	5.48	5.59	5.60
Stops [stops/h]	1898.29	799.79	458.24	33.42	1380.58	247.95	213.74	219.23	165.35	167.87	191.84
Fuel consumption [US gal/h]	63.16	19.89	11.21	1.14	46.29	7.93	4.62	4.73	3.44	3.48	4.21
CO [g/h]	4414.97	1390.33	783.61	79.84	3235.58	554.08	322.86	330.82	240.33	243.60	294.59
NOx [g/h]	858.99	270.51	152.46	15.53	629.53	107.80	62.82	64.36	46.76	47.40	57.32
VOC [g/h]	1023.21	322.22	181.61	18.50	749.88	128.41	74.83	76.67	55.70	56.46	68.28

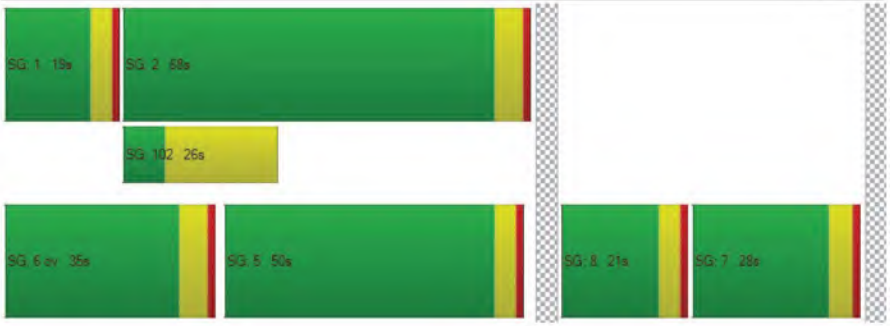
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	57.44
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.547
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	915	429	337	241
d_b, Bicycle Delay [s]	20.02	41.93	47.03	52.59
l_b,int, Bicycle LOS Score for Intersection	3.487	2.564	2.279	2.054
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 4: Latrobe Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	61.7
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.962

Intersection Setup

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	2	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	300.00	570.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No			No		
Crosswalk	No			No				No			Yes		

Volumes

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Base Volume Input [veh/h]	0	2691	613	1	388	1576	0	0	0	1667	0	0	864
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-51	-10	0	0	-8	0	0	0	-6	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	181	0	0	0	0	0	0	498	0	0	259
Total Hourly Volume [veh/h]	0	2640	422	1	388	1568	0	0	0	1163	0	0	605
Peak Hour Factor	1.0000	0.9500	0.8400	1.000	0.840	0.950	1.000	1.0000	1.0000	0.8400	1.0000	1.0000	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	695	126	0	115	413	0	0	0	346	0	0	180
Total Analysis Volume [veh/h]	0	2779	502	1	462	1651	0	0	0	1385	0	0	720
Presence of On-Street Parking	No		No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0				0			0	
v_co, Outbound Pedestrian Volume crossing		0			0				0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0	
Bicycle Volume [bicycles/h]		0			0				0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	26.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	30	0	0	26	34	0	0	0	22	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No				No			
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	4.2	0.0	0.0	2.6	4.2	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	2.5	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Minimum Recall		Yes			No	Yes				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	R	L	C	R	
C, Cycle Length [s]	68	68	68	68	68	
L, Total Lost Time per Cycle [s]	6.20	6.20	4.60	6.20	4.60	
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	4.20	4.20	2.60	4.20	2.60	
g_i, Effective Green Time [s]	38	38	20	35	22	
g / C, Green / Cycle	0.55	0.55	0.29	0.51	0.33	
(v / s)_i Volume / Saturation Flow Rate	0.41	0.32	0.26	0.24	0.49	
s, saturation flow rate [veh/h]	6792	1589	1781	6792	2813	
c, Capacity [veh/h]	3745	876	516	3476	927	
d1, Uniform Delay [s]	11.58	10.00	23.17	10.71	22.80	
k, delay calibration	0.50	0.50	0.17	0.50	0.20	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.37	2.72	8.80	0.47	224.78	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.74	0.57	0.90	0.48	1.49	
d, Delay for Lane Group [s/veh]	12.95	12.72	31.97	11.18	247.58	
Lane Group LOS	B	B	C	B	F	
Critical Lane Group	No	No	No	Yes	Yes	
50th-Percentile Queue Length [veh/ln]	6.11	4.25	7.43	3.20	35.69	
50th-Percentile Queue Length [ft/ln]	152.75	106.29	185.84	79.94	892.32	
95th-Percentile Queue Length [veh/ln]	10.16	7.63	11.90	5.76	55.99	
95th-Percentile Queue Length [ft/ln]	254.09	190.83	297.62	143.90	1399.72	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	12.95	12.72	31.97	31.97	11.18	0.00	0.00	0.00	247.58	0.00	0.00	0.00
Movement LOS		B	B	C	C	B				F			
d_A, Approach Delay [s/veh]		12.91			15.73			247.58			0.00		
Approach LOS		B			B			F			A		
d_I, Intersection Delay [s/veh]	61.73												
Intersection LOS	E												
Intersection V/C	0.962												

Emissions

Vehicle Miles Traveled [mph]	402.11	72.64	79.30	282.77	99.11	
Stops [stops/h]	1293.87	225.09	393.53	677.17	3779.23	
Fuel consumption [US gal/h]	37.19	6.59	10.62	21.87	94.73	
CO [g/h]	2599.90	460.49	742.59	1528.52	6621.47	
NOx [g/h]	505.85	89.59	144.48	297.39	1288.30	
VOC [g/h]	602.55	106.72	172.10	354.25	1534.59	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	23.89
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.258
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	906	1024	659	0
d_b, Bicycle Delay [s]	10.18	8.10	15.29	34.00
l_b,int, Bicycle LOS Score for Intersection	2.988	2.241	1.560	1.560
Bicycle LOS	C	B	A	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	70.5
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.068

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	24	2098	245	3	606	2038	596	508	40	83	1	94	6	695
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-1	-61	-4	0	0	-14	0	0	0	0	0	-1	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	72	0	0	0	179	0	0	25	0	0	0	209
Total Hourly Volume [veh/h]	1	23	2037	169	3	606	2024	417	508	40	58	1	93	6	486
Peak Hour Factor	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.9600	0.9600	0.9600	0.960	0.960	0.960	0.960
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	6	530	44	1	158	527	109	132	10	15	0	24	2	127
Total Analysis Volume [veh/h]	1	24	2122	176	3	631	2108	434	529	42	60	1	97	6	506
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	138
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	0	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	40	0	0	12	65	0	15	20	0	0	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	0.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.0	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	0.0	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	46	0	0	16	71	0	19	24	0	0	19	19	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	0	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	Yes			No	Yes			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	2	49	49	12	58	58	19	19	19	15	15	15
g / C, Green / Cycle	0.02	0.44	0.44	0.11	0.53	0.53	0.17	0.17	0.17	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.01	0.42	0.11	0.18	0.41	0.27	0.15	0.02	0.04	0.06	0.16	0.16
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	1870	1589	1781	1595	1589
c, Capacity [veh/h]	69	2241	699	375	2692	840	593	321	273	241	216	215
d1, Uniform Delay [s]	53.55	29.75	19.52	49.33	20.98	16.92	44.83	38.85	39.47	43.75	47.83	47.83
k, delay calibration	0.04	0.04	0.04	0.27	0.04	0.04	0.08	0.08	0.08	0.08	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.21	1.10	0.07	316.95	0.19	0.18	3.72	0.14	0.30	0.81	120.55	120.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.95	0.25	1.69	0.78	0.52	0.89	0.13	0.22	0.41	1.19	1.19
d, Delay for Lane Group [s/veh]	54.75	30.86	19.59	366.28	21.18	17.10	48.55	38.98	39.76	44.57	168.38	168.56
Lane Group LOS	D	C	B	F	C	B	D	D	D	D	F	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.35	17.59	2.85	21.66	13.94	6.96	7.35	0.98	1.43	2.51	13.15	13.12
50th-Percentile Queue Length [ft/ln]	8.85	439.71	71.18	541.45	348.48	174.02	183.71	24.52	35.72	62.66	328.84	327.96
95th-Percentile Queue Length [veh/ln]	0.64	24.47	5.13	34.56	20.06	11.29	11.79	1.77	2.57	4.51	20.53	20.48
95th-Percentile Queue Length [ft/ln]	15.93	611.66	128.13	863.90	501.55	282.20	294.85	44.14	64.29	112.80	513.24	512.11

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.75	54.75	30.86	19.59	366.2	366.2	21.18	17.10	48.55	38.98	39.76	44.57	44.57	168.3	168.4
Movement LOS	D	D	C	B	F	F	C	B	D	D	D	D	D	F	F
d_A, Approach Delay [s/veh]	30.26				89.51				47.08			148.56			
Approach LOS	C				F				D			F			
d_I, Intersection Delay [s/veh]	70.46														
Intersection LOS	E														
Intersection V/C	1.068														

Emissions

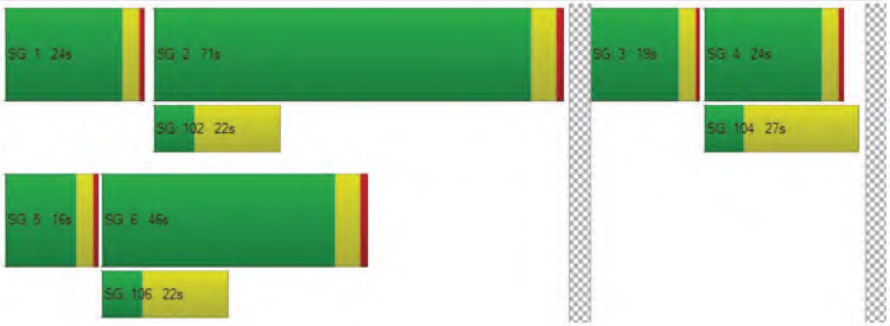
Vehicle Miles Traveled [mph]	5.58	473.71	39.29	91.74	305.02	62.80	67.47	5.36	7.65	34.39	90.00	89.70
Stops [stops/h]	23.07	1719.08	92.77	1411.23	1362.39	226.78	478.81	31.96	46.55	81.66	428.54	427.39
Fuel consumption [US gal/h]	0.64	42.32	2.83	58.82	29.17	5.35	10.65	0.73	1.06	2.76	14.86	14.82
CO [g/h]	44.44	2958.34	197.93	4111.51	2038.88	373.88	744.38	51.05	73.93	192.63	1038.52	1035.85
NOx [g/h]	8.65	575.59	38.51	799.95	396.69	72.74	144.83	9.93	14.38	37.48	202.06	201.54
VOC [g/h]	10.30	685.62	45.87	952.88	472.53	86.65	172.52	11.83	17.13	44.64	240.69	240.07

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.80	0.00	44.80	44.80
l_p,int, Pedestrian LOS Score for Intersectio	3.469	0.000	2.709	2.946
Crosswalk LOS	C	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	733	1186	371	281
d_b, Bicycle Delay [s]	22.17	9.16	36.65	40.84
l_b,int, Bicycle LOS Score for Intersection	2.876	3.058	2.101	2.751
Bicycle LOS	C	C	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	48.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.798

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	2	0	0	1	2	0	0	1	1	0	2
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	400.0	100.0	100.0	400.0	360.0	100.0	100.0	300.0	400.00	100.00	300.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	6	155	1777	629	2	259	1490	465	2	395	566	152	600	264	194
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-66	-16	0	0	-15	0	0	0	0	0	-4	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	184	0	0	0	140	0	0	0	46	0	0	58
Total Hourly Volume [veh/h]	6	155	1711	429	2	259	1475	325	2	395	566	106	596	264	136
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	42	460	115	1	70	397	87	1	106	152	28	160	71	37
Total Analysis Volume [veh/h]	6	167	1840	461	2	278	1586	349	2	425	609	114	641	284	146
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	160
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Overl	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	3	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups				2,3											
Maximum Green [s]	0	20	50	36	0	20	50	0	0	21	15	0	36	25	0
Amber [s]	0.0	4.0	4.7	4.5	0.0	4.0	4.7	0.0	0.0	4.5	4.7	0.0	4.5	4.7	0.0
All red [s]	0.0	1.0	1.0	1.5	0.0	1.0	1.0	0.0	0.0	1.5	1.0	0.0	1.5	1.0	0.0
Walk [s]	0	0	5	0	0	0	5	0	0	0	4	0	0	5	0
Pedestrian Clearance [s]	0	0	28	0	0	0	24	0	0	0	31	0	0	31	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	3.7	4.0	0.0	3.0	3.7	0.0	0.0	4.0	3.7	0.0	4.0	3.7	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	58	42	0	25	58	0	0	27	35	0	42	50	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	9	9	9	0	9	9	0	0	9	9	0	9	9	0
Vehicle Extension [s]	0.0	1.5	3.0	1.5	0.0	1.5	3.0	0.0	0.0	1.5	2.0	0.0	1.5	2.0	0.0
Minimum Recall		No	No	No		No	No			No	No		No	No	
Maximum Recall		No	No	No		No	No			No	No		No	No	
Pedestrian Recall		No	No	No		No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	160	160	160	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	5.00	5.70	6.00	5.00	5.70	5.70	6.00	5.70	5.70	6.00	5.70	5.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.70	0.00	3.00	3.70	3.70	4.00	3.70	3.70	4.00	3.70	3.70
g_i, Effective Green Time [s]	10	54	99	15	59	59	22	29	29	39	47	47
g / C, Green / Cycle	0.06	0.34	0.62	0.09	0.37	0.37	0.14	0.18	0.18	0.24	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.05	0.27	0.29	0.08	0.31	0.22	0.12	0.17	0.07	0.19	0.08	0.09
s, saturation flow rate [veh/h]	3459	6792	1589	3459	5094	1589	3459	3560	1589	3459	3560	1589
c, Capacity [veh/h]	218	2310	986	323	1888	589	468	647	289	847	1036	463
d1, Uniform Delay [s]	73.94	47.79	16.23	71.54	46.03	40.61	68.23	64.63	57.71	36.97	25.02	25.27
k, delay calibration	0.04	0.11	0.31	0.04	0.11	0.13	0.04	0.04	0.04	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.49	0.65	1.00	2.76	1.07	1.18	2.96	3.20	0.33	6.27	0.65	1.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.80	0.47	0.87	0.84	0.59	0.91	0.94	0.39	0.76	0.27	0.32
d, Delay for Lane Group [s/veh]	76.44	48.44	17.22	74.30	47.09	41.80	71.19	67.83	58.04	43.24	25.67	27.05
Lane Group LOS	E	D	B	E	D	D	E	E	E	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.61	16.78	9.35	5.72	18.91	11.10	8.85	12.59	4.14	9.36	2.61	2.84
50th-Percentile Queue Length [ft/ln]	90.14	419.52	233.75	142.98	472.75	277.51	221.25	314.70	103.46	234.11	65.28	70.91
95th-Percentile Queue Length [veh/ln]	6.49	23.50	14.36	9.64	26.04	16.56	13.73	18.41	7.45	14.38	4.70	5.11
95th-Percentile Queue Length [ft/ln]	162.25	587.47	359.12	241.03	651.04	414.11	343.23	460.16	186.23	359.58	117.50	127.64

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	76.44	76.44	48.44	17.22	74.30	74.30	47.09	41.80	71.19	71.19	67.83	58.04	43.24	25.67	27.05
Movement LOS	E	E	D	B	E	E	D	D	E	E	E	E	D	C	C
d_A, Approach Delay [s/veh]	44.58				49.70				68.11				36.37		
Approach LOS	D				D				E				D		
d_I, Intersection Delay [s/veh]	48.86														
Intersection LOS	D														
Intersection V/C	0.798														

Emissions

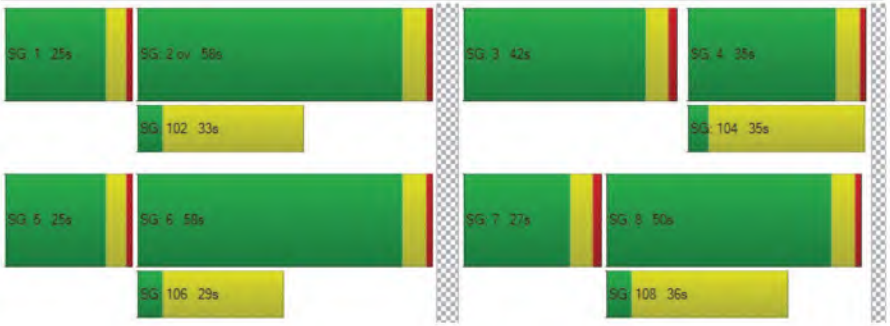
Vehicle Miles Traveled [mph]	68.89	732.65	183.56	62.51	354.05	77.91	106.57	151.99	28.45	67.22	29.78	15.31
Stops [stops/h]	162.25	1510.26	210.38	257.36	1276.43	249.76	398.26	566.46	93.11	421.40	117.50	63.82
Fuel consumption [US gal/h]	6.42	56.64	10.33	9.58	43.20	8.74	12.77	17.79	3.03	10.74	3.36	1.79
CO [g/h]	448.95	3959.23	722.40	669.32	3019.98	611.21	892.80	1243.60	211.93	750.39	234.79	124.88
NOx [g/h]	87.35	770.32	140.55	130.23	587.58	118.92	173.71	241.96	41.23	146.00	45.68	24.30
VOC [g/h]	104.05	917.59	167.42	155.12	699.91	141.65	206.91	288.22	49.12	173.91	54.41	28.94

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	72.20	71.25	71.25	71.25
l_p,int, Pedestrian LOS Score for Intersectio	3.749	3.899	2.985	3.075
Crosswalk LOS	D	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	654	654	366	554
d_b, Bicycle Delay [s]	36.25	36.25	53.38	41.83
l_b,int, Bicycle LOS Score for Intersection	2.654	2.702	2.196	2.491
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	23.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.813

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0	0	1	1	0	1	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	300.0	200.0	100.0	100.0	100.0	320.00	100.00	320.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	18	1787	36	0	34	1740	490	751	10	41	2	8	19
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-82	0	0	0	-19	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	11	0	0	0	147	0	0	12	0	0	6
Total Hourly Volume [veh/h]	1	18	1705	25	0	34	1721	343	751	10	29	2	8	13
Peak Hour Factor	1.000	0.890	0.890	0.870	1.000	0.870	0.890	0.890	0.8900	0.8700	0.8900	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	5	479	7	0	10	483	96	211	3	8	1	2	4
Total Analysis Volume [veh/h]	1	20	1916	29	0	39	1934	385	844	11	33	2	9	15
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	16	34	0	0	15	34	0	0	36	0	0	16	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	11	0	0	0	18	0	0	24	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	245.0	0.0	0.0	0.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	20	40	0	0	20	40	0	0	40	0	0	20	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	C
C, Cycle Length [s]	78	78	78	78	78	78	78	78	78	78
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	34	34	2	34	34	22	22	22	2
g / C, Green / Cycle	0.02	0.43	0.43	0.03	0.43	0.43	0.28	0.28	0.28	0.03
(v / s)_i Volume / Saturation Flow Rate	0.01	0.36	0.36	0.02	0.38	0.24	0.24	0.24	0.02	0.02
s, saturation flow rate [veh/h]	1781	3560	1856	1781	5094	1589	1781	1783	1589	1691
c, Capacity [veh/h]	42	1529	797	49	2206	688	508	509	453	47
d1, Uniform Delay [s]	37.77	19.90	19.91	37.86	20.29	16.61	26.32	26.32	20.43	37.58
k, delay calibration	0.04	0.15	0.32	0.04	0.15	0.15	0.11	0.11	0.11	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.30	1.81	6.80	10.15	1.73	1.02	3.85	3.83	0.07	3.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.84	0.84	0.79	0.88	0.56	0.84	0.84	0.07	0.55
d, Delay for Lane Group [s/veh]	41.07	21.70	26.71	48.01	22.02	17.62	30.17	30.14	20.50	41.24
Lane Group LOS	D	C	C	D	C	B	C	C	C	D
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.43	9.86	11.40	0.82	8.96	4.40	7.66	7.66	0.43	0.53
50th-Percentile Queue Length [ft/ln]	10.71	246.49	284.95	20.52	224.10	110.10	191.51	191.48	10.87	13.24
95th-Percentile Queue Length [veh/ln]	0.77	15.01	16.93	1.48	13.87	7.85	12.20	12.20	0.78	0.95
95th-Percentile Queue Length [ft/ln]	19.28	375.23	423.37	36.94	346.86	196.14	304.99	304.94	19.57	23.84

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.07	41.07	23.37	26.71	48.01	48.01	22.02	17.62	30.16	30.14	20.50	41.24	41.24	41.24
Movement LOS	D	D	C	C	D	D	C	B	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	23.61				21.73				29.80			41.24		
Approach LOS	C				C				C			D		
d_I, Intersection Delay [s/veh]	23.90													
Intersection LOS	C													
Intersection V/C	0.813													

Emissions

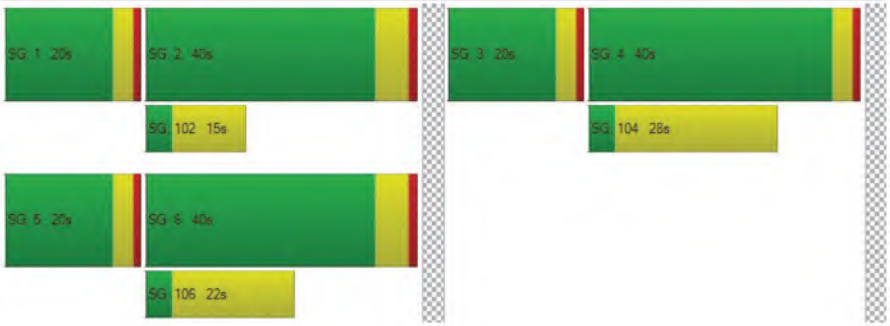
Vehicle Miles Traveled [mph]	7.43	452.19	235.90	15.53	770.08	153.30	102.97	103.01	7.95	0.49
Stops [stops/h]	19.72	907.55	524.56	37.78	1237.67	202.68	352.56	352.49	20.02	24.38
Fuel consumption [US gal/h]	0.59	29.27	16.23	1.60	57.41	10.27	8.81	8.81	0.58	0.37
CO [g/h]	41.26	2046.30	1134.75	112.00	4013.27	718.12	615.89	615.88	40.23	26.09
NOx [g/h]	8.03	398.14	220.78	21.79	780.84	139.72	119.83	119.83	7.83	5.08
VOC [g/h]	9.56	474.25	262.99	25.96	930.12	166.43	142.74	142.74	9.32	6.05

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.52	0.00	31.52	31.52
l_p,int, Pedestrian LOS Score for Intersectio	3.157	0.000	2.500	1.779
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	869	869	920	409
d_b, Bicycle Delay [s]	12.50	12.50	11.40	24.75
l_b,int, Bicycle LOS Score for Intersection	2.646	2.916	3.045	1.612
Bicycle LOS	B	C	C	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Latrobe Rd/Suncast Ln

Control Type:	Signalized	Delay (sec / veh):	45.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.999

Intersection Setup

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Approach	Northbound			Southbound		Eastbound	
Lane Configuration							
Turning Movement	U-turn	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			No		Yes	

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Volumes

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Base Volume Input [veh/h]	0	131	1454	1541	243	388	219
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-1	-82	-19	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	73	0	66
Total Hourly Volume [veh/h]	0	130	1372	1522	170	388	153
Peak Hour Factor	1.0000	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	37	385	428	48	109	43
Total Analysis Volume [veh/h]	0	146	1542	1710	191	436	172
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permissive	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	5	2	6	0	3	0
Auxiliary Signal Groups							
Maximum Green [s]	0	12	40	40	0	20	0
Amber [s]	0.0	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No	No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	46	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-
Minimum Green [s]	0	5	5	5	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall		No	No	No		No	
Maximum Recall		No	No	No		No	
Pedestrian Recall		No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	C	L	R
C, Cycle Length [s]	82	82	82	82	82	82
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	8	52	40	40	20	20
g / C, Green / Cycle	0.10	0.64	0.49	0.49	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.08	0.43	0.51	0.53	0.24	0.11
s, saturation flow rate [veh/h]	1781	3560	1870	1806	1781	1589
c, Capacity [veh/h]	182	2264	908	877	432	386
d1, Uniform Delay [s]	36.19	9.63	21.21	21.21	31.21	26.50
k, delay calibration	0.04	0.15	0.47	0.49	0.44	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.13	0.52	42.03	55.64	42.59	0.81
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.68	1.05	1.08	1.01	0.45
d, Delay for Lane Group [s/veh]	39.31	10.15	63.24	76.85	73.80	27.31
Lane Group LOS	D	B	F	F	F	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.97	7.57	26.27	28.69	13.36	2.87
50th-Percentile Queue Length [ft/ln]	74.21	189.37	656.84	717.18	333.92	71.82
95th-Percentile Queue Length [veh/ln]	5.34	12.09	35.94	39.84	19.45	5.17
95th-Percentile Queue Length [ft/ln]	133.57	302.21	898.54	996.08	486.23	129.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.31	39.31	10.15	69.29	76.85	73.80	27.31
Movement LOS	D	D	B	E	E	F	C
d_A, Approach Delay [s/veh]	12.67			70.05		60.65	
Approach LOS	B			E		E	
d_I, Intersection Delay [s/veh]	45.61						
Intersection LOS	D						
Intersection V/C	0.999						

Emissions

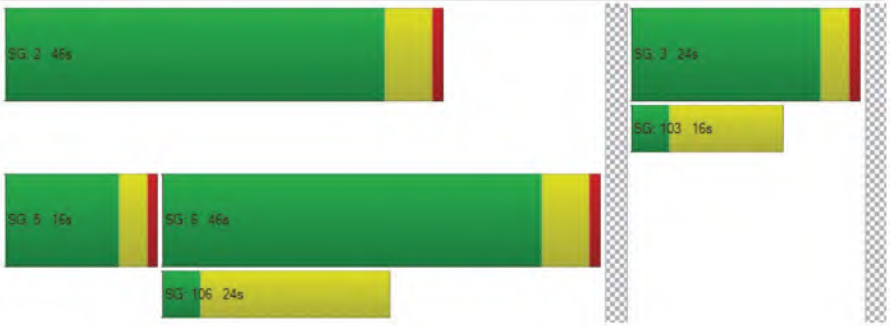
Vehicle Miles Traveled [mph]	101.55	1072.54	336.26	336.26	147.11	58.04
Stops [stops/h]	129.71	661.98	1148.09	1253.56	583.65	125.53
Fuel consumption [US gal/h]	6.07	51.00	32.42	35.63	15.83	4.04
CO [g/h]	423.95	3564.63	2265.98	2490.66	1106.38	282.30
NOx [g/h]	82.49	693.55	440.88	484.59	215.26	54.92
VOC [g/h]	98.25	826.14	525.16	577.23	256.41	65.43

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	33.58	0.00	33.58
l_p,int, Pedestrian LOS Score for Intersectio	3.007	0.000	2.385
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	971	971	486
d_b, Bicycle Delay [s]	10.90	10.90	23.62
l_b,int, Bicycle LOS Score for Intersection	2.952	3.188	1.560
Bicycle LOS	C	C	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	217.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.244

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

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Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	114	590	31	419	446	895	817	306	63	76	201	178
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-11	-34	-5	0	-8	-12	-49	-8	-2	-1	-2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	265	0	0	18	0	0	53
Total Hourly Volume [veh/h]	103	556	18	419	438	618	768	298	43	75	199	125
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	153	5	115	120	170	211	82	12	21	55	34
Total Analysis Volume [veh/h]	113	611	20	460	481	679	844	327	47	82	219	137
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	7	20	20	12	25	25	15	15	15	15
g / C, Green / Cycle	0.08	0.24	0.24	0.15	0.31	0.31	0.19	0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.06	0.17	0.17	0.26	0.26	0.43	0.34	0.34	0.16	0.09
s, saturation flow rate [veh/h]	1781	1870	1849	1781	1870	1589	1781	1810	1845	1589
c, Capacity [veh/h]	146	456	451	266	581	494	332	338	345	297
d1, Uniform Delay [s]	36.19	27.71	27.71	34.22	25.72	27.72	32.72	32.72	31.77	29.09
k, delay calibration	0.04	0.04	0.04	0.50	0.25	0.50	0.50	0.50	0.10	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.27	0.72	0.73	344.42	6.90	180.95	386.73	373.33	6.72	0.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.70	0.70	1.73	0.83	1.37	1.83	1.80	0.87	0.46
d, Delay for Lane Group [s/veh]	39.46	28.43	28.44	378.64	32.62	208.67	419.45	406.05	38.48	29.51
Lane Group LOS	D	C	C	F	C	F	F	F	D	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.26	5.43	5.38	30.09	8.45	32.96	41.90	41.34	6.13	2.32
50th-Percentile Queue Length [ft/ln]	56.41	135.87	134.49	752.16	211.32	823.88	1047.56	1033.47	153.32	58.06
95th-Percentile Queue Length [veh/ln]	4.06	9.26	9.18	47.42	13.22	50.36	65.72	64.72	10.19	4.18
95th-Percentile Queue Length [ft/ln]	101.53	231.46	229.59	1185.60	330.52	1258.90	1643.06	1618.09	254.86	104.50

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.46	28.44	28.44	378.64	32.62	208.67	415.72	406.05	406.05	38.48	38.48	29.51
Movement LOS	D	C	C	F	C	F	F	F	F	D	D	C
d_A, Approach Delay [s/veh]	30.11			204.66			412.75			35.67		
Approach LOS	C			F			F			D		
d_I, Intersection Delay [s/veh]	216.99											
Intersection LOS	F											
Intersection V/C	1.244											

Emissions

Vehicle Miles Traveled [mph]	65.26	183.17	181.25	319.95	334.56	472.28	45.81	45.81	33.29	15.15
Stops [stops/h]	101.18	243.73	241.25	1349.24	379.07	1477.90	1879.13	1853.86	275.03	104.14
Fuel consumption [US gal/h]	4.15	10.72	10.61	71.20	21.43	72.08	64.24	62.44	5.25	2.02
CO [g/h]	290.28	749.47	741.68	4977.01	1497.62	5038.24	4490.36	4364.55	366.77	141.32
NOx [g/h]	56.48	145.82	144.30	968.35	291.38	980.26	873.66	849.18	71.36	27.50
VOC [g/h]	67.28	173.70	171.89	1153.47	347.09	1167.66	1040.68	1011.53	85.00	32.75

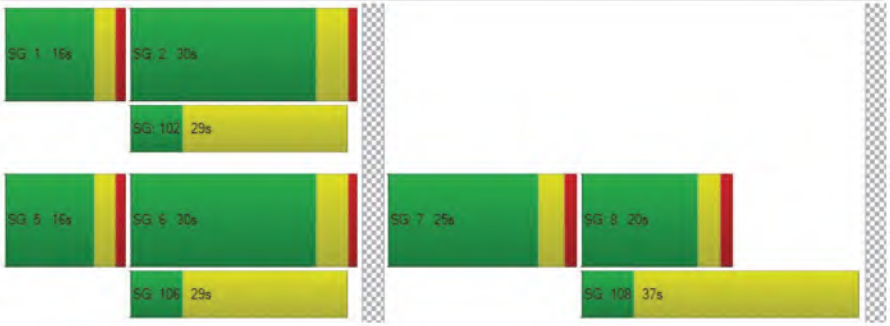
Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.89	0.00	29.89	29.89
l_p,int, Pedestrian LOS Score for Intersectio	2.574	0.000	2.776	2.434
Crosswalk LOS	B	F	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	615	615	386	498
d_b, Bicycle Delay [s]	19.24	19.24	26.13	22.63
l_b,int, Bicycle LOS Score for Intersection	2.180	3.115	3.599	2.370
Bicycle LOS	B	C	D	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	19.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.789

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	171	325	456	129	410	157
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-1	0	0	-12	-50	-6
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	35	0	45
Total Hourly Volume [veh/h]	170	325	456	82	360	106
Peak Hour Factor	0.9000	0.9000	0.9000	0.7900	0.7900	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	90	127	26	114	29
Total Analysis Volume [veh/h]	189	361	507	104	456	118
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	164
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	50	50	50	0	50	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	54	56	56	0	54	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	61	61	61	61	61	61
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	8	32	20	20	18	18
g / C, Green / Cycle	0.13	0.53	0.33	0.33	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.11	0.19	0.27	0.07	0.26	0.07
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1589
c, Capacity [veh/h]	239	996	623	529	541	482
d1, Uniform Delay [s]	25.60	8.26	18.64	14.54	19.91	16.00
k, delay calibration	0.04	0.15	0.15	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.22	0.32	3.74	0.26	3.69	0.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.36	0.81	0.20	0.84	0.24
d, Delay for Lane Group [s/veh]	27.82	8.58	22.38	14.79	23.60	16.26
Lane Group LOS	C	A	C	B	C	B
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.40	1.83	5.70	0.85	6.01	1.17
50th-Percentile Queue Length [ft/ln]	59.88	45.67	142.56	21.16	150.29	29.25
95th-Percentile Queue Length [veh/ln]	4.31	3.29	9.62	1.52	10.03	2.11
95th-Percentile Queue Length [ft/ln]	107.78	82.21	240.47	38.09	250.82	52.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.82	8.58	22.38	14.79	23.60	16.26
Movement LOS	C	A	C	B	C	B
d_A, Approach Delay [s/veh]	15.19		21.09		22.09	
Approach LOS	B		C		C	
d_I, Intersection Delay [s/veh]	19.55					
Intersection LOS	B					
Intersection V/C	0.789					

Emissions

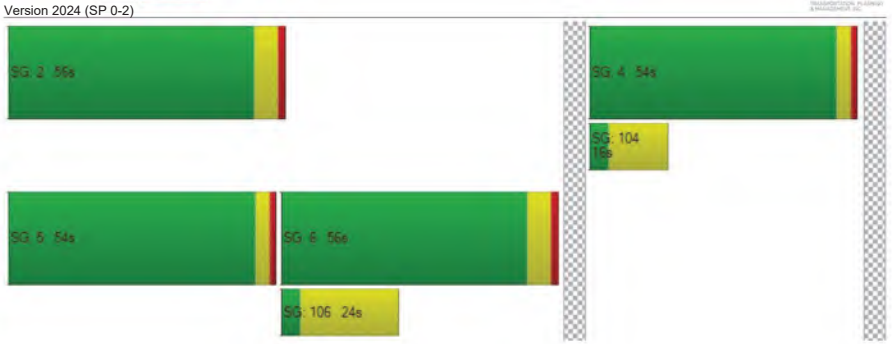
Vehicle Miles Traveled [mph]	23.32	44.54	292.80	60.06	107.10	27.71
Stops [stops/h]	141.56	107.98	337.03	50.03	355.30	69.14
Fuel consumption [US gal/h]	4.48	4.13	18.36	3.25	8.56	1.91
CO [g/h]	313.12	288.39	1283.63	227.29	598.49	133.75
NOx [g/h]	60.92	56.11	249.75	44.22	116.44	26.02
VOC [g/h]	72.57	66.84	297.49	52.68	138.70	31.00

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.98	0.00	22.98
l_p,int, Pedestrian LOS Score for Intersectio	2.650	0.000	2.295
Crosswalk LOS	B	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1642	1642	1642
d_b, Bicycle Delay [s]	0.98	0.98	0.98
l_b,int, Bicycle LOS Score for Intersection	2.467	2.626	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	27.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	438	0	25	588	0	0	0	0	2	0	58
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-1	0	0	-6	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	437	0	25	582	0	0	0	0	2	0	58
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	119	0	6	158	0	0	0	0	1	0	15
Total Analysis Volume [veh/h]	0	475	0	25	633	0	0	0	0	2	0	58
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free		Free		Stop		Stop	
Flared Lane					Yes		Yes	
Storage Area [veh]	0		0		1		1	
Two-Stage Gap Acceptance					No		No	
Number of Storage Spaces in Median	0		0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.10
d_M, Delay for Movement [s/veh]	8.79	0.00	0.00	8.34	0.00	0.00	30.04	24.04	12.50	27.22	24.69	11.76
Movement LOS	A	A	A	A	A	A	D	C	B	D	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.04	0.04	0.04	0.00	0.00	0.00	0.33	0.33	0.33
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	1.06	1.06	1.06	0.00	0.00	0.00	8.21	8.21	8.21
d_A, Approach Delay [s/veh]	0.00			0.32			22.20			12.27		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	0.79											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Two-way stop	Delay (sec / veh):	44.1
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.416

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	334	21	144	446	0	0	0	0	59	0	104
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-1	0	0	-6	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	333	21	144	440	0	0	0	0	59	0	104
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	90	6	39	118	0	0	0	0	16	0	28
Total Analysis Volume [veh/h]	0	358	23	155	473	0	0	0	0	63	0	112
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Free			Free			Stop			Stop		
Flared Lane							No			No		
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance							No			No		
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.42	0.00	0.17
d_M, Delay for Movement [s/veh]	8.31	0.00	0.00	8.52	0.00	0.00	36.10	26.32	11.09	44.10	41.34	25.67
Movement LOS	A	A	A	A	A	A	E	D	B	E	E	D
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.45	0.00	0.00	0.00	0.00	0.00	3.42	3.42	3.42
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	11.33	0.00	0.00	0.00	0.00	0.00	85.54	85.54	85.54
d_A, Approach Delay [s/veh]	0.00			2.10			24.51			32.31		
Approach LOS	A			A			C			D		
d_I, Intersection Delay [s/veh]	5.89											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	229.236

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	127	1017	168	55	1	1019	190
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-18	-58	-2	-4	0	-13	-11
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	109	959	166	51	1	1006	179
Peak Hour Factor	1.0000	0.8800	0.8800	0.8800	0.8800	1.0000	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	31	272	47	14	0	286	51
Total Analysis Volume [veh/h]	0	124	1090	189	58	1	1143	203
Pedestrian Volume [ped/h]	0			0		0		

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Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	229.24	1.33	0.00	0.00	0.00	0.87	0.00
d_M, Delay for Movement [s/veh]	10000.00	10000.00	10000.00	0.00	0.00	10000.00	18.89	0.00
Movement LOS	F	F	F	A	A	F	C	A
95th-Percentile Queue Length [veh/ln]	154.05	154.05	154.05	0.00	0.00	10.74	10.74	10.74
95th-Percentile Queue Length [ft/ln]	3851.18	3851.18	3851.18	0.00	0.00	268.41	268.41	268.41
d_A, Approach Delay [s/veh]	10000.00			0.00		23.45		
Approach LOS	F			A		C		
d_I, Intersection Delay [s/veh]	4334.61							
Intersection LOS	F							

Intersection Level Of Service Report
Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Control Type:	All-way stop	Delay (sec / veh):	273.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.845

Intersection Setup

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Base Volume Input [veh/h]	60	657	105	0	40	585	40	56	49	40	225	17	79
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	-18	-79	-56	0	0	-13	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	657	105	0	40	585	22	0	0	40	225	4	79
Peak Hour Factor	0.8300	0.8300	0.8300	1.000	0.790	0.830	0.830	0.8300	0.8300	0.8300	0.8300	0.8300	0.7900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	198	32	0	13	176	7	0	0	12	68	1	25
Total Analysis Volume [veh/h]	72	792	127	0	51	705	27	0	0	48	271	5	100
Pedestrian Volume [ped/h]	0			0				0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	991	783	430	494
Degree of Utilization, x	1.84	1.47	0.11	0.76

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	62.66	38.84	0.37	6.61
95th-Percentile Queue Length [ft]	1566.60	970.96	9.37	165.27
Approach Delay [s/veh]	404.06	240.47	12.44	29.97
Approach LOS	F	F	B	D
Intersection Delay [s/veh]	273.24			
Intersection LOS	F			

Scenario 5: 5 2040 PM with CCSP, No Project
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Intersection Level Of Service Report
Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	35.4
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.630

Intersection Setup

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00			30.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	No		No			No		

Volumes

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Base Volume Input [veh/h]	159	80	0	143	294	2	132	196
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-6	0	-1	0	0	-27	-2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	159	74	0	142	294	2	105	194
Peak Hour Factor	0.8400	0.8400	1.0000	0.8400	0.8400	1.0000	0.8400	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	22	0	42	88	1	31	58
Total Analysis Volume [veh/h]	189	88	0	169	350	2	125	231
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Priority Scheme	Stop		Free			Free		
Flared Lane								
Storage Area [veh]	0		0			0		
Two-Stage Gap Acceptance	No							
Number of Storage Spaces in Median	0		0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.63	0.13	0.00	0.00	0.00	0.00	0.12	0.00
d_M, Delay for Movement [s/veh]	35.37	10.89	9.41	0.00	0.00	13.29	8.93	0.00
Movement LOS	E	B	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	3.97	0.43	0.00	0.00	0.00	0.42	0.42	0.00
95th-Percentile Queue Length [ft/ln]	99.21	10.75	0.00	0.00	0.00	10.55	10.55	0.00
d_A, Approach Delay [s/veh]	27.59		0.00			3.19		
Approach LOS	D		A			A		
d_I, Intersection Delay [s/veh]	7.61							
Intersection LOS	E							

Intersection Level Of Service Report
Intersection 16: Carson Crossing Rd/Calypso Cir.

Control Type:	Two-way stop	Delay (sec / veh):	152.3
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.971

Intersection Setup

Name			Carson Crossing Rd		Carson Crossing Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	190.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			Carson Crossing Rd		Carson Crossing Rd	
Base Volume Input [veh/h]	205	208	87	201	294	187
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-6	0	0	-27
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	205	208	81	201	294	160
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	57	22	55	80	43
Total Analysis Volume [veh/h]	223	226	88	218	320	174
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.97	0.23	0.00	0.00	0.26	0.00
d_M, Delay for Movement [s/veh]	152.30	140.33	0.00	0.00	8.85	0.00
Movement LOS	F	F	A	A	A	A
95th-Percentile Queue Length [veh/ln]	18.58	18.58	0.00	0.00	1.02	0.00
95th-Percentile Queue Length [ft/ln]	464.46	464.46	0.00	0.00	25.45	0.00
d_A, Approach Delay [s/veh]	146.27		0.00		5.73	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	54.85					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 17: Carson Crossing Rd/Four Seasons Dr

Control Type:	All-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.222

Intersection Setup

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	500.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	500.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Base Volume Input [veh/h]	310	12	28	203	0	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-27	0	0	-6	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	283	12	28	197	0	3
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	3	8	54	0	1
Total Analysis Volume [veh/h]	308	13	30	214	0	3
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	723	730	680	751	751	706
Degree of Utilization, x	0.22	0.22	0.04	0.14	0.14	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.85	0.83	0.14	0.50	0.50	0.01
95th-Percentile Queue Length [ft]	21.16	20.86	3.46	12.39	12.39	0.32
Approach Delay [s/veh]	9.05		8.28			8.13
Approach LOS	A		A			A
Intersection Delay [s/veh]	8.72					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Signalized	Delay (sec / veh):	17.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.574

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	200.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	253	10	50	7	1	21	5	697	138	90	634	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-27	0	0	0	0	0	0	0	-6	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	15	0	0	6	0	0	40	0	0	3
Total Hourly Volume [veh/h]	226	10	35	7	1	15	5	697	92	90	634	8
Peak Hour Factor	0.9700	1.0000	0.9300	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9300	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	58	3	9	2	0	4	1	180	24	24	163	2
Total Analysis Volume [veh/h]	233	10	38	7	1	15	5	719	95	97	654	8
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	25	0	0	25	0	15	35	0	15	35	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	21	0	0	11	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	30	0	0	30	0	20	40	0	20	40	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	9	0	0	9	0	9	9	0	9	9	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	C	L	C	R	L	C	R
C, Cycle Length [s]	53	53	53	53	53	53	53	53	53	53
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	9	9	9	3	1	14	14	7	21	21
g / C, Green / Cycle	0.17	0.17	0.17	0.05	0.01	0.27	0.27	0.13	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.13	0.01	0.02	0.01	0.00	0.20	0.06	0.05	0.18	0.01
s, saturation flow rate [veh/h]	1781	1870	1589	1654	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	309	325	276	82	22	966	431	231	1384	618
d1, Uniform Delay [s]	20.89	18.25	18.60	24.36	26.01	17.69	15.02	21.30	12.17	9.99
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.72	0.04	0.22	1.86	5.23	1.16	0.25	1.22	0.25	0.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.03	0.14	0.28	0.23	0.74	0.22	0.42	0.47	0.01
d, Delay for Lane Group [s/veh]	24.61	18.29	18.82	26.22	31.24	18.85	15.27	22.51	12.42	9.99
Lane Group LOS	C	B	B	C	C	B	B	C	B	A
Critical Lane Group	Yes	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.81	0.10	0.38	0.30	0.09	3.70	0.82	1.10	2.50	0.05
50th-Percentile Queue Length [ft/ln]	70.28	2.42	9.48	7.54	2.25	92.38	20.61	27.44	62.57	1.27
95th-Percentile Queue Length [veh/ln]	5.06	0.17	0.68	0.54	0.16	6.65	1.48	1.98	4.51	0.09
95th-Percentile Queue Length [ft/ln]	126.51	4.36	17.06	13.57	4.06	166.28	37.10	49.39	112.63	2.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	24.61	18.29	18.82	26.22	26.22	26.22	31.24	18.85	15.27	22.51	12.42	9.99
Movement LOS	C	B	B	C	C	C	C	B	B	C	B	A
d_A, Approach Delay [s/veh]	23.60			26.22			18.51			13.69		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	17.42											
Intersection LOS	B											
Intersection V/C	0.574											

Emissions

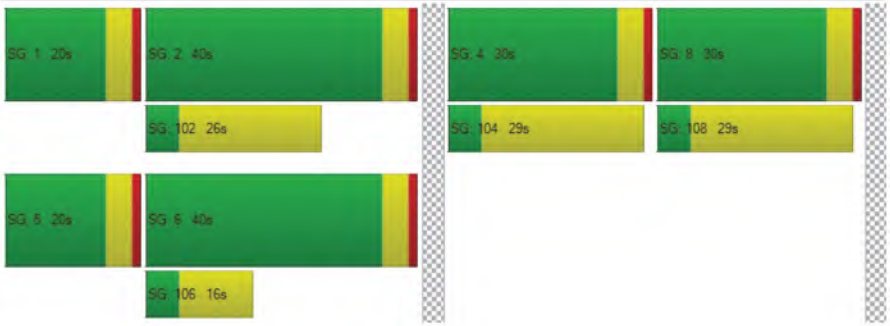
Vehicle Miles Traveled [mph]	69.17	2.97	11.28	0.51	0.72	102.95	13.60	81.63	550.36	6.73
Stops [stops/h]	190.84	6.58	25.73	20.47	6.12	501.67	55.96	74.50	339.81	3.44
Fuel consumption [US gal/h]	5.07	0.20	0.75	0.26	0.10	9.77	1.16	4.22	26.19	0.31
CO [g/h]	354.30	13.68	52.57	17.96	6.65	682.82	81.39	294.72	1830.49	21.84
NOx [g/h]	68.93	2.66	10.23	3.49	1.29	132.85	15.84	57.34	356.15	4.25
VOC [g/h]	82.11	3.17	12.18	4.16	1.54	158.25	18.86	68.30	424.23	5.06

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	18.28	18.28	18.28	18.28
l_p,int, Pedestrian LOS Score for Intersectio	2.398	1.724	2.771	2.681
Crosswalk LOS	B	A	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	943	943	1320	1320
d_b, Bicycle Delay [s]	7.41	7.41	3.07	3.07
l_b,int, Bicycle LOS Score for Intersection	2.048	1.607	2.268	2.188
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 19: White Rock Rd/Windfield Way

Control Type:	Signalized	Delay (sec / veh):	34.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.640

Intersection Setup

Name	Windfield Way						White Rock Rd			White Rock Rd			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00			
Grade [%]	0.00			0.00			0.00			0.00			
Curb Present	No			No			No			No			
Crosswalk	Yes			Yes			Yes			No			

Volumes

Name	Windfield Way						White Rock Rd			White Rock Rd			
Base Volume Input [veh/h]	305	5	361	5	5	5	5	754	92	14	260	607	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	108	0	0	0	0	0	28	0	0	0	0
Total Hourly Volume [veh/h]	305	5	253	5	5	5	5	754	64	14	260	607	5
Peak Hour Factor	0.9400	1.0000	0.9400	1.0000	1.0000	1.0000	1.0000	0.9400	0.9400	1.000	0.940	0.940	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	81	1	67	1	1	1	1	201	17	4	69	161	1
Total Analysis Volume [veh/h]	324	5	269	5	5	5	5	802	68	14	277	646	5
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0		
v_co, Outbound Pedestrian Volume crossing		0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0		
Bicycle Volume [bicycles/h]		0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	73.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi
Signal Group	3	8	0	7	4	0	5	2	0	0	1	6	0
Auxiliary Signal Groups													
Maximum Green [s]	25	25	0	10	10	0	9	19	0	0	44	54	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	2.0	1.0	0.0	0.0	2.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	26	0	0	13	0	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	245.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	15	15	0	15	25	0	0	50	60	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	3	3	0	5	3	0	5	7	0	0	3	7	0
Vehicle Extension [s]	1.0	1.0	0.0	3.0	1.0	0.0	3.0	3.6	0.0	0.0	1.0	3.6	0.0
Minimum Recall	No	No		No	No		No	Yes			No	Yes	
Maximum Recall	No	No		No	No		No	No			No	No	
Pedestrian Recall	No	No		No	No		No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	23	24	1	1	1	52	52	21	73	73
g / C, Green / Cycle	0.20	0.20	0.01	0.01	0.01	0.44	0.44	0.18	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.18	0.17	0.00	0.01	0.00	0.23	0.04	0.16	0.17	0.17
s, saturation flow rate [veh/h]	1781	1594	1781	1718	1781	3560	1589	1781	1870	1865
c, Capacity [veh/h]	349	313	12	13	12	1548	691	318	1134	1131
d1, Uniform Delay [s]	47.44	46.78	59.33	59.43	59.34	24.73	20.02	48.42	11.26	11.26
k, delay calibration	0.30	0.09	0.11	0.04	0.11	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	23.29	6.61	19.50	27.26	19.95	1.24	0.28	4.44	0.64	0.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.93	0.88	0.40	0.76	0.40	0.52	0.10	0.92	0.29	0.29
d, Delay for Lane Group [s/veh]	70.72	53.39	78.83	86.69	79.29	25.97	20.30	52.87	11.90	11.91
Lane Group LOS	E	D	E	F	E	C	C	D	B	B
Critical Lane Group	Yes	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	11.73	8.48	0.22	0.40	0.22	8.52	1.19	8.92	4.24	4.23
50th-Percentile Queue Length [ft/ln]	293.26	212.08	5.48	10.09	5.50	212.88	29.66	222.95	105.90	105.63
95th-Percentile Queue Length [veh/ln]	17.35	13.26	0.39	0.73	0.40	13.30	2.14	13.82	7.61	7.60
95th-Percentile Queue Length [ft/ln]	433.68	331.49	9.86	18.17	9.90	332.52	53.40	345.39	190.28	189.90

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	70.72	53.39	53.39	78.83	86.69	86.69	79.29	25.97	20.30	52.87	52.87	11.90	11.91
Movement LOS	E	D	D	E	F	F	E	C	C	D	D	B	B
d_A, Approach Delay [s/veh]	62.78			84.07			25.84			24.56			
Approach LOS	E			F			C			C			
d_I, Intersection Delay [s/veh]	34.79												
Intersection LOS	C												
Intersection V/C	0.640												

Emissions

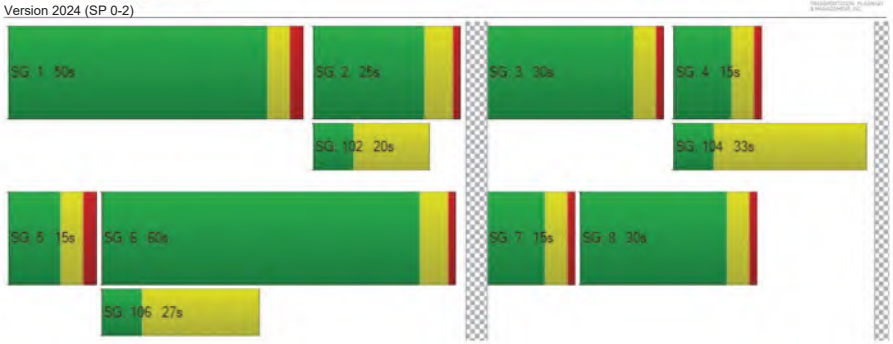
Vehicle Miles Traveled [mph]	124.84	105.58	0.23	0.46	4.21	674.90	57.22	72.63	81.35	81.13
Stops [stops/h]	351.91	254.49	6.57	12.11	6.60	510.92	35.60	267.54	127.08	126.75
Fuel consumption [US gal/h]	11.75	8.73	0.13	0.26	0.29	34.84	2.83	7.60	4.84	4.83
CO [g/h]	821.04	610.15	8.80	18.32	20.29	2435.66	198.05	531.12	338.35	337.45
NOx [g/h]	159.75	118.71	1.71	3.56	3.95	473.89	38.53	103.34	65.83	65.65
VOC [g/h]	190.29	141.41	2.04	4.25	4.70	564.49	45.90	123.09	78.41	78.21

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.460	1.964	2.812	0.000
Crosswalk LOS	B	A	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	417	167	317	900
d_b, Bicycle Delay [s]	37.60	50.42	42.50	18.15
l_b,int, Bicycle LOS Score for Intersection	2.725	1.584	2.305	2.108
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 20: White Rock Rd/Post St

Control Type:	Signalized	Delay (sec / veh):	44.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.668

Intersection Setup

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Approach	Northbound			Southbound			Eastbound				Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	300.0	100.0	100.0	100.0	200.00	100.00	400.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00				30.00		
Grade [%]	0.00			0.00			0.00				0.00		
Curb Present	No			No			No				No		
Crosswalk	Yes			Yes			No				No		

Volumes

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	71	16	42	191	15	246	3	227	1167	57	86	738	181
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	-1	0	-4	-12	0	0	-3	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	13	0	0	74	0	0	0	17	0	0	54
Total Hourly Volume [veh/h]	71	16	29	191	15	171	3	223	1155	40	86	735	127
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	1.000	0.910	0.860	0.910	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	4	8	52	4	47	1	61	336	11	24	202	35
Total Analysis Volume [veh/h]	78	18	32	210	16	188	3	245	1343	44	95	808	140
Presence of On-Street Parking	No		No	No		No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0				0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0				0		
v_co, Outbound Pedestrian Volume crossing	0			0			0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0				0		
Bicycle Volume [bicycles/h]	0			0			0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	160
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	55.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups													
Maximum Green [s]	21	24	0	8	26	0	0	23	31	0	15	34	0
Amber [s]	3.5	4.0	0.0	3.5	4.0	0.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.7	1.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	24	0	0	0	21	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.2	3.0	0.0	2.5	3.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	100.0	0.0	100.0	100.0	0.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	29	0	13	31	0	0	28	80	0	20	72	0
Lead / Lag	Lead	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	3	7	0	3	7	0	0	3	3	0	3	3	0
Vehicle Extension [s]	1.0	3.6	0.0	1.0	3.6	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall		No			No			No	No		No	No	
Maximum Recall		No			No			No	No		No	No	
Pedestrian Recall		No			No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	R
C, Cycle Length [s]	160	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	9	9	23	23	69	97	97	10	38	38
g / C, Green / Cycle	0.06	0.06	0.15	0.15	0.43	0.61	0.61	0.06	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.04	0.03	0.12	0.13	0.14	0.38	0.03	0.05	0.23	0.09
s, saturation flow rate [veh/h]	1781	1680	1781	1608	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	103	98	261	235	771	2158	963	115	847	378
d1, Uniform Delay [s]	74.22	73.15	66.09	66.77	29.91	19.94	12.77	73.95	60.12	50.96
k, delay calibration	0.13	0.13	0.13	0.13	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.87	5.10	7.14	11.29	1.10	1.36	0.09	5.55	3.09	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.51	0.81	0.87	0.32	0.62	0.05	0.83	0.95	0.37
d, Delay for Lane Group [s/veh]	87.09	78.25	73.23	78.05	31.01	21.31	12.86	79.50	63.20	51.19
Lane Group LOS	F	E	E	E	C	C	B	E	E	D
Critical Lane Group	Yes	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.55	2.15	8.86	8.93	6.66	16.16	0.69	4.06	16.56	4.78
50th-Percentile Queue Length [ft/ln]	88.76	53.69	221.57	223.20	166.62	404.11	17.13	101.51	414.02	119.55
95th-Percentile Queue Length [veh/ln]	6.39	3.87	13.75	13.83	10.90	22.76	1.23	7.31	23.23	8.37
95th-Percentile Queue Length [ft/ln]	159.76	96.64	343.63	345.71	272.47	568.95	30.83	182.72	580.86	209.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	87.09	78.25	78.25	73.23	78.05	78.05	31.01	31.01	21.31	12.86	79.50	63.20	51.19
Movement LOS	F	E	E	E	E	E	C	C	C	B	E	E	D
d_A, Approach Delay [s/veh]	83.64			75.61			22.55				63.08		
Approach LOS	F			E			C				E		
d_I, Intersection Delay [s/veh]	44.93												
Intersection LOS	D												
Intersection V/C	0.668												

Emissions

Vehicle Miles Traveled [mph]	3.90	2.50	9.76	9.48	26.01	140.84	4.61	33.23	282.60	48.97
Stops [stops/h]	79.88	48.32	199.41	200.88	149.96	727.39	15.42	91.36	745.23	107.59
Fuel consumption [US gal/h]	1.98	1.17	4.63	4.74	3.46	15.64	0.39	3.41	26.14	4.07
CO [g/h]	138.70	81.51	323.84	331.33	242.14	1093.23	27.28	238.30	1827.32	284.37
NOx [g/h]	26.99	15.86	63.01	64.46	47.11	212.70	5.31	46.36	355.53	55.33
VOC [g/h]	32.14	18.89	75.05	76.79	56.12	253.37	6.32	55.23	423.50	65.91

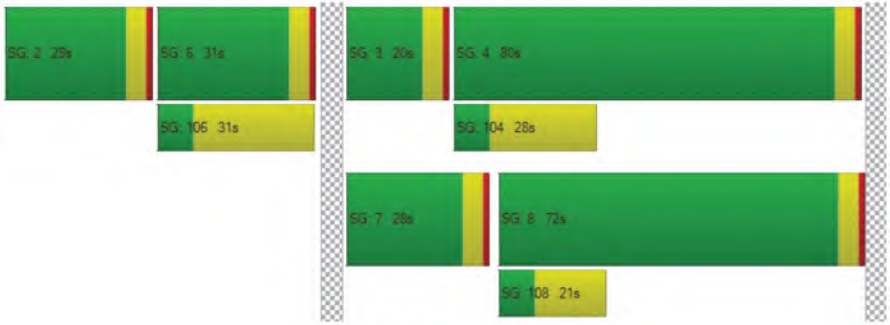
Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	69.38	69.38	69.38	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.088	2.380	2.959	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	300	325	938	838
d_b, Bicycle Delay [s]	57.80	56.11	22.58	27.03
l_b,int, Bicycle LOS Score for Intersection	1.792	2.365	2.720	2.465
Bicycle LOS	A	B	B	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	33.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.893

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	2	2	0	1	2	0	1	2	0	1
Entry Pocket Length [ft]	300.00	100.00	300.00	200.00	100.00	100.00	300.00	100.00	200.00	500.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	100.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	117	83	587	373	142	63	67	1081	264	432	840	207
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-2	-6	0	0	0	0	-12	0	-1	-3	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	174	0	0	19	0	0	79	0	0	62
Total Hourly Volume [veh/h]	117	81	407	373	142	44	67	1069	185	431	837	145
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	21	105	96	37	11	17	276	48	111	216	37
Total Analysis Volume [veh/h]	121	84	420	385	146	45	69	1102	191	444	863	149
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	153
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	1	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups			1,4									
Maximum Green [s]	0	35	25	0	40	0	25	45	0	25	44	0
Amber [s]	0.0	3.2	3.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.5	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	28	0	0	24	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	1.5	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	150.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	29	0	45	0	29	50	0	29	50	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	5	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	2.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No	No		No		No	No		No	No	
Maximum Recall		No	No		No		No	No		No	No	
Pedestrian Recall		No	No		No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	113	113	113	113	113	113	113	113	113	113	113	113
L, Total Lost Time per Cycle [s]	4.20	4.20	3.50	4.20	4.20	4.20	3.50	5.30	5.30	3.50	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.20	2.20	0.00	2.20	2.20	2.20	1.50	3.30	3.30	1.50	4.00	4.00
g_i, Effective Green Time [s]	12	12	65	28	28	28	4	39	39	17	51	51
g / C, Green / Cycle	0.10	0.10	0.58	0.25	0.25	0.25	0.04	0.34	0.34	0.15	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.07	0.04	0.15	0.21	0.08	0.03	0.02	0.31	0.12	0.13	0.24	0.09
s, saturation flow rate [veh/h]	1781	1870	2813	1877	1870	1589	3459	3560	1589	3459	3560	1589
c, Capacity [veh/h]	185	194	1629	496	464	394	136	1222	546	528	1604	716
d1, Uniform Delay [s]	48.71	47.54	11.78	42.10	34.67	32.90	53.24	35.31	27.71	46.55	22.52	18.83
k, delay calibration	0.13	0.13	0.04	0.13	0.13	0.13	0.04	0.11	0.11	0.04	0.14	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.82	1.89	0.03	3.27	0.48	0.16	1.10	2.75	0.38	1.41	0.36	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.43	0.26	0.78	0.31	0.11	0.51	0.90	0.35	0.84	0.54	0.21
d, Delay for Lane Group [s/veh]	53.53	49.43	11.82	45.37	35.15	33.06	54.34	38.05	28.09	47.97	22.88	19.01
Lane Group LOS	D	D	B	D	D	C	D	D	C	D	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.52	2.32	2.56	5.37	3.34	0.98	0.98	14.60	3.90	6.14	8.26	2.40
50th-Percentile Queue Length [ft/ln]	88.07	58.02	63.90	134.29	83.51	24.40	24.50	365.08	97.60	153.45	206.38	59.91
95th-Percentile Queue Length [veh/ln]	6.34	4.18	4.60	9.17	6.01	1.76	1.76	20.87	7.03	10.20	12.97	4.31
95th-Percentile Queue Length [ft/ln]	158.52	104.44	115.02	229.32	150.32	43.93	44.10	521.75	175.68	255.03	324.18	107.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.53	49.43	11.82	45.37	35.15	33.06	54.34	38.05	28.09	47.97	22.88	19.01
Movement LOS	D	D	B	D	D	C	D	D	C	D	C	B
d_A, Approach Delay [s/veh]	24.95			41.82			37.48			30.14		
Approach LOS	C			D			D			C		
d_I, Intersection Delay [s/veh]	33.49											
Intersection LOS	C											
Intersection V/C	0.893											

Emissions

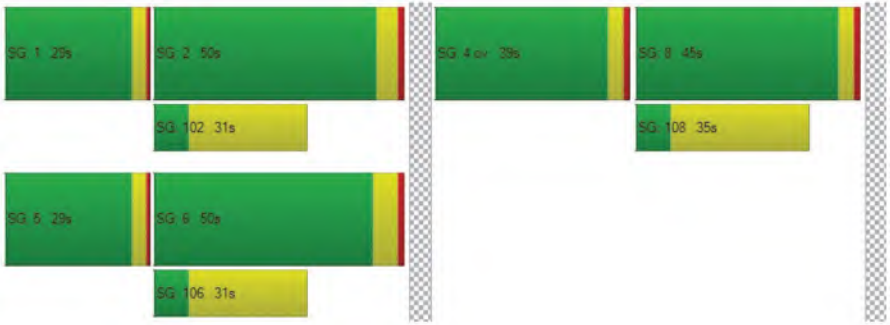
Vehicle Miles Traveled [mph]	206.98	143.69	718.44	78.05	29.60	9.12	24.13	385.43	66.80	200.34	389.41	67.23
Stops [stops/h]	112.31	73.99	162.98	342.52	106.50	31.12	62.49	931.15	124.47	391.38	526.38	76.40
Fuel consumption [US gal/h]	10.46	7.17	31.49	8.66	2.85	0.85	2.10	29.54	4.53	14.74	22.96	3.77
CO [g/h]	731.09	501.10	2200.87	605.33	199.30	59.43	146.90	2065.12	316.61	1030.55	1604.71	263.26
NOx [g/h]	142.24	97.49	428.21	117.78	38.78	11.56	28.58	401.80	61.60	200.51	312.22	51.22
VOC [g/h]	169.44	116.13	510.07	140.29	46.19	13.77	34.05	478.61	73.38	238.84	371.91	61.01

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	45.99	45.99	45.99	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.981	2.647	3.064	0.000
Crosswalk LOS	C	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	616	723	792	779
d_b, Bicycle Delay [s]	27.02	23.03	20.61	21.03
l_b,int, Bicycle LOS Score for Intersection	2.878	2.541	2.748	2.812
Bicycle LOS	C	B	B	C

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 22: White Rock Rd/Clarksville Crossing

Control Type:	Signalized	Delay (sec / veh):	57.5
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.007

Intersection Setup

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	180.00	460.00	100.00	100.00	290.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

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Volumes

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	0	0	2	80	0	334	8	2032	1	0	1145	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	-18	0	0	-5	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	2	80	0	334	8	2014	1	0	1140	2
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.9600	0.7800	0.7800	0.9600	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	26	0	107	3	524	0	0	297	1
Total Analysis Volume [veh/h]	0	0	3	103	0	428	10	2098	1	0	1188	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	20	0	0	20	0	20	50	0	20	50	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	5.0	0.0	4.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	5.0	0.0	3.0	5.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	R
C, Cycle Length [s]	93	93	93	93	93	93	93	93	93	93
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	7.00	7.00	5.00	7.00	7.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	5.00	5.00	3.00	5.00	5.00
g_i, Effective Green Time [s]	0	0	20	20	1	50	50	0	49	49
g / C, Green / Cycle	0.00	0.00	0.22	0.22	0.01	0.54	0.54	0.00	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.06	0.27	0.01	0.56	0.56	0.00	0.33	0.00
s, saturation flow rate [veh/h]	1870	1589	1781	1589	1781	1870	1870	1781	3560	1589
c, Capacity [veh/h]	11	9	384	343	25	1009	1009	3	1877	838
d1, Uniform Delay [s]	0.00	45.90	30.25	36.34	45.31	21.34	21.34	0.00	15.56	10.38
k, delay calibration	0.11	0.11	0.11	0.50	0.11	0.46	0.46	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	19.59	0.37	133.62	9.98	38.20	38.25	0.00	0.36	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.33	0.27	1.25	0.40	1.04	1.04	0.00	0.63	0.00
d, Delay for Lane Group [s/veh]	0.00	65.49	30.62	169.96	55.29	59.54	59.60	0.00	15.91	10.39
Lane Group LOS	A	E	C	F	E	F	F	A	B	B
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.00	0.12	1.93	20.28	0.30	30.26	30.27	0.00	8.34	0.03
50th-Percentile Queue Length [ft/ln]	0.00	2.95	48.17	506.99	7.39	756.52	756.82	0.00	208.39	0.70
95th-Percentile Queue Length [veh/ln]	0.00	0.21	3.47	30.90	0.53	40.58	40.60	0.00	13.07	0.05
95th-Percentile Queue Length [ft/ln]	0.00	5.30	86.70	772.40	13.29	1014.45	1014.93	0.00	326.77	1.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	65.49	30.62	30.62	169.96	55.29	59.57	59.60	0.00	15.91	10.39
Movement LOS	A	A	E	C	C	F	E	F	E	A	B	B
d_A, Approach Delay [s/veh]		65.49			142.93			59.55			15.90	
Approach LOS		E			F			E			B	
d_I, Intersection Delay [s/veh]	57.54											
Intersection LOS	E											
Intersection V/C	1.007											

Emissions

Vehicle Miles Traveled [mph]	0.00	0.15	48.86	203.03	4.51	473.56	473.56	0.00	207.25	0.52
Stops [stops/h]	0.00	4.59	74.96	789.00	11.49	1177.34	1177.80	0.00	648.62	1.10
Fuel consumption [US gal/h]	0.00	0.07	3.07	27.52	0.36	38.71	38.73	0.00	15.96	0.03
CO [g/h]	0.00	5.00	214.41	1923.50	25.29	2706.13	2707.19	0.00	1115.77	2.37
NOx [g/h]	0.00	0.97	41.72	374.24	4.92	526.51	526.72	0.00	217.09	0.46
VOC [g/h]	0.00	1.16	49.69	445.79	5.86	627.17	627.42	0.00	258.59	0.55

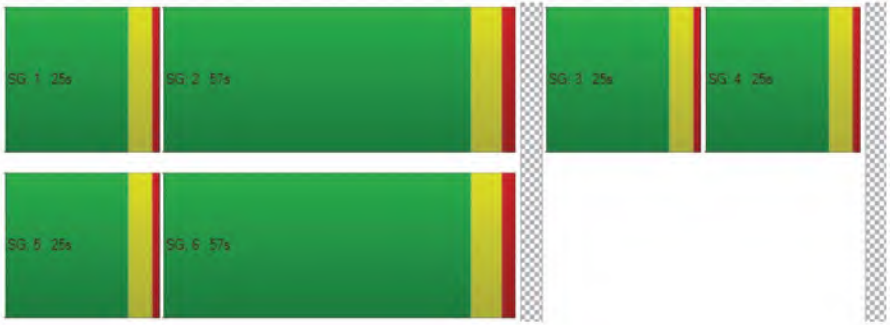
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	432	432	1081	1081
d_b, Bicycle Delay [s]	28.43	28.43	9.77	9.77
l_b,int, Bicycle LOS Score for Intersection	1.565	2.436	3.300	2.542
Bicycle LOS	A	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 23: White Rock Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	38.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.068

Intersection Setup

Name	White Rock Rd			White Rock Rd			US 50 EB					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			No		

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Volumes

Name	White Rock Rd			White Rock Rd			US 50 EB					
Base Volume Input [veh/h]	0	855	1259	0	1056	301	512	0	91	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-9	-3	-6	0	-5	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	12	0	0	0
Total Hourly Volume [veh/h]	0	852	1253	0	1051	301	512	0	79	0	0	0
Peak Hour Factor	0.8300	0.9100	1.0000	1.0000	0.9100	0.8300	0.8300	1.0000	0.8300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	234	313	0	289	91	154	0	24	0	0	0
Total Analysis Volume [veh/h]	0	936	1253	0	1155	363	617	0	95	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	4	0	0	0	0	0
Auxiliary Signal Groups												
Maximum Green [s]	0	73	0	0	73	0	34	0	0	0	0	0
Amber [s]	0.0	5.0	0.0	0.0	5.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	5.0	0.0	0.0	5.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	0.0	245.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	80	0	0	80	0	40	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	9	0	0	9	0	8	0	0	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	1.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		Yes			Yes		No					
Maximum Recall		No			No		No					
Pedestrian Recall		No			No		No					

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	R	C	R	L	C	R	
C, Cycle Length [s]	120	120	120	120	120	120	120	
L, Total Lost Time per Cycle [s]	7.00	7.00	7.00	7.00	6.00	6.00	6.00	
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	5.00	5.00	5.00	5.00	4.00	4.00	4.00	
g_i, Effective Green Time [s]	84	84	84	84	23	23	23	
g / C, Green / Cycle	0.70	0.70	0.70	0.70	0.19	0.19	0.19	
(v / s)_i Volume / Saturation Flow Rate	0.26	0.79	0.32	0.23	0.17	0.17	0.06	
s, saturation flow rate [veh/h]	3560	1589	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	2485	1109	2485	1109	345	345	308	
d1, Uniform Delay [s]	7.43	18.13	8.11	7.10	47.16	47.16	41.47	
k, delay calibration	0.50	0.50	0.50	0.50	0.08	0.08	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.44	70.12	0.63	0.79	6.43	6.43	0.21	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.38	1.13	0.46	0.33	0.89	0.89	0.31	
d, Delay for Lane Group [s/veh]	7.87	88.25	8.74	7.89	53.60	53.60	41.68	
Lane Group LOS	A	F	A	A	D	D	D	
Critical Lane Group	No	Yes	No	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	4.70	47.92	6.35	3.62	9.57	9.57	2.44	
50th-Percentile Queue Length [ft/ln]	117.59	1198.12	158.66	90.40	239.36	239.36	61.08	
95th-Percentile Queue Length [veh/ln]	8.26	65.85	10.48	6.51	14.65	14.65	4.40	
95th-Percentile Queue Length [ft/ln]	206.51	1646.23	261.94	162.72	366.22	366.22	109.95	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	7.87	88.25	0.00	8.74	7.89	53.60	0.00	41.68	0.00	0.00	0.00
Movement LOS		A	F		A	A	D		D			
d_A, Approach Delay [s/veh]		53.88			8.53			52.01			0.00	
Approach LOS		D			A			D			A	
d_I, Intersection Delay [s/veh]						38.00						
Intersection LOS						D						
Intersection V/C						1.068						

Emissions

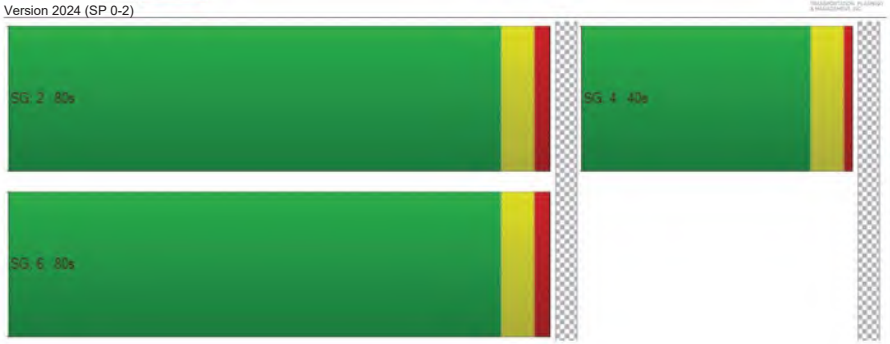
Vehicle Miles Traveled [mph]	163.28	218.59	204.68	64.33	18.68	18.68	5.75	
Stops [stops/h]	282.22	1437.75	380.77	108.48	287.23	287.23	73.30	
Fuel consumption [US gal/h]	9.78	39.44	12.58	3.83	5.72	5.72	1.45	
CO [g/h]	683.65	2756.99	879.58	267.73	399.85	399.85	101.18	
NOx [g/h]	133.01	536.41	171.13	52.09	77.80	77.80	19.69	
VOC [g/h]	158.44	638.96	203.85	62.05	92.67	92.67	23.45	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1217	1217	567	0
d_b, Bicycle Delay [s]	9.20	9.20	30.82	60.00
l_b,int, Bicycle LOS Score for Intersection	3.366	2.812	2.754	4.132
Bicycle LOS	C	C	C	D

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 24: Silva Valley Pkwy/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	27.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.753

Intersection Setup

Name	White Rock Rd			Silva Valley Pkwy			US 50 WB			US 50 WB		
Approach	Northbound			Southbound			Westbound			Northeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No			No				
Crosswalk		No			No			No			No	

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Volumes

Name	White Rock Rd			Silva Valley Pkwy			US 50 WB			US 50 WB		
Base Volume Input [veh/h]	0	1215	152	0	686	254	671	1	310	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-3	0	0	-1	0	-4	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1212	152	0	685	254	667	1	310	0	0	0
Peak Hour Factor	0.7900	0.7900	1.0000	1.0000	0.7900	0.7900	0.7900	0.7900	0.7900	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	384	38	0	217	80	211	0	98	0	0	0
Total Analysis Volume [veh/h]	0	1534	152	0	867	322	844	1	392	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Maximum Green [s]	0	73	0	0	73	0	0	34	0	0	0	0
Amber [s]	0.0	4.8	0.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	4.8	0.0	0.0	4.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	80	0	0	80	0	0	40	0	0	0	0
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	8	0	0	8	0	0	8	0	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		Yes			Yes			No				
Maximum Recall		No			No			No				
Pedestrian Recall		No			No			No				

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	R	C	R	L	C	R	
C, Cycle Length [s]	120	120	120	120	120	120	120	
L, Total Lost Time per Cycle [s]	6.80	6.80	6.80	6.80	5.80	5.80	5.80	
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	4.80	4.80	4.80	4.80	3.80	3.80	3.80	
g_i, Effective Green Time [s]	76	76	76	76	31	31	31	
g / C, Green / Cycle	0.63	0.63	0.63	0.63	0.26	0.26	0.26	
(v / s)_i Volume / Saturation Flow Rate	0.43	0.10	0.24	0.20	0.24	0.24	0.25	
s, saturation flow rate [veh/h]	3560	1589	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	2253	1006	2253	1006	467	467	417	
d1, Uniform Delay [s]	14.22	8.95	10.70	10.15	42.81	42.81	43.35	
k, delay calibration	0.50	0.50	0.50	0.50	0.27	0.27	0.30	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.69	0.32	0.50	0.84	14.67	14.65	22.13	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.68	0.15	0.38	0.32	0.90	0.90	0.94	
d, Delay for Lane Group [s/veh]	15.90	9.27	11.20	10.99	57.48	57.46	65.48	
Lane Group LOS	B	A	B	B	E	E	E	
Critical Lane Group	Yes	No	No	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	13.11	1.66	5.51	4.00	13.94	13.94	13.87	
50th-Percentile Queue Length [ft/ln]	327.73	41.45	137.66	100.12	348.45	348.40	346.71	
95th-Percentile Queue Length [veh/ln]	19.05	2.98	9.35	7.21	20.06	20.06	19.98	
95th-Percentile Queue Length [ft/ln]	476.18	74.62	233.87	180.22	501.52	501.46	499.40	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	15.90	9.27	0.00	11.20	10.99	57.47	57.46	65.48	0.00	0.00	0.00
Movement LOS		B	A		B	B	E	E	E			
d_A, Approach Delay [s/veh]		15.31			11.14			60.01			0.00	
Approach LOS		B			B			E			A	
d_I, Intersection Delay [s/veh]	27.55											
Intersection LOS	C											
Intersection V/C	0.753											

Emissions

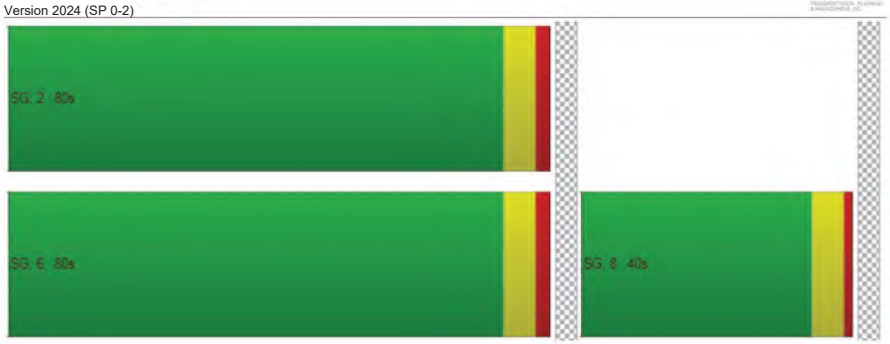
Vehicle Miles Traveled [mph]	271.84	26.94	118.55	44.03	14.64	14.64	13.58	
Stops [stops/h]	786.56	49.74	330.38	120.15	418.15	418.08	416.05	
Fuel consumption [US gal/h]	20.50	1.67	8.68	3.20	7.85	7.85	8.08	
CO [g/h]	1433.03	116.76	606.82	223.43	549.00	548.87	564.81	
NOx [g/h]	278.82	22.72	118.07	43.47	106.82	106.79	109.89	
VOC [g/h]	332.12	27.06	140.64	51.78	127.24	127.21	130.90	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1220	1220	570	0
d_b, Bicycle Delay [s]	9.13	9.13	30.67	60.00
l_b,int, Bicycle LOS Score for Intersection	2.951	2.541	3.601	4.132
Bicycle LOS	C	B	D	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 25: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Base Volume Input [veh/h]	0	438	590	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-1	-6	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	437	584	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	109	146	0	0	0
Total Analysis Volume [veh/h]	0	437	584	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	12.04
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		12.04	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Scenario 5: 5 2040 PM with CCSP, No Project
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2/14/2024

Intersection Level Of Service Report
Intersection 26: Latrobe/Wetsl-Oviatt

Control Type:	Two-way stop	Delay (sec / veh):	16.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.078

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Base Volume Input [veh/h]	0	328	485	20	27	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-1	-6	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	327	479	20	27	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	82	120	5	7	0
Total Analysis Volume [veh/h]	0	327	479	20	27	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					Yes	
Storage Area [veh]	0		0		1	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.08	0.00
d_M, Delay for Movement [s/veh]	8.38	0.00	0.00	0.00	16.26	12.09
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.25	0.25
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	6.30	6.30
d_A, Approach Delay [s/veh]	0.00		0.00		16.26	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.51					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 27: Latrobe/S. Shingle

Control Type:	Two-way stop	Delay (sec / veh):	20.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.159

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Base Volume Input [veh/h]	0	185	67	47	288	46	10	41	2	49	25	87
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-1	0	0	-6	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	184	67	47	282	46	10	41	2	49	25	87
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	47	17	12	73	12	3	11	1	13	6	22
Total Analysis Volume [veh/h]	0	190	69	48	291	47	10	42	2	51	26	90
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free		Free		Stop		Stop	
Flared Lane					No		No	
Storage Area [veh]	0		0		0		0	
Two-Stage Gap Acceptance					No		No	
Number of Storage Spaces in Median	0		0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.00	0.00	0.04	0.12	0.00	0.16	0.07	0.11
d_M, Delay for Movement [s/veh]	7.95	0.00	0.00	7.82	0.00	0.00	19.59	16.84	11.83	20.01	18.58	13.17
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.08	0.08	0.08	0.54	0.54	0.54	1.50	1.50	1.50
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.11	2.11	2.11	13.50	13.50	13.50	37.40	37.40	37.40
d_A, Approach Delay [s/veh]	0.00			0.97			17.16			16.10		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	4.61											
Intersection LOS	C											

Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	437	607	60	0
2	424	589	58	0
3	415	577	57	0
4	389	540	53	0
5	345	480	47	0
6	341	473	47	0
7	336	467	46	0
8	306	425	42	0
9	302	419	41	0
10	297	413	41	0
11	258	358	35	0
12	240	334	33	0
13	236	328	32	0
14	175	243	24	0
15	175	243	24	0
16	122	170	17	0
17	70	97	10	0
18	70	97	10	0
19	39	55	5	0
20	22	30	3	0
21	13	18	2	0
22	4	6	1	0
23	4	6	1	0
24	4	6	1	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1044	1	60	No	No	No	No	No	Yes	Yes	Yes	No	No
2	1	1013	1	58	No	No	No	No	No	No	Yes	Yes	No	No
3	1	992	1	57	No	No	No	No	No	No	Yes	Yes	No	No
4	1	929	1	53	No	No	No	No	No	No	Yes	Yes	No	No
5	1	825	1	47	No	No	No	No	No	No	No	Yes	No	No
6	1	814	1	47	No	No	No	No	No	No	No	Yes	No	No
7	1	803	1	46	No	No	No	No	No	No	No	Yes	No	No
8	1	731	1	42	No	No	No	No	No	No	No	Yes	No	No
9	1	721	1	41	No	No	No	No	No	No	No	No	No	No
10	1	710	1	41	No	No	No	No	No	No	No	No	No	No
11	1	616	1	35	No	No	No	No	No	No	No	No	No	No
12	1	574	1	33	No	No	No	No	No	No	No	No	No	No
13	1	564	1	32	No	No	No	No	No	No	No	No	No	No
14	1	418	1	24	No	No	No	No	No	No	No	No	No	No
15	1	418	1	24	No	No	No	No	No	No	No	No	No	No
16	1	292	1	17	No	No	No	No	No	No	No	No	No	No
17	1	167	1	10	No	No	No	No	No	No	No	No	No	No
18	1	167	1	10	No	No	No	No	No	No	No	No	No	No
19	1	94	1	5	No	No	No	No	No	No	No	No	No	No
20	1	52	1	3	No	No	No	No	No	No	No	No	No	No
21	1	31	1	2	No	No	No	No	No	No	No	No	No	No
22	1	10	1	1	No	No	No	No	No	No	No	No	No	No
23	1	10	1	1	No	No	No	No	No	No	No	No	No	No
24	1	10	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	1	4	8	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	12.3	22.2
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:12	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	60	0
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1104	1104
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 12: Latrobe Rd/Royal Oaks Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	354	584	163	0
2	343	566	158	0
3	336	555	155	0
4	315	520	145	0
5	280	461	129	0
6	276	456	127	0
7	273	450	126	0
8	248	409	114	0
9	244	403	112	0
10	241	397	111	0
11	209	345	96	0
12	195	321	90	0
13	191	315	88	0
14	142	234	65	0
15	142	234	65	0
16	99	164	46	0
17	57	93	26	0
18	57	93	26	0
19	32	53	15	0
20	18	29	8	0
21	11	18	5	0
22	4	6	2	0
23	4	6	2	0
24	4	6	2	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	938	1	163	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	2	909	1	158	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	2	891	1	155	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
4	2	835	1	145	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
5	2	741	1	129	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
6	2	732	1	127	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
7	2	723	1	126	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
8	2	657	1	114	No	No	Yes	Yes	No	No	Yes	Yes	Yes	No
9	2	647	1	112	No	No	Yes	Yes	No	No	Yes	Yes	No	No
10	2	638	1	111	No	No	Yes	Yes	No	No	Yes	Yes	No	No
11	2	554	1	96	No	No	No	Yes	No	No	No	Yes	No	No
12	2	516	1	90	No	No	No	Yes	No	No	No	Yes	No	No
13	2	506	1	88	No	No	No	Yes	No	No	No	Yes	No	No
14	2	376	1	65	No	No	No	No	No	No	No	No	No	No
15	2	376	1	65	No	No	No	No	No	No	No	No	No	No
16	2	263	1	46	No	No	No	No	No	No	No	No	No	No
17	2	150	1	26	No	No	No	No	No	No	No	No	No	No
18	2	150	1	26	No	No	No	No	No	No	No	No	No	No
19	2	85	1	15	No	No	No	No	No	No	No	No	No	No
20	2	47	1	8	No	No	No	No	No	No	No	No	No	No
21	2	29	1	5	No	No	No	No	No	No	No	No	No	No
22	2	10	1	2	No	No	No	No	No	No	No	No	No	No
23	2	10	1	2	No	No	No	No	No	No	No	No	No	No
24	2	10	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					3	7	10	13	2	7	10	13	8	3

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	32.3	24.5
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:27	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	163	0
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1101	1101
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 13: Golden Foothill/Robert J Mathews

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	1186	217	1068
2	1150	210	1036
3	1127	206	1015
4	1056	193	951
5	937	171	844
6	925	169	833
7	913	167	822
8	830	152	748
9	818	150	737
10	806	148	726
11	700	128	630
12	652	119	587
13	640	117	577
14	474	87	427
15	474	87	427
16	332	61	299
17	190	35	171
18	190	35	171
19	107	20	96
20	59	11	53
21	36	7	32
22	12	2	11
23	12	2	11
24	12	2	11

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1403	1	1068	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1360	1	1036	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1333	1	1015	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1249	1	951	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	1108	1	844	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	1094	1	833	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1	1080	1	822	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	1	982	1	748	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	1	968	1	737	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	1	954	1	726	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	1	828	1	630	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	1	771	1	587	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	1	757	1	577	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	1	561	1	427	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
15	1	561	1	427	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
16	1	393	1	299	No	No	Yes	Yes	No	No	No	No	No	No
17	1	225	1	171	No	No	No	No	No	No	No	No	No	No
18	1	225	1	171	No	No	No	No	No	No	No	No	No	No
19	1	127	1	96	No	No	No	No	No	No	No	No	No	No
20	1	70	1	53	No	No	No	No	No	No	No	No	No	No
21	1	43	1	32	No	No	No	No	No	No	No	No	No	No
22	1	14	1	11	No	No	No	No	No	No	No	No	No	No
23	1	14	1	11	No	No	No	No	No	No	No	No	No	No
24	1	14	1	11	No	No	No	No	No	No	No	No	No	No
Hours Met					15	15	16	16	13	13	15	15	15	13

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	10000
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2966:40
Delay Condition Met	Yes
Volume on Minor Street Approach During Same Hour	1068
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	2471
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	Yes
Warrant Met for Intersection	**Yes**

Signal Warrants Report For Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	822	647	308	40
2	797	628	299	39
3	781	615	293	38
4	732	576	274	36
5	649	511	243	32
6	641	505	240	31
7	633	498	237	31
8	575	453	216	28
9	567	446	213	28
10	559	440	209	27
11	485	382	182	24
12	452	356	169	22
13	444	349	166	22
14	329	259	123	16
15	329	259	123	16
16	230	181	86	11
17	132	104	49	6
18	132	104	49	6
19	74	58	28	4
20	41	32	15	2
21	25	19	9	1
22	8	6	3	0
23	8	6	3	0
24	8	6	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1469	1	308	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1425	1	299	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1396	1	293	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1308	1	274	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	1160	1	243	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	1146	1	240	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1	1131	1	237	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
8	1	1028	1	216	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
9	1	1013	1	213	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
10	1	999	1	209	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
11	1	867	1	182	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
12	1	808	1	169	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
13	1	793	1	166	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
14	1	588	1	123	No	Yes	Yes	Yes	No	No	Yes	Yes	No	No
15	1	588	1	123	No	Yes	Yes	Yes	No	No	Yes	Yes	No	No
16	1	411	1	86	No	No	No	Yes	No	No	No	No	No	No
17	1	236	1	49	No	No	No	No	No	No	No	No	No	No
18	1	236	1	49	No	No	No	No	No	No	No	No	No	No
19	1	132	1	28	No	No	No	No	No	No	No	No	No	No
20	1	73	1	15	No	No	No	No	No	No	No	No	No	No
21	1	44	1	9	No	No	No	No	No	No	No	No	No	No
22	1	14	1	3	No	No	No	No	No	No	No	No	No	No
23	1	14	1	3	No	No	No	No	No	No	No	No	No	No
24	1	14	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					13	15	15	16	13	13	15	15	13	6

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	30	12.4
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2:33	0:08
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	308	40
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1817	1817
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	301	436	233
2	292	423	226
3	286	414	221
4	268	388	207
5	238	344	184
6	235	340	182
7	232	336	179
8	211	305	163
9	208	301	161
10	205	296	158
11	178	257	137
12	166	240	128
13	163	235	126
14	120	174	93
15	120	174	93
16	84	122	65
17	48	70	37
18	48	70	37
19	27	39	21
20	15	22	12
21	9	13	7
22	3	4	2
23	3	4	2
24	3	4	2

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	737	2	233	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
2	2	715	2	226	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
3	2	700	2	221	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
4	2	656	2	207	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
5	2	582	2	184	No	Yes	Yes	Yes	No	No	No	Yes	No	No
6	2	575	2	182	No	Yes	Yes	Yes	No	No	No	Yes	No	No
7	2	568	2	179	No	Yes	Yes	Yes	No	No	No	Yes	No	No
8	2	516	2	163	No	Yes	Yes	Yes	No	No	No	Yes	No	No
9	2	509	2	161	No	Yes	Yes	Yes	No	No	No	Yes	No	No
10	2	501	2	158	No	No	Yes	Yes	No	No	No	No	No	No
11	2	435	2	137	No	No	No	Yes	No	No	No	No	No	No
12	2	406	2	128	No	No	No	Yes	No	No	No	No	No	No
13	2	398	2	126	No	No	No	Yes	No	No	No	No	No	No
14	2	294	2	93	No	No	No	No	No	No	No	No	No	No
15	2	294	2	93	No	No	No	No	No	No	No	No	No	No
16	2	206	2	65	No	No	No	No	No	No	No	No	No	No
17	2	118	2	37	No	No	No	No	No	No	No	No	No	No
18	2	118	2	37	No	No	No	No	No	No	No	No	No	No
19	2	66	2	21	No	No	No	No	No	No	No	No	No	No
20	2	37	2	12	No	No	No	No	No	No	No	No	No	No
21	2	22	2	7	No	No	No	No	No	No	No	No	No	No
22	2	7	2	2	No	No	No	No	No	No	No	No	No	No
23	2	7	2	2	No	No	No	No	No	No	No	No	No	No
24	2	7	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					4	9	10	13	0	1	4	9	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	27.6
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:47
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	233
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	970
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 16: Carson Crossing Rd/Calypso Cir.

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	454	282	413
2	440	274	401
3	431	268	392
4	404	251	368
5	359	223	326
6	354	220	322
7	350	217	318
8	318	197	289
9	313	195	285
10	309	192	281
11	268	166	244
12	250	155	227
13	245	152	223
14	182	113	165
15	182	113	165
16	127	79	116
17	73	45	66
18	73	45	66
19	41	25	37
20	23	14	21
21	14	8	12
22	5	3	4
23	5	3	4
24	5	3	4

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	736	1	413	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
2	2	714	1	401	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
3	2	699	1	392	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
4	2	655	1	368	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
5	2	582	1	326	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
6	2	574	1	322	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
7	2	567	1	318	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
8	2	515	1	289	No	Yes	Yes	Yes	No	No	No	Yes	No	No
9	2	508	1	285	No	Yes	Yes	Yes	No	No	No	Yes	No	No
10	2	501	1	281	No	Yes	Yes	Yes	No	No	No	No	No	No
11	2	434	1	244	No	No	Yes	Yes	No	No	No	No	No	No
12	2	405	1	227	No	No	No	Yes	No	No	No	No	No	No
13	2	397	1	223	No	No	No	Yes	No	No	No	No	No	No
14	2	295	1	165	No	No	No	No	No	No	No	No	No	No
15	2	295	1	165	No	No	No	No	No	No	No	No	No	No
16	2	206	1	116	No	No	No	No	No	No	No	No	No	No
17	2	118	1	66	No	No	No	No	No	No	No	No	No	No
18	2	118	1	66	No	No	No	No	No	No	No	No	No	No
19	2	66	1	37	No	No	No	No	No	No	No	No	No	No
20	2	37	1	21	No	No	No	No	No	No	No	No	No	No
21	2	22	1	12	No	No	No	No	No	No	No	No	No	No
22	2	8	1	4	No	No	No	No	No	No	No	No	No	No
23	2	8	1	4	No	No	No	No	No	No	No	No	No	No
24	2	8	1	4	No	No	No	No	No	No	No	No	No	No
Hours Met					4	10	11	13	0	1	4	9	7	1

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	146.3
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	16:46
Delay Condition Met	Yes
Volume on Minor Street Approach During Same Hour	413
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1149
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	Yes
Warrant Met for Intersection	**Yes**

Signal Warrants Report For Intersection 17: Carson Crossing Rd/Four Seasons Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	295	225	3
2	286	218	3
3	280	214	3
4	263	200	3
5	233	178	2
6	230	176	2
7	227	173	2
8	207	158	2
9	204	155	2
10	201	153	2
11	174	133	2
12	162	124	2
13	159	122	2
14	118	90	1
15	118	90	1
16	83	63	1
17	47	36	0
18	47	36	0
19	27	20	0
20	15	11	0
21	9	7	0
22	3	2	0
23	3	2	0
24	3	2	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	520	1	3	No	No	No	No	No	No	No	No	No	No
2	3	504	1	3	No	No	No	No	No	No	No	No	No	No
3	3	494	1	3	No	No	No	No	No	No	No	No	No	No
4	3	463	1	3	No	No	No	No	No	No	No	No	No	No
5	3	411	1	2	No	No	No	No	No	No	No	No	No	No
6	3	406	1	2	No	No	No	No	No	No	No	No	No	No
7	3	400	1	2	No	No	No	No	No	No	No	No	No	No
8	3	365	1	2	No	No	No	No	No	No	No	No	No	No
9	3	359	1	2	No	No	No	No	No	No	No	No	No	No
10	3	354	1	2	No	No	No	No	No	No	No	No	No	No
11	3	307	1	2	No	No	No	No	No	No	No	No	No	No
12	3	286	1	2	No	No	No	No	No	No	No	No	No	No
13	3	281	1	2	No	No	No	No	No	No	No	No	No	No
14	3	208	1	1	No	No	No	No	No	No	No	No	No	No
15	3	208	1	1	No	No	No	No	No	No	No	No	No	No
16	3	146	1	1	No	No	No	No	No	No	No	No	No	No
17	3	83	1	0	No	No	No	No	No	No	No	No	No	No
18	3	83	1	0	No	No	No	No	No	No	No	No	No	No
19	3	47	1	0	No	No	No	No	No	No	No	No	No	No
20	3	26	1	0	No	No	No	No	No	No	No	No	No	No
21	3	16	1	0	No	No	No	No	No	No	No	No	No	No
22	3	5	1	0	No	No	No	No	No	No	No	No	No	No
23	3	5	1	0	No	No	No	No	No	No	No	No	No	No
24	3	5	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	8.1
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	3
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	523
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 25: New Intersection

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	437	584	0
2	424	566	0
3	415	555	0
4	389	520	0
5	345	461	0
6	341	456	0
7	336	450	0
8	306	409	0
9	302	403	0
10	297	397	0
11	258	345	0
12	240	321	0
13	236	315	0
14	175	234	0
15	175	234	0
16	122	164	0
17	70	93	0
18	70	93	0
19	39	53	0
20	22	29	0
21	13	18	0
22	4	6	0
23	4	6	0
24	4	6	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1021	1	0	No	No	No	No	No	No	No	No	No	No
2	1	990	1	0	No	No	No	No	No	No	No	No	No	No
3	1	970	1	0	No	No	No	No	No	No	No	No	No	No
4	1	909	1	0	No	No	No	No	No	No	No	No	No	No
5	1	806	1	0	No	No	No	No	No	No	No	No	No	No
6	1	797	1	0	No	No	No	No	No	No	No	No	No	No
7	1	786	1	0	No	No	No	No	No	No	No	No	No	No
8	1	715	1	0	No	No	No	No	No	No	No	No	No	No
9	1	705	1	0	No	No	No	No	No	No	No	No	No	No
10	1	694	1	0	No	No	No	No	No	No	No	No	No	No
11	1	603	1	0	No	No	No	No	No	No	No	No	No	No
12	1	561	1	0	No	No	No	No	No	No	No	No	No	No
13	1	551	1	0	No	No	No	No	No	No	No	No	No	No
14	1	409	1	0	No	No	No	No	No	No	No	No	No	No
15	1	409	1	0	No	No	No	No	No	No	No	No	No	No
16	1	286	1	0	No	No	No	No	No	No	No	No	No	No
17	1	163	1	0	No	No	No	No	No	No	No	No	No	No
18	1	163	1	0	No	No	No	No	No	No	No	No	No	No
19	1	92	1	0	No	No	No	No	No	No	No	No	No	No
20	1	51	1	0	No	No	No	No	No	No	No	No	No	No
21	1	31	1	0	No	No	No	No	No	No	No	No	No	No
22	1	10	1	0	No	No	No	No	No	No	No	No	No	No
23	1	10	1	0	No	No	No	No	No	No	No	No	No	No
24	1	10	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	12
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1021
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 26: Latrobe/Wetsl-Oviatt

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	327	499	27
2	317	484	26
3	311	474	26
4	291	444	24
5	258	394	21
6	255	389	21
7	252	384	21
8	229	349	19
9	226	344	19
10	222	339	18
11	193	294	16
12	180	274	15
13	177	269	15
14	131	200	11
15	131	200	11
16	92	140	8
17	52	80	4
18	52	80	4
19	29	45	2
20	16	25	1
21	10	15	1
22	3	5	0
23	3	5	0
24	3	5	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	826	1	27	No	No	No	No	No	No	No	No	No	No
2	1	801	1	26	No	No	No	No	No	No	No	No	No	No
3	1	785	1	26	No	No	No	No	No	No	No	No	No	No
4	1	735	1	24	No	No	No	No	No	No	No	No	No	No
5	1	652	1	21	No	No	No	No	No	No	No	No	No	No
6	1	644	1	21	No	No	No	No	No	No	No	No	No	No
7	1	636	1	21	No	No	No	No	No	No	No	No	No	No
8	1	578	1	19	No	No	No	No	No	No	No	No	No	No
9	1	570	1	19	No	No	No	No	No	No	No	No	No	No
10	1	561	1	18	No	No	No	No	No	No	No	No	No	No
11	1	487	1	16	No	No	No	No	No	No	No	No	No	No
12	1	454	1	15	No	No	No	No	No	No	No	No	No	No
13	1	446	1	15	No	No	No	No	No	No	No	No	No	No
14	1	331	1	11	No	No	No	No	No	No	No	No	No	No
15	1	331	1	11	No	No	No	No	No	No	No	No	No	No
16	1	232	1	8	No	No	No	No	No	No	No	No	No	No
17	1	132	1	4	No	No	No	No	No	No	No	No	No	No
18	1	132	1	4	No	No	No	No	No	No	No	No	No	No
19	1	74	1	2	No	No	No	No	No	No	No	No	No	No
20	1	41	1	1	No	No	No	No	No	No	No	No	No	No
21	1	25	1	1	No	No	No	No	No	No	No	No	No	No
22	1	8	1	0	No	No	No	No	No	No	No	No	No	No
23	1	8	1	0	No	No	No	No	No	No	No	No	No	No
24	1	8	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.3
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:07
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	27
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	853
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 27: Latrobe/S. Shingle

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

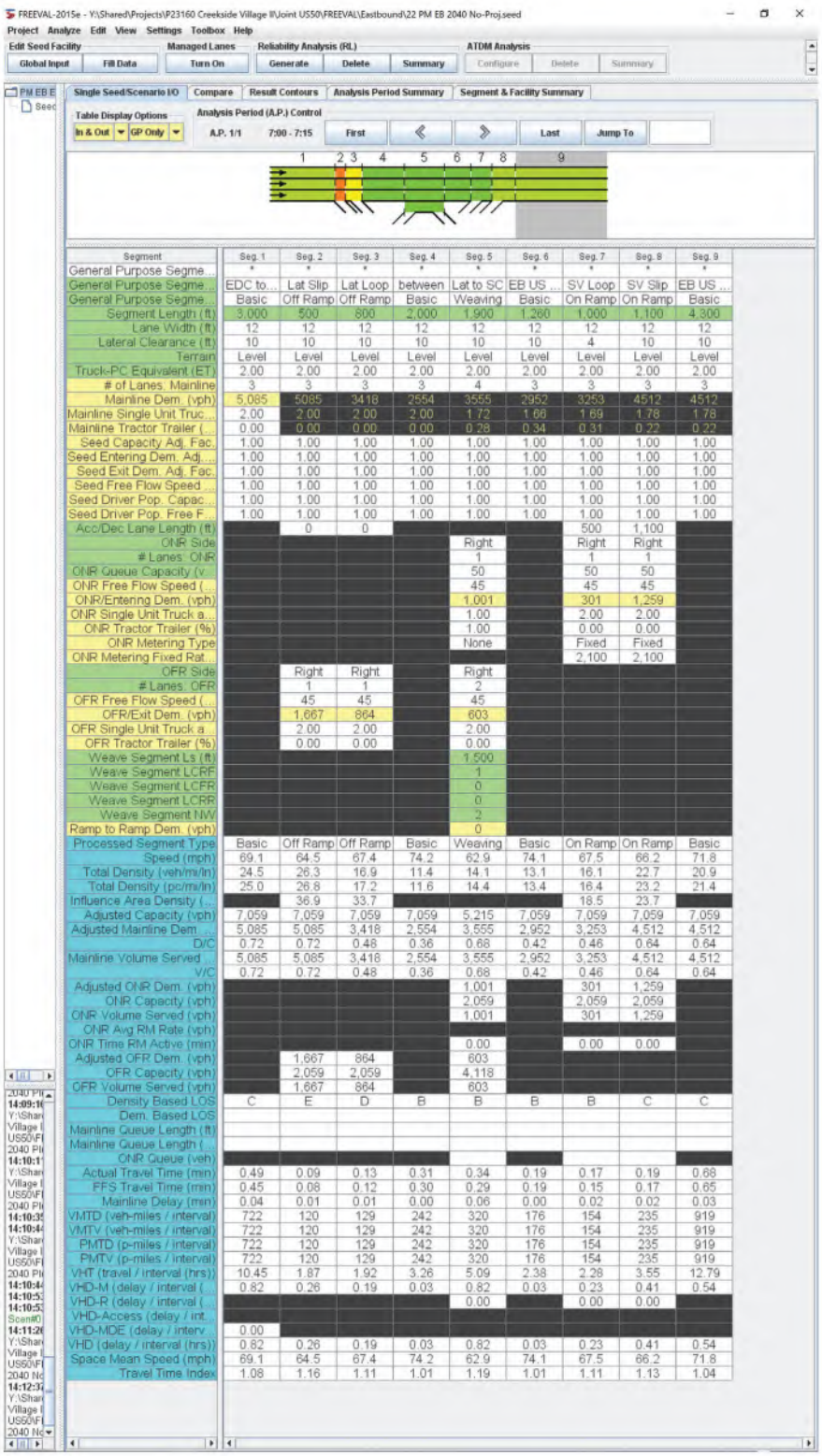
Hour	Major Streets		Minor Streets	
	S	N	E	W
1	251	375	161	53
2	243	364	156	51
3	238	356	153	50
4	223	334	143	47
5	198	296	127	42
6	196	293	126	41
7	193	289	124	41
8	176	263	113	37
9	173	259	111	37
10	171	255	109	36
11	148	221	95	31
12	138	206	89	29
13	136	203	87	29
14	100	150	64	21
15	100	150	64	21
16	70	105	45	15
17	40	60	26	8
18	40	60	26	8
19	23	34	14	5
20	13	19	8	3
21	8	11	5	2
22	3	4	2	1
23	3	4	2	1
24	3	4	2	1

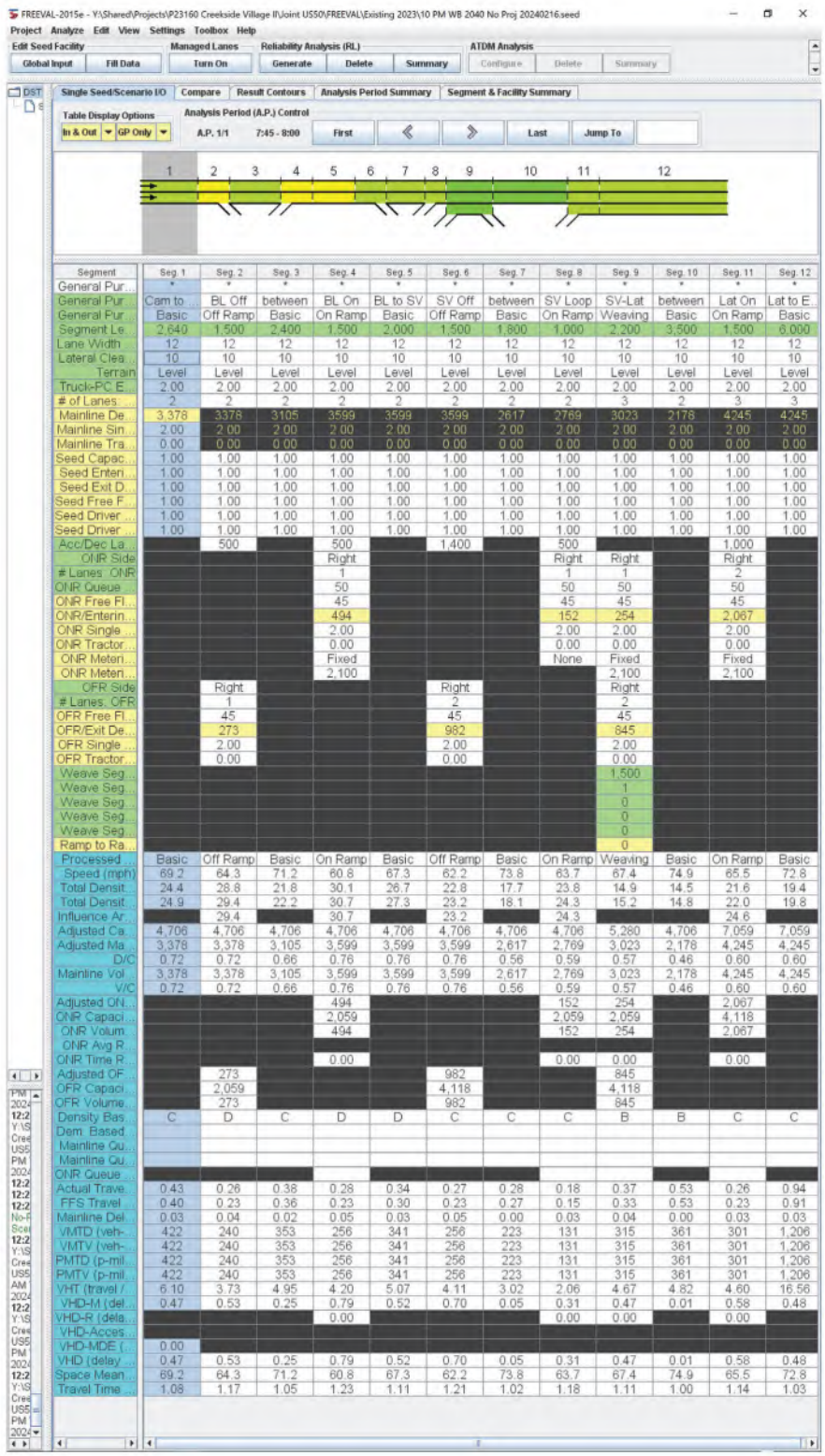
Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	626	1	161	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
2	1	607	1	156	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
3	1	594	1	153	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
4	1	557	1	143	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
5	1	494	1	127	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
6	1	489	1	126	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
7	1	482	1	124	No	Yes	Yes	Yes	No	No	No	Yes	No	No
8	1	439	1	113	No	No	Yes	Yes	No	No	No	Yes	No	No
9	1	432	1	111	No	No	Yes	Yes	No	No	No	Yes	No	No
10	1	426	1	109	No	No	Yes	Yes	No	No	No	Yes	No	No
11	1	369	1	95	No	No	No	Yes	No	No	No	No	No	No
12	1	344	1	89	No	No	No	Yes	No	No	No	No	No	No
13	1	339	1	87	No	No	No	Yes	No	No	No	No	No	No
14	1	250	1	64	No	No	No	No	No	No	No	No	No	No
15	1	250	1	64	No	No	No	No	No	No	No	No	No	No
16	1	175	1	45	No	No	No	No	No	No	No	No	No	No
17	1	100	1	26	No	No	No	No	No	No	No	No	No	No
18	1	100	1	26	No	No	No	No	No	No	No	No	No	No
19	1	57	1	14	No	No	No	No	No	No	No	No	No	No
20	1	32	1	8	No	No	No	No	No	No	No	No	No	No
21	1	19	1	5	No	No	No	No	No	No	No	No	No	No
22	1	7	1	2	No	No	No	No	No	No	No	No	No	No
23	1	7	1	2	No	No	No	No	No	No	No	No	No	No
24	1	7	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					3	7	10	13	0	2	4	10	6	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.1	17.2
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:43	0:15
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	161	53
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	840	840
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	


FREEVAL-2015e - Y:\Shared\Projects\P23160 Creekside Village II\Joint US50\FREEVAL\Eastbound\22 PM EB 2040 No-Proj.seed
Project Analyze Edit View Settings Toolbox Help
Edit Seed Facility
Global Input
Fill Data
Managed Lanes
Turn On
Reliability Analysis (RL)
Generate
Delete
Summary
ATDM Analysis
Configure
Delete
Summary
Single Seed/Scenario I/O
Compare
Result Contours
Analysis Period Summary
Segment & Facility Summary
Table Display Options
In & Out
GP Only
Analysis Period (A.P.) Control
A.P. 1/1
7:00 - 7:15
First
Last
Jump To
1 2 3 4 5 6 7 8 9
Segment
Seg. 1 Seg. 2 Seg. 3 Seg. 4 Seg. 5 Seg. 6 Seg. 7 Seg. 8 Seg. 9
EDC to... Lat Slip Lat Loop between Lat to SC EB US ... SV Loop SV Slip EB US ...
Basic Off Ramp Off Ramp Basic Weaving Basic On Ramp On Ramp Basic
Segment Length (ft) 3,000 500 800 2,000 1,900 1,260 1,000 1,100 4,300
Lane Width (ft) 12 12 12 12 12 12 12 12 12
Lateral Clearance (ft) 10 10 10 10 10 10 4 10 10
Terrain Level Level Level Level Level Level Level Level Level
Truck-PC Equivalent (ET) 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00
of Lanes: Mainline 3 3 3 3 4 3 3 3 3
Mainline Dem. (vph) 5,085 5085 3418 2554 3555 2952 3253 4512 4512
Mainline Single Unit Truc... 2.00 2.00 2.00 2.00 1.72 1.66 1.69 1.78 1.78
Mainline Tractor Trailer (... 0.00 0.00 0.00 0.00 0.28 0.34 0.31 0.22 0.22
Seed Capacity Adj. Fac. 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Entering Dem. Adj.... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Exit Dem. Adj. Fac. 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Free Flow Speed... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Driver Pop. Capac... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Driver Pop. Free F... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Acc/Dec Lane Length (ft) 0 0 500 1,100
ONR Side Right Right Right
Lanes: ONR 1 1 1
ONR Queue Capacity (v... 50 50 50
ONR Free Flow Speed (... 45 45 45
ONR/Entering Dem. (vph) 1,001 301 1,259
ONR Single Unit Truck a... 1.00 2.00 2.00
ONR Tractor Trailer (%) 1.00 0.00 0.00
ONR Metering Type None Fixed Fixed
ONR Metering Fixed Rat... 2,100 2,100
OFR Side Right Right Right
Lanes: OFR 1 1 2
OFR Free Flow Speed (... 45 45 45
OFR/Exit Dem. (vph) 1,667 864 603
OFR Single Unit Truck a... 2.00 2.00 2.00
OFR Tractor Trailer (%) 0.00 0.00 0.00
Weave Segment Ls (ft) 1,500
Weave Segment LCRF 1
Weave Segment LCFR 0
Weave Segment LCRR 0
Weave Segment NW 2
Ramp to Ramp Dem. (vph) 0
Processed Segment Type Basic Off Ramp Off Ramp Basic Weaving Basic On Ramp On Ramp Basic
Speed (mph) 69.1 64.5 67.4 74.2 62.9 74.1 67.5 66.2 71.8
Total Density (veh/mi/ln) 24.5 26.3 16.9 11.4 14.1 13.1 16.1 22.7 20.9
Total Density (pc/mi/ln) 25.0 26.8 17.2 11.6 14.4 13.4 16.4 23.2 21.4
Influence Area Density (... 36.9 33.7 18.5 23.7
Adjusted Capacity (vph) 7,059 7,059 7,059 7,059 5,215 7,059 7,059 7,059 7,059
Adjusted Mainline Dem. ... 5,085 5,085 3,418 2,554 3,555 2,952 3,253 4,512 4,512
D/C 0.72 0.72 0.48 0.36 0.68 0.42 0.46 0.64 0.64
Mainline Volume Served... 5,085 5,085 3,418 2,554 3,555 2,952 3,253 4,512 4,512
V/C 0.72 0.72 0.48 0.36 0.68 0.42 0.46 0.64 0.64
Adjusted ONR Dem. (vph) 1,001 301 1,259
ONR Capacity (vph) 2,059 2,059 2,059
ONR Volume Served (vph) 1,001 301 1,259
ONR Avg RM Rate (vph)
ONR Time RM Active (min) 0.00 0.00 0.00
Adjusted OFR Dem. (vph) 1,667 864 603
OFR Capacity (vph) 2,059 2,059 4,118
OFR Volume Served (vph) 1,667 864 603
Density Based LOS C E D B B B B C C
Dem. Based LOS
Mainline Queue Length (ft)
Mainline Queue Length (...
ONR Queue (veh)
Actual Travel Time (min) 0.49 0.09 0.13 0.31 0.34 0.19 0.17 0.19 0.68
FFS Travel Time (min) 0.45 0.08 0.12 0.30 0.29 0.19 0.15 0.17 0.65
Mainline Delay (min) 0.04 0.01 0.01 0.00 0.06 0.00 0.02 0.02 0.03
VMTD (veh-miles / interval) 722 120 129 242 320 176 154 235 919
VMTV (veh-miles / interval) 722 120 129 242 320 176 154 235 919
PMTD (p-miles / interval) 722 120 129 242 320 176 154 235 919
PMTV (p-miles / interval) 722 120 129 242 320 176 154 235 919
VHT (travel / interval (hrs)) 10.45 1.87 1.92 3.26 5.09 2.38 2.28 3.55 12.79
VHD-M (delay / interval (... 0.82 0.26 0.19 0.03 0.82 0.03 0.23 0.41 0.54
VHD-R (delay / interval (...
VHD-Access (delay / int...
VHD-MDE (delay / interv... 0.00
VHD (delay / interval (hrs)) 0.82 0.26 0.19 0.03 0.82 0.03 0.23 0.41 0.54
Space Mean Speed (mph) 69.1 64.5 67.4 74.2 62.9 74.1 67.5 66.2 71.8
Travel Time Index 1.08 1.16 1.11 1.01 1.19 1.01 1.11 1.13 1.04


FREEVAL-2015e - Y:\Shared\Projects\P23160 Creekside Village II\Joint US50\FREEVAL\Existing 2023\10 PM WB 2040 No Proj 20240216.seed
Project Analyze Edit View Settings Toolbox Help
Edit Seed Facility
Global Input
Fill Data
Managed Lanes
Turn On
Reliability Analysis (RL)
Generate
Delete
Summary
ATDM Analysis
Configure
Delete
Summary
Single Seed/Scenario I/O
Compare
Result Contours
Analysis Period Summary
Segment & Facility Summary
Table Display Options
In & Out
GP Only
Analysis Period (A.P.) Control
A.P. 1/1
7:45 - 8:00
First
Last
Jump To
1 2 3 4 5 6 7 8 9 10 11 12
Segment
Seg. 1 Seg. 2 Seg. 3 Seg. 4 Seg. 5 Seg. 6 Seg. 7 Seg. 8 Seg. 9 Seg. 10 Seg. 11 Seg. 12
Cam to... BL Off between BL On BL to SV SV Off between SV Loop SV-Lat between Lat On Lat to E...
Basic Off Ramp Basic On Ramp Basic Off Ramp Basic On Ramp Weaving Basic On Ramp On Ramp Basic
Segment Le... 2,640 1,500 2,400 1,500 2,000 1,500 1,800 1,000 2,200 3,500 1,500 6,000
Lane Width ... 12 12 12 12 12 12 12 12 12 12 12 12
Lateral Clea... 10 10 10 10 10 10 10 10 10 10 10 10
Terrain Level Level Level Level Level Level Level Level Level Level Level Level
Truck-PC E... 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00
of Lanes: ... 2 2 2 2 2 2 2 2 3 2 3 3
Mainline De... 3,378 3378 3105 3599 3599 3599 2617 2769 3023 2178 4245 4245
Mainline Sin... 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00
Mainline Tra... 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
Seed Capac... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Enteri... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Exit D... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Free F... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Driver ... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Driver ... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Acc/Dec La... 500 500 1,400 500 1,000
ONR Side Right Right Right
Lanes: ONR 1 1 2
ONR Queue ... 50 50 50
ONR Free Fl... 45 45 45
ONR/Enterin... 494 152 254 2,067
ONR Single ... 2.00 2.00 2.00 2.00
ONR Tractor... 0.00 0.00 0.00 0.00
ONR Meteri... Fixed None Fixed Fixed
ONR Meteri... 2,100 2,100 2,100
OFR Side Right Right Right
Lanes: OFR 1 2 2
OFR Free Fl... 45 45 45
OFR/Exit De... 273 982 845
OFR Single ... 2.00 2.00 2.00
OFR Tractor... 0.00 0.00 0.00
Weave Seg... 1,500
Weave Seg... 1
Weave Seg... 0
Weave Seg... 0
Weave Seg... 0
Ramp to Ra... 0
Processed ... Basic Off Ramp Basic On Ramp Basic Off Ramp Basic On Ramp Weaving Basic On Ramp On Ramp Basic
Speed (mph) 69.2 64.3 71.2 60.8 67.3 62.2 73.8 63.7 67.4 74.9 65.5 72.8
Total Densit... 24.4 28.8 21.8 30.1 26.7 22.8 17.7 23.8 14.9 14.5 21.6 19.4
Total Densit... 24.9 29.4 22.2 30.7 27.3 23.2 18.1 24.3 15.2 14.8 22.0 19.8
Influence Ar... 29.4 30.7 23.2 24.3 24.6
Adjusted Ca... 4,706 4,706 4,706 4,706 4,706 4,706 4,706 4,706 5,280 4,706 7,059 7,059
Adjusted Ma... 3,378 3,378 3,105 3,599 3,599 3,599 2,617 2,769 3,023 2,178 4,245 4,245
D/C 0.72 0.72 0.66 0.76 0.76 0.76 0.56 0.59 0.57 0.46 0.60 0.60
Mainline Vol... 3,378 3,378 3,105 3,599 3,599 3,599 2,617 2,769 3,023 2,178 4,245 4,245
V/C 0.72 0.72 0.66 0.76 0.76 0.76 0.56 0.59 0.57 0.46 0.60 0.60
Adjusted ON... 494 152 254 2,067
ONR Capaci... 2,059 2,059 2,059 4,118
ONR Volum... 494 152 254 2,067
ONR Avg R...
ONR Time R... 0.00 0.00 0.00 0.00
Adjusted OF... 273 982 845
OFR Capaci... 2,059 4,118 4,118
OFR Volume... 273 982 845
Density Bas... C D C D D C C C B B C C
Dem. Based...
Mainline Qu...
Mainline Qu...
ONR Queue ...
Actual Trave... 0.43 0.26 0.38 0.28 0.34 0.27 0.28 0.18 0.37 0.53 0.26 0.94
FFS Travel ... 0.40 0.23 0.36 0.23 0.30 0.23 0.27 0.15 0.33 0.53 0.23 0.91
Mainline Del... 0.03 0.04 0.02 0.05 0.03 0.05 0.00 0.03 0.04 0.00 0.03 0.03
VMTD (veh-... 422 240 353 256 341 256 223 131 315 361 301 1,206
VMTV (veh-... 422 240 353 256 341 256 223 131 315 361 301 1,206
PMTD (p-mil... 422 240 353 256 341 256 223 131 315 361 301 1,206
PMTV (p-mil... 422 240 353 256 341 256 223 131 315 361 301 1,206
VHT (travel /... 6.10 3.73 4.95 4.20 5.07 4.11 3.02 2.06 4.67 4.82 4.60 16.56
VHD-M (del... 0.47 0.53 0.25 0.79 0.52 0.70 0.05 0.31 0.47 0.01 0.58 0.48
VHD-R (dela...
VHD-Acces...
VHD-MDE (... 0.00
VHD (delay ... 0.47 0.53 0.25 0.79 0.52 0.70 0.05 0.31 0.47 0.01 0.58 0.48
Space Mean... 69.2 64.3 71.2 60.8 67.3 62.2 73.8 63.7 67.4 74.9 65.5 72.8
Travel Time ... 1.08 1.17 1.05 1.23 1.11 1.21 1.02 1.18 1.11 1.00 1.14 1.03

Cumulative AM plus Project

Vistro File: C:\...\AM 918 DU 20241003.vistro Scenario 6 2040 AM with CCSP, + Project
Report File: C:\...\15 2040 AM plus Proj.pdf 9/30/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	El Dorado Hills Blvd/Serrano Pkwy	Signalized	HCM 7th Edition	SB Right	1.171	187.0	F
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	EB Right	0.966	53.2	D
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	NB Left	1.166	120.1	F
4	Latrobe Rd/US 50 EB	Signalized	HCM 7th Edition	EB Right	1.012	31.9	C
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	SB Left	0.928	36.3	D
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	SB Thru	0.735	54.9	D
7	Latrobe Rd/Golden Foothill Pkwy N	Signalized	HCM 7th Edition	SB Left	0.707	15.2	B
8	Latrobe Rd/Suncast Ln	Signalized	HCM 7th Edition	NB Left	0.879	20.7	C
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	WB Right	1.159	121.7	F
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	NB Left	0.850	12.2	B
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	EB Left	0.159	46.7	E
12	Latrobe Rd/Royal Oaks Dr	Two-way stop	HCM 7th Edition	EB Left	1.785	479.5	F
13	Golden Foothill/Robert J Mathews	Two-way stop	HCM 7th Edition	NB Left	0.339	465.3	F
14	Investment Blvd/Robert J Mathews Pkwy	All-way stop	HCM 7th Edition	SB Thru	1.182	85.4	F
15	Golden Foothill Pkwy/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.375	16.7	C
16	Carson Crossing Rd/Calypso Cir.	Two-way stop	HCM 7th Edition	NB Left	0.442	26.4	D
17	Carson Crossing Rd/Four Seasons Dr	All-way stop	HCM 7th Edition	WB Left	0.070	7.8	A
	White Rock Rd/Carson		HCM 7th				

18	White Rock Rd/Carson Crossing Rd	Signalized	HCM 7th Edition	EB Left	0.440	16.4	B
19	White Rock Rd/Windfield Way	Signalized	HCM 7th Edition	EB Left	0.656	35.0	C
20	White Rock Rd/Post St	Signalized	HCM 7th Edition	NB Left	0.607	44.2	D
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 7th Edition	NB Left	0.767	26.1	C
22	White Rock Rd/Clarksville Crossing	Signalized	HCM 7th Edition	SB Right	0.928	41.9	D
23	White Rock Rd/US 50 EB	Signalized	HCM 7th Edition	EB Left	0.556	11.1	B
24	Silva Valley Pkwy/US 50 WB	Signalized	HCM 7th Edition	WB Left	1.009	47.6	D
25	New Intersection	Two-way stop	HCM 6th Edition	NB Thru	0.008	0.0	A
26	Latrobe/Wetsl-Oviatt	Two-way stop	HCM 7th Edition	EB Left	0.028	14.6	B
27	Latrobe/S. Shingle	Two-way stop	HCM 7th Edition	EB Left	0.161	21.0	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: El Dorado Hills Blvd/Serrano Pkwy

Control Type:	Signalized	Delay (sec / veh):	187.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.171

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	260.0	100.0	100.0	100.0	110.00	100.00	100.00	100.00	100.00	100.00	430.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No			No		
Crosswalk	No				Yes			Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Base Volume Input [veh/h]	5	242	863	301	72	1684	51	27	16	270	494	70	114
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	-54	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	15	0	0	81	0	0	34
Total Hourly Volume [veh/h]	5	242	863	301	72	1630	36	27	16	189	494	70	80
Peak Hour Factor	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	70	248	86	21	468	10	8	5	54	142	20	23
Total Analysis Volume [veh/h]	5	278	992	346	83	1874	41	31	18	217	568	80	92
Presence of On-Street Parking	No			No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Generated with PTV VISTRO
Version 2024 (SP 0-5)
Report File: C:\...\15 2040 AM plus Proj.pdf
TKEAR

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	1	6	0	7	7	0	0	8	0
Auxiliary Signal Groups													
Maximum Green [s]	0	25	40	0	25	40	0	35	35	0	0	35	0
Amber [s]	0.0	3.0	4.7	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	12	0	0	12	0	0	0	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	100.0	245.0	0.0	100.0	100.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	29	46	0	29	46	0	39	39	0	0	39	0
Lead / Lag	-	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	3	6	0	3	3	0	3	3	0	0	3	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	4.0	0.0
Minimum Recall		No	No		No	No			No			No	
Maximum Recall		No	No		No	No			No			No	
Pedestrian Recall		No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C
C, Calculated Cycle Length [s]	134	134	134	134	134	134	134	134	134	134
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	55	55	8	40	40	22	22	31	31
g / C, Green / Cycle	0.17	0.41	0.41	0.06	0.30	0.30	0.16	0.16	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.16	0.28	0.22	0.05	0.51	0.52	0.02	0.15	0.21	0.21
s, saturation flow rate [veh/h]	1781	3560	1589	1781	1870	1856	1781	1608	1781	1746
c, Capacity [veh/h]	308	1467	655	106	558	554	289	261	417	409
d1, Uniform Delay [s]	54.51	32.15	29.64	62.22	47.06	47.06	47.90	55.12	49.70	49.77
k, delay calibration	0.31	0.04	0.19	0.04	0.50	0.50	0.04	0.07	0.33	0.34
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	24.16	0.21	1.19	4.72	330.13	335.95	0.06	7.28	17.52	18.42
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.68	0.53	0.78	1.72	1.73	0.11	0.90	0.89	0.90
d, Delay for Lane Group [s/veh]	78.67	32.35	30.84	66.94	377.18	383.00	47.96	62.40	67.22	68.19
Lane Group LOS	E	C	C	E	F	F	D	E	E	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	11.22	12.61	8.30	2.87	69.03	69.40	0.90	8.31	14.09	14.00
50th-Percentile Queue Length [ft/ln]	280.41	315.16	207.48	71.84	1725.63	1735.06	22.42	207.73	352.26	349.91
95th-Percentile Queue Length [veh/ln]	16.71	18.43	13.02	5.17	106.49	107.23	1.61	13.04	20.25	20.13
95th-Percentile Queue Length [ft/ln]	417.72	460.74	325.59	129.31	2662.31	2680.73	40.36	325.92	506.16	503.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	78.67	78.67	32.35	30.84	66.94	380.03	383.00	47.96	62.40	62.40	67.56	68.19	68.19
Movement LOS	E	E	C	C	E	F	F	D	E	E	E	E	E
d_A, Approach Delay [s/veh]	40.11				367.09			60.72			67.70		
Approach LOS	D				F			E			E		
d_I, Intersection Delay [s/veh]	186.97												
Intersection LOS	F												
Intersection V/C	1.171												

Emissions

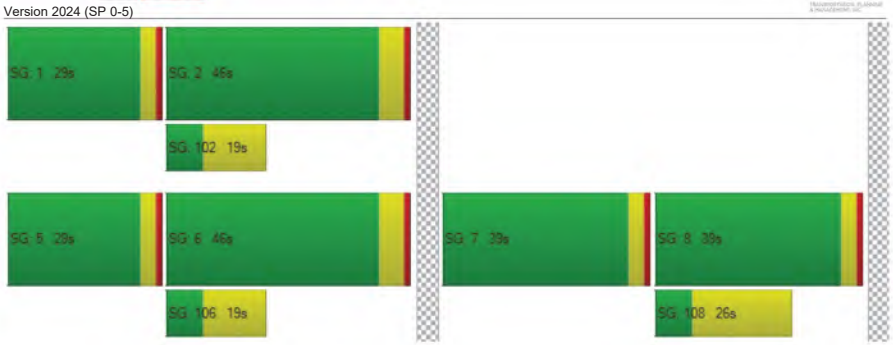
Vehicle Miles Traveled [mph]	67.59	236.92	82.64	12.20	140.78	140.78	1.32	10.04	19.50	19.22
Stops [stops/h]	301.70	678.20	223.24	77.29	1856.70	1866.84	24.12	223.51	379.02	376.49
Fuel consumption [US gal/h]	10.60	23.08	7.78	2.51	101.39	102.65	0.49	4.63	7.99	7.97
CO [g/h]	740.79	1613.60	543.77	175.44	7087.06	7175.12	34.27	323.78	558.80	556.96
NOx [g/h]	144.13	313.95	105.80	34.13	1378.89	1396.02	6.67	63.00	108.72	108.36
VOC [g/h]	171.69	373.97	126.02	40.66	1642.50	1662.90	7.94	75.04	129.51	129.08

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	56.37	56.37	56.37
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.265	2.322	2.404
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	602	602	523	523
d_b, Bicycle Delay [s]	32.68	32.68	36.49	36.49
l_b,int, Bicycle LOS Score for Intersection	2.893	3.220	2.132	2.837
Bicycle LOS	C	C	B	C

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	53.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.966

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	500.0	100.0	100.0	100.0	500.0	100.0	100.0	300.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	1	420	988	150	1	218	1793	441	150	61	724	68	52	272
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	-54	0	0	0	-27	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	45	0	0	0	132	0	0	209	0	0	82
Total Hourly Volume [veh/h]	1	420	988	105	1	218	1739	309	150	61	488	68	52	190
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	113	266	28	0	59	467	83	40	16	131	18	14	51
Total Analysis Volume [veh/h]	1	452	1062	113	1	234	1870	332	161	66	525	73	56	204
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	5	3	8	0
Auxiliary Signal Groups														
Maximum Green [s]	0	20	50	0	0	20	50	0	20	20	20	0	20	0
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	14	0	0	0	24	0	0	0	0	0	31	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	2.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	0	24	56	0	24	24	24	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	4	0	5	0
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Calculated Cycle Length [s]	126	126	126	126	126	126	126	126	126	126	126
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	18	50	50	18	50	50	20	20	20	20	20
g / C, Green / Cycle	0.15	0.40	0.40	0.15	0.40	0.40	0.16	0.16	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.13	0.22	0.22	0.13	0.37	0.21	0.06	0.06	0.19	0.04	0.16
s, saturation flow rate [veh/h]	3459	3560	1779	1781	5094	1589	1781	1831	2813	1781	1643
c, Capacity [veh/h]	508	1408	704	261	2015	629	283	290	446	283	261
d1, Uniform Delay [s]	52.80	29.53	29.54	52.86	36.40	29.12	47.63	47.60	53.04	46.53	53.01
k, delay calibration	0.04	0.13	0.14	0.28	0.13	0.13	0.04	0.04	0.07	0.04	0.41
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.25	0.42	0.91	22.55	2.78	0.83	0.34	0.32	83.03	0.18	50.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.56	0.56	0.90	0.93	0.53	0.40	0.39	1.18	0.26	1.00
d, Delay for Lane Group [s/veh]	55.05	29.95	30.45	75.41	39.17	29.95	47.96	47.93	136.07	46.71	103.23
Lane Group LOS	E	C	C	E	D	C	D	D	F	D	F
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	7.02	8.91	9.01	8.76	17.84	7.53	3.21	3.27	12.19	2.04	11.84
50th-Percentile Queue Length [ft/ln]	175.40	222.83	225.33	219.02	446.04	188.17	80.31	81.85	304.81	50.90	295.99
95th-Percentile Queue Length [veh/ln]	11.36	13.81	13.94	13.61	24.77	12.03	5.78	5.89	19.25	3.66	17.48
95th-Percentile Queue Length [ft/ln]	283.99	345.23	348.42	340.37	619.23	300.66	144.57	147.33	481.31	91.61	437.07

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.05	55.05	30.08	30.45	75.41	75.41	39.17	29.95	47.96	47.93	136.07	46.71	103.23	103.23
Movement LOS	E	E	C	C	E	E	D	C	D	D	F	D	F	F
d_A, Approach Delay [s/veh]	37.05				41.41				109.47			90.84		
Approach LOS	D				D				F			F		
d_I, Intersection Delay [s/veh]	53.17													
Intersection LOS	D													
Intersection V/C	0.966													

Emissions

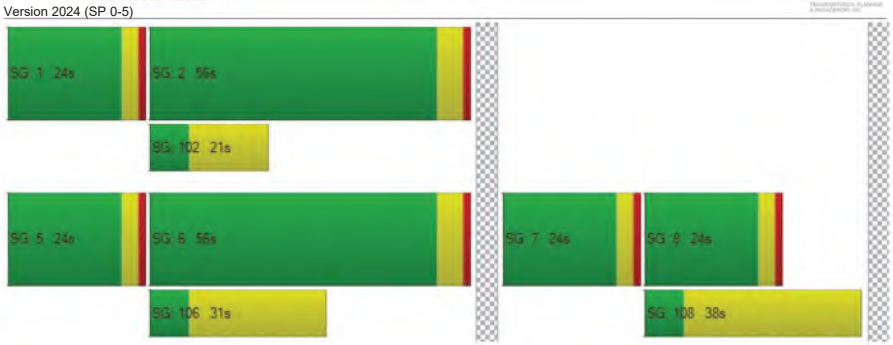
Vehicle Miles Traveled [mph]	85.30	147.49	73.76	56.13	446.62	79.29	7.01	7.15	32.74	3.56	12.68
Stops [stops/h]	400.88	509.29	257.51	250.29	1529.21	215.04	91.78	93.54	696.67	58.16	338.26
Fuel consumption [US gal/h]	12.98	16.16	8.16	8.64	49.23	7.42	1.89	1.93	19.73	1.16	7.85
CO [g/h]	907.44	1129.65	570.17	604.05	3441.06	518.31	132.28	134.82	1379.24	81.20	548.84
NOx [g/h]	176.55	219.79	110.93	117.53	669.51	100.84	25.74	26.23	268.35	15.80	106.78
VOC [g/h]	210.31	261.81	132.14	140.00	797.50	120.12	30.66	31.25	319.65	18.82	127.20

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	52.48	52.48	52.48
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.675	3.080	2.357
Crosswalk LOS	F	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	798	798	317	317
d_b, Bicycle Delay [s]	22.74	22.74	44.59	44.59
l_b,int, Bicycle LOS Score for Intersection	2.479	2.844	3.145	2.244
Bicycle LOS	B	C	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	120.1
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.166

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1588	1190	150	3	70	1406	1107	260	92	837	171	104	106
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-3	0	1	0	0	-81	0	0	0	-40	-16	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	45	0	0	0	332	0	0	239	0	0	32
Total Hourly Volume [veh/h]	1	1585	1190	106	3	70	1325	775	260	92	558	155	104	74
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	396	298	27	1	18	331	194	65	23	140	39	26	19
Total Analysis Volume [veh/h]	1	1585	1190	106	3	70	1325	775	260	92	558	155	104	74
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	134
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	0	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	37	62	0	0	14	39	22	0	22	0	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	0.0	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	42	68	0	0	19	45	28	0	28	0	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	0	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	0.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Calculated Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	37	69	69	8	39	73	28	28	11	11	11
g / C, Green / Cycle	0.28	0.51	0.51	0.06	0.29	0.53	0.21	0.21	0.08	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.46	0.24	0.25	0.04	0.26	0.49	0.10	0.10	0.06	0.06	0.06
s, saturation flow rate [veh/h]	3459	3560	1795	1781	5094	1589	1781	1826	1781	1835	1667
c, Capacity [veh/h]	951	1811	913	98	1472	850	371	380	143	147	134
d1, Uniform Delay [s]	36.83	5.70	5.75	63.28	46.45	28.74	47.26	47.25	61.40	61.35	61.51
k, delay calibration	0.30	0.50	0.50	0.04	0.50	0.50	0.08	0.08	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	303.17	0.88	1.86	4.06	9.14	15.71	0.69	0.67	3.54	3.26	4.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.67	0.47	0.49	0.74	0.90	0.91	0.47	0.47	0.78	0.77	0.81
d, Delay for Lane Group [s/veh]	340.01	6.58	7.61	67.34	55.59	44.45	47.95	47.92	64.94	64.61	65.78
Lane Group LOS	F	A	A	E	E	D	D	D	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	53.79	2.46	2.82	2.56	15.16	24.90	5.28	5.40	3.94	4.00	3.82
50th-Percentile Queue Length [ft/ln]	1344.84	61.38	70.58	63.92	378.97	622.59	131.99	135.00	98.52	99.91	95.54
95th-Percentile Queue Length [veh/ln]	83.31	4.42	5.08	4.60	21.54	33.09	9.05	9.21	7.09	7.19	6.88
95th-Percentile Queue Length [ft/ln]	2082.82	110.49	127.04	115.05	538.60	827.19	226.20	230.27	177.34	179.84	171.96

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	340.0	340.0	6.87	7.61	67.34	67.34	55.59	44.45	47.94	47.92	0.00	64.85	64.99	65.78
Movement LOS	F	F	A	A	E	E	E	D	D	D		E	E	E
d_A, Approach Delay [s/veh]	190.23				52.01				18.54			65.10		
Approach LOS	F				D				B			E		
d_I, Intersection Delay [s/veh]	120.12													
Intersection LOS	F													
Intersection V/C	1.166													

Emissions

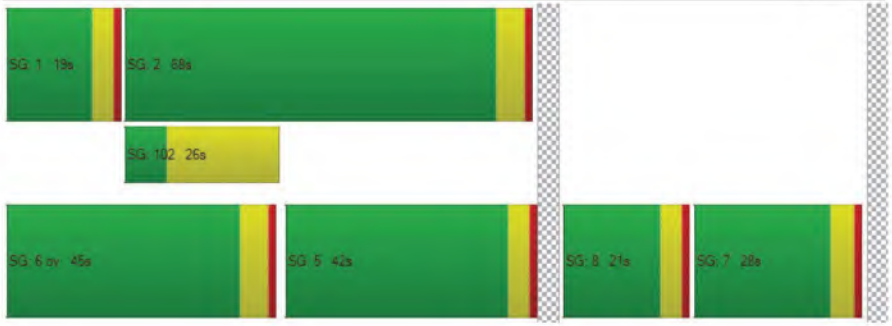
Vehicle Miles Traveled [mph]	271.38	145.50	76.26	13.75	249.48	145.92	8.05	8.23	3.55	3.61	3.42
Stops [stops/h]	2847.90	129.99	74.73	67.68	1203.78	659.21	139.75	142.94	104.32	105.79	101.16
Fuel consumption [US gal/h]	136.62	7.85	4.24	2.31	38.51	20.21	2.80	2.86	2.20	2.23	2.14
CO [g/h]	9549.60	548.46	296.54	161.67	2691.64	1412.57	195.77	200.24	153.74	155.74	149.50
NOx [g/h]	1858.01	106.71	57.70	31.46	523.70	274.83	38.09	38.96	29.91	30.30	29.09
VOC [g/h]	2213.21	127.11	68.73	37.47	623.81	327.38	45.37	46.41	35.63	36.09	34.65

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		57.44	
l_p,int, Pedestrian LOS Score for Intersectio	0.000		0.000		0.000		2.362	
Crosswalk LOS	F		F		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	915		576		337		241	
d_b, Bicycle Delay [s]	20.02		34.45		47.03		52.59	
l_b,int, Bicycle LOS Score for Intersection	3.169		2.899		2.140		1.861	
Bicycle LOS	C		C		B		A	

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 4: Latrobe Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	31.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.012

Intersection Setup

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	2	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	300.00	570.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No			No		
Crosswalk	No			No				No			Yes		

Volumes

Name	Latrobe Rd			El Dorado Hills Blvd			US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Base Volume Input [veh/h]	0	2400	463	0	529	1886	0	0	1410	0	0	529
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-2	-2	0	0	-137	0	0	0	-101	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	138	0	0	0	0	0	0	393	0	0	159
Total Hourly Volume [veh/h]	0	2398	323	0	529	1749	0	0	0	916	0	0	370
Peak Hour Factor	1.0000	0.8400	0.8400	1.000	0.840	0.840	1.000	1.0000	1.0000	0.8400	1.0000	1.0000	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	714	96	0	157	521	0	0	0	273	0	0	110
Total Analysis Volume [veh/h]	0	2855	385	0	630	2082	0	0	0	1090	0	0	440
Presence of On-Street Parking	No		No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	74.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	50	0	0	39	50	0	0	0	45	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No				No			
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
l2, Clearance Lost Time [s]	0.0	4.2	0.0	0.0	2.6	4.2	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	2.5	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Minimum Recall		No			No	No				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	R	
C, Calculated Cycle Length [s]	68	68	68	68	68	
L, Total Lost Time per Cycle [s]	6.20	6.20	4.60	6.20	4.60	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	4.20	4.20	2.60	4.20	2.60	
g_i, Effective Green Time [s]	32	32	26	35	22	
g / C, Green / Cycle	0.47	0.47	0.38	0.51	0.33	
(v / s)_i Volume / Saturation Flow Rate	0.42	0.24	0.35	0.31	0.39	
s, saturation flow rate [veh/h]	6792	1589	1781	6792	2813	
c, Capacity [veh/h]	3159	739	670	3476	927	
d1, Uniform Delay [s]	16.78	12.83	20.49	11.69	22.80	
k, delay calibration	0.50	0.50	0.15	0.50	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	4.81	2.61	9.26	0.77	80.29	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.90	0.52	0.94	0.60	1.18	
d, Delay for Lane Group [s/veh]	21.59	15.45	29.74	12.46	103.09	
Lane Group LOS	C	B	C	B	F	
Critical Lane Group	Yes	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	9.09	3.85	9.75	4.43	17.09	
50th-Percentile Queue Length [ft/ln]	227.18	96.27	243.76	110.80	427.35	
95th-Percentile Queue Length [veh/ln]	14.03	6.93	14.87	7.88	26.25	
95th-Percentile Queue Length [ft/ln]	350.78	173.28	371.78	197.12	656.29	

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	21.59	15.45	29.74	29.74	12.46	0.00	0.00	0.00	103.09	0.00	0.00	0.00
Movement LOS		C	B	C	C	B				F			
d_A, Approach Delay [s/veh]		20.86			16.47				103.09			0.00	
Approach LOS		C			B				F			A	
d_I, Intersection Delay [s/veh]	31.90												
Intersection LOS	C												
Intersection V/C	1.012												

Emissions

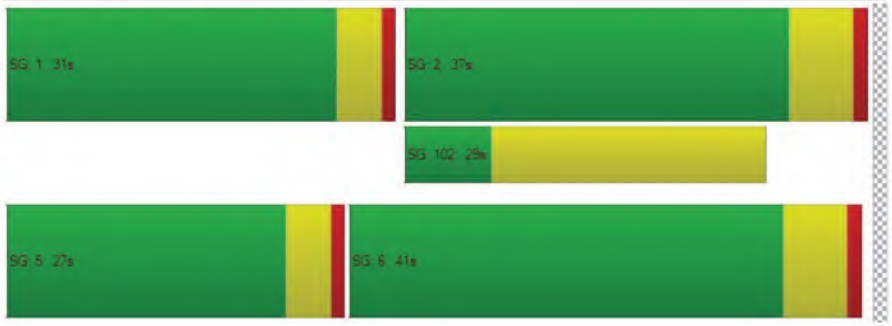
Vehicle Miles Traveled [mph]	413.11	55.71	107.80	356.25	78.00	
Stops [stops/h]	1924.36	203.86	516.19	938.57	1809.95	
Fuel consumption [US gal/h]	50.63	5.65	13.93	29.16	36.07	
CO [g/h]	3538.94	395.25	973.46	2038.27	2521.59	
NOx [g/h]	688.55	76.90	189.40	396.57	490.61	
VOC [g/h]	820.18	91.60	225.61	472.39	584.40	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0		0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00		0.00	0.00	23.89
I_p,int, Pedestrian LOS Score for Intersectio	0.000		0.000	0.000	2.262
Crosswalk LOS	F		F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000		2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	906		1024	659	0
d_b, Bicycle Delay [s]	10.18		8.10	15.29	34.00
I_b,int, Bicycle LOS Score for Intersection	2.953		2.418	1.560	1.560
Bicycle LOS	C		B	A	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	36.3
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.928

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	73	2071	262	4	570	2319	403	184	10	32	1	74	33	604
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-4	2	0	0	-238	0	0	0	-5	0	-14	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	79	0	0	0	121	0	0	8	0	0	0	181
Total Hourly Volume [veh/h]	1	73	2067	185	4	570	2081	282	184	10	19	1	60	33	423
Peak Hour Factor	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.9800	0.9800	0.9800	0.980	0.980	0.980	0.980
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	19	527	47	1	145	531	72	47	3	5	0	15	8	108
Total Analysis Volume [veh/h]	1	74	2109	189	4	582	2123	288	188	10	19	1	61	34	432
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	123
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	5	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	50	0	15	15	50	0	15	20	0	0	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	3.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.5	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	1.5	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	245.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	19	19	56	0	19	24	0	0	19	19	0
Lead / Lag	-	Lead	-	-	Lead	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	4	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	No			No	No			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Calculated Cycle Length [s]	103	103	103	103	103	103	103	103	103	103	103	103
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	4	49	49	15	60	60	8	8	8	15	15	15
g / C, Green / Cycle	0.04	0.47	0.47	0.15	0.58	0.58	0.08	0.08	0.08	0.15	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.02	0.41	0.12	0.17	0.42	0.18	0.05	0.01	0.01	0.03	0.14	0.14
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	1870	1589	1781	1625	1589
c, Capacity [veh/h]	132	2418	754	505	2968	926	268	145	123	260	237	232
d1, Uniform Delay [s]	48.55	24.18	16.08	43.83	15.33	10.92	46.21	43.93	44.23	38.78	43.77	43.78
k, delay calibration	0.04	0.04	0.04	0.07	0.04	0.04	0.08	0.08	0.08	0.08	0.42	0.42
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.44	0.41	0.06	75.07	0.12	0.07	2.50	0.15	0.43	0.35	51.47	52.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.87	0.25	1.16	0.72	0.31	0.70	0.07	0.15	0.24	0.99	0.99
d, Delay for Lane Group [s/veh]	49.99	24.59	16.15	118.90	15.45	10.99	48.72	44.08	44.66	39.12	95.25	95.87
Lane Group LOS	D	C	B	F	B	B	D	D	D	D	F	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.97	14.59	2.61	11.61	10.93	3.18	2.42	0.24	0.46	1.40	9.30	9.14
50th-Percentile Queue Length [ft/ln]	24.17	364.65	65.13	290.24	273.27	79.42	60.50	6.03	11.62	35.04	232.43	228.43
95th-Percentile Queue Length [veh/ln]	1.74	20.85	4.69	18.33	16.35	5.72	4.36	0.43	0.84	2.52	14.30	14.09
95th-Percentile Queue Length [ft/ln]	43.50	521.23	117.23	458.37	408.83	142.96	108.90	10.86	20.91	63.07	357.45	352.37

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.99	49.99	24.59	16.15	118.9	118.9	15.45	10.99	48.72	44.08	44.66	39.12	39.12	95.25	95.58
Movement LOS	D	D	C	B	F	F	B	B	D	D	D	D	D	F	F
d_A, Approach Delay [s/veh]	24.72				35.25				48.15			88.93			
Approach LOS	C				D				D			F			
d_I, Intersection Delay [s/veh]	36.26														
Intersection LOS	D														
Intersection V/C	0.928														

Emissions

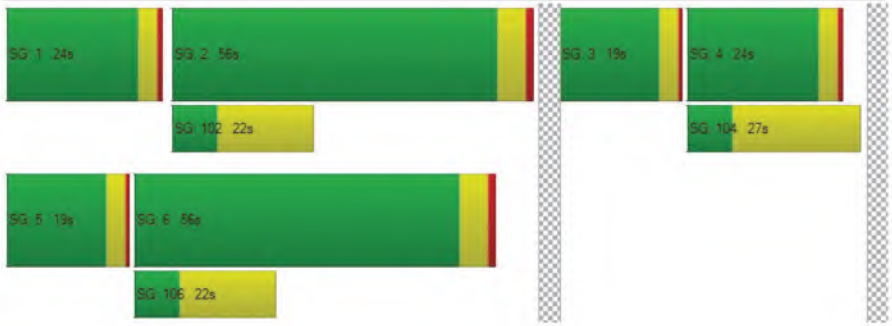
Vehicle Miles Traveled [mph]	16.76	471.21	42.23	84.79	307.19	41.67	23.98	1.28	2.42	21.76	82.66	80.89
Stops [stops/h]	67.88	1536.38	91.47	815.26	1151.40	111.55	169.93	8.47	16.32	49.21	326.44	320.82
Fuel consumption [US gal/h]	1.83	38.44	2.86	22.17	25.68	2.98	3.79	0.19	0.36	1.66	9.77	9.60
CO [g/h]	127.76	2686.92	200.25	1549.81	1795.35	208.02	264.89	13.21	25.34	116.12	683.01	670.91
NOx [g/h]	24.86	522.78	38.96	301.54	349.31	40.47	51.54	2.57	4.93	22.59	132.89	130.53
VOC [g/h]	29.61	622.72	46.41	359.18	416.09	48.21	61.39	3.06	5.87	26.91	158.29	155.49

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	40.86	0.00	40.86	40.86
I_p,int, Pedestrian LOS Score for Intersectio	3.473	0.000	2.591	2.869
Crosswalk LOS	C	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	985	985	400	302
d_b, Bicycle Delay [s]	13.20	13.20	32.81	36.94
I_b,int, Bicycle LOS Score for Intersection	2.908	2.954	1.745	2.629
Bicycle LOS	C	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	54.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.735

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	2	0	0	1	2	0	0	1	1	0	2
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	400.0	100.0	100.0	400.0	360.0	100.0	100.0	300.0	400.00	100.00	300.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	2	157	1794	426	1	98	1858	469	2	355	447	90	517	381	257
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-3	1	0	0	-257	0	0	0	0	0	-63	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	128	0	0	0	141	0	0	0	27	0	0	77
Total Hourly Volume [veh/h]	2	157	1791	299	1	98	1601	328	2	355	447	63	454	381	180
Peak Hour Factor	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	1.000	0.940	0.940	0.940	0.9400	0.9400	0.9400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	42	476	80	0	26	426	87	1	94	119	17	121	101	48
Total Analysis Volume [veh/h]	2	167	1905	318	1	104	1703	349	2	378	476	67	483	405	191
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	160
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Overl	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	3	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups				2,3											
Maximum Green [s]	0	20	53	37	0	20	53	0	0	30	30	0	37	45	0
Amber [s]	0.0	4.0	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	5	0	0	0	5	0	0	0	4	0	0	5	0
Pedestrian Clearance [s]	0	0	28	0	0	0	24	0	0	0	31	0	0	31	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	58	42	0	25	58	0	0	27	35	0	42	50	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	9	9	9	0	9	9	0	0	9	9	0	9	9	0
Vehicle Extension [s]	0.0	1.0	1.5	1.0	0.0	1.0	1.5	0.0	0.0	1.0	1.5	0.0	1.0	1.5	0.0
Minimum Recall		No	Yes	No		No	Yes			No	No		No	No	
Maximum Recall		No	No	No		No	No			No	No		No	No	
Pedestrian Recall		No	No	No		No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Calculated Cycle Length [s]	160	160	160	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	0.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	10	54	113	9	53	53	20	24	24	53	57	57
g / C, Green / Cycle	0.06	0.34	0.70	0.06	0.33	0.33	0.12	0.15	0.15	0.33	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.05	0.28	0.20	0.03	0.34	0.22	0.11	0.13	0.04	0.14	0.11	0.12
s, saturation flow rate [veh/h]	3431	6737	1577	3431	5053	1577	3431	3532	1577	3431	3532	1577
c, Capacity [veh/h]	212	2284	1108	193	1685	526	420	520	232	1141	1262	563
d1, Uniform Delay [s]	74.06	48.73	8.85	73.50	53.33	45.65	69.28	67.26	60.78	19.63	15.64	15.71
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.04	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.59	3.77	0.65	0.89	24.61	6.48	3.04	2.82	0.25	1.15	0.67	1.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.83	0.29	0.54	1.01	0.66	0.90	0.92	0.29	0.42	0.32	0.34
d, Delay for Lane Group [s/veh]	76.65	52.51	9.50	74.39	77.94	52.13	72.32	70.08	61.03	20.78	16.31	17.34
Lane Group LOS	E	D	A	E	F	D	E	E	E	C	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.47	17.74	4.03	2.10	25.80	12.63	7.89	9.84	2.47	3.67	2.55	2.55
50th-Percentile Queue Length [ft/ln]	86.65	443.44	100.87	52.57	644.96	315.72	197.37	245.95	61.68	91.63	63.64	63.79
95th-Percentile Queue Length [veh/ln]	6.24	24.64	7.26	3.79	34.39	18.46	12.50	14.98	4.44	6.60	4.58	4.59
95th-Percentile Queue Length [ft/ln]	155.97	616.12	181.57	94.63	859.69	461.42	312.57	374.55	111.02	164.93	114.55	114.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	76.65	76.65	52.51	9.50	74.39	74.39	77.94	52.13	72.32	72.32	70.08	61.03	20.78	16.31	17.34
Movement LOS	E	E	D	A	E	E	F	D	E	E	E	E	C	B	B
d_A, Approach Delay [s/veh]	48.49				73.59				70.35				18.49		
Approach LOS	D				E				E				B		
d_I, Intersection Delay [s/veh]	54.89														
Intersection LOS	D														
Intersection V/C	0.735														

Emissions

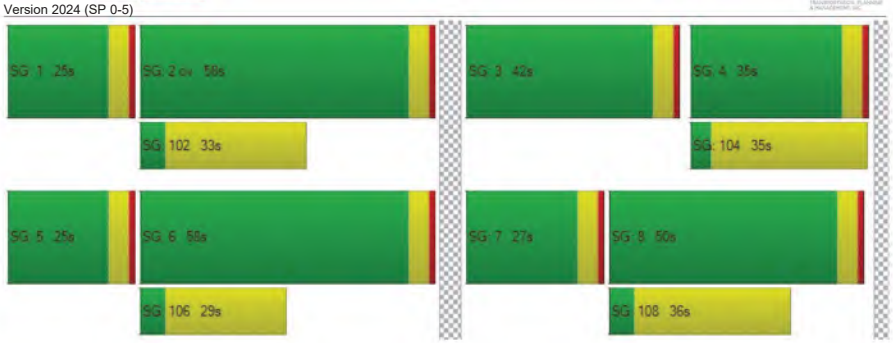
Vehicle Miles Traveled [mph]	67.24	757.96	126.53	23.46	380.50	77.98	94.69	118.61	16.69	50.66	42.48	20.03
Stops [stops/h]	155.97	1596.40	90.79	94.63	1741.38	284.15	355.27	442.71	55.51	164.93	114.55	57.41
Fuel consumption [US gal/h]	6.88	66.18	6.08	3.57	61.70	9.91	11.45	14.12	1.83	5.04	3.73	1.82
CO [g/h]	480.90	4626.18	425.03	249.54	4312.80	692.57	800.54	986.70	127.63	352.20	260.44	126.93
NOx [g/h]	93.56	900.09	82.69	48.55	839.11	134.75	155.76	191.98	24.83	68.53	50.67	24.70
VOC [g/h]	111.45	1072.16	98.50	57.83	999.53	160.51	185.53	228.68	29.58	81.63	60.36	29.42

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	72.20	71.25	71.25	71.25
l_p,int, Pedestrian LOS Score for Intersectio	3.879	3.905	2.941	3.036
Crosswalk LOS	D	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	663	663	375	563
d_b, Bicycle Delay [s]	35.78	35.78	52.81	41.33
l_b,int, Bicycle LOS Score for Intersection	2.598	2.766	2.032	2.513
Bicycle LOS	B	C	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	15.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.707

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0	0	1	1	0	1	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	300.0	200.0	100.0	100.0	100.0	320.00	100.00	320.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	74	1954	3	2	19	1885	577	279	6	21	5	11	15
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-1	0	0	0	-320	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	1	0	0	0	173	0	0	6	0	0	5
Total Hourly Volume [veh/h]	1	74	1953	2	2	19	1565	404	279	6	15	5	11	10
Peak Hour Factor	1.000	0.870	0.870	0.870	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	21	561	1	1	5	450	116	80	2	4	1	3	3
Total Analysis Volume [veh/h]	1	85	2245	2	2	22	1799	464	321	7	17	6	13	11
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	16	34	0	0	15	34	0	0	36	0	0	16	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	11	0	0	0	18	0	0	24	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	20	40	0	0	20	40	0	0	40	0	0	20	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	C
C, Calculated Cycle Length [s]	66	66	66	66	66	66	66	66	66	66
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	36	36	1	33	33	9	9	9	2
g / C, Green / Cycle	0.06	0.55	0.55	0.02	0.50	0.50	0.13	0.13	0.13	0.03
(v / s)_i Volume / Saturation Flow Rate	0.05	0.41	0.41	0.01	0.35	0.29	0.09	0.09	0.01	0.02
s, saturation flow rate [veh/h]	1781	3560	1869	1781	5094	1589	1781	1785	1589	1740
c, Capacity [veh/h]	114	1943	1020	30	2539	792	238	239	213	57
d1, Uniform Delay [s]	30.59	11.70	11.71	32.55	12.92	11.80	27.46	27.46	25.20	31.62
k, delay calibration	0.04	0.15	0.31	0.04	0.15	0.16	0.11	0.11	0.11	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.78	0.89	3.32	16.23	0.53	1.03	3.51	3.50	0.16	2.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.76	0.76	0.80	0.71	0.59	0.69	0.69	0.08	0.52
d, Delay for Lane Group [s/veh]	34.37	12.59	15.03	48.79	13.45	12.83	30.97	30.96	25.36	34.36
Lane Group LOS	C	B	B	D	B	B	C	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.42	7.11	8.16	0.48	4.94	3.63	2.59	2.60	0.23	0.50
50th-Percentile Queue Length [ft/ln]	35.42	177.83	204.02	11.95	123.49	90.76	64.78	64.89	5.85	12.48
95th-Percentile Queue Length [veh/ln]	2.55	11.49	12.85	0.86	8.58	6.53	4.66	4.67	0.42	0.90
95th-Percentile Queue Length [ft/ln]	63.76	287.19	321.14	21.51	214.62	163.37	116.61	116.80	10.53	22.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.37	34.37	13.43	15.03	48.79	48.79	13.45	12.83	30.96	30.96	25.36	34.36	34.36	34.36
Movement LOS	C	C	B	B	D	D	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	14.20				13.69				30.69			34.36		
Approach LOS	B				B				C			C		
d_I, Intersection Delay [s/veh]	15.23													
Intersection LOS	B													
Intersection V/C	0.707													

Emissions

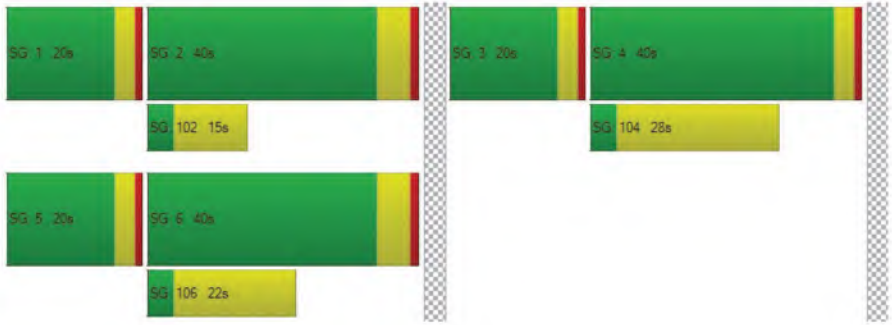
Vehicle Miles Traveled [mph]	30.43	521.38	273.75	9.55	715.79	184.62	39.46	39.53	4.09	0.57
Stops [stops/h]	76.97	772.89	443.33	25.97	805.07	197.22	140.78	141.01	12.71	27.12
Fuel consumption [US gal/h]	2.28	29.51	16.09	1.04	43.82	11.05	3.43	3.44	0.33	0.38
CO [g/h]	159.34	2062.72	1124.35	72.70	3063.14	772.44	240.09	240.50	22.82	26.78
NOx [g/h]	31.00	401.33	218.76	14.14	595.97	150.29	46.71	46.79	4.44	5.21
VOC [g/h]	36.93	478.05	260.58	16.85	709.91	179.02	55.64	55.74	5.29	6.21

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	25.62	0.00	25.62	25.62
l_p,int, Pedestrian LOS Score for Intersectio	3.162	0.000	2.392	1.742
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1026	1026	1087	483
d_b, Bicycle Delay [s]	7.86	7.86	6.91	19.06
l_b,int, Bicycle LOS Score for Intersection	2.843	2.901	2.139	1.617
Bicycle LOS	C	C	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 8: Latrobe Rd/Suncast Ln

Control Type:	Signalized	Delay (sec / veh):	20.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.879

Intersection Setup

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Approach	Northbound			Southbound		Eastbound	
Lane Configuration							
Turning Movement	U-turn	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			No		Yes	

Volumes

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Base Volume Input [veh/h]	1	155	1839	1449	463	193	104
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	96	0	0	0
Site-Generated Trips [veh/h]	0	3	-1	-320	0	0	-4
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	139	0	30
Total Hourly Volume [veh/h]	1	158	1838	1225	324	193	70
Peak Hour Factor	1.0000	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	45	528	352	93	55	20
Total Analysis Volume [veh/h]	1	182	2113	1408	372	222	80
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permissive	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	5	2	6	0	3	0
Auxiliary Signal Groups							
Maximum Green [s]	0	12	40	40	0	20	0
Amber [s]	0.0	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No	No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	46	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-
Minimum Green [s]	0	5	5	5	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall		No	No	No		No	
Maximum Recall		No	No	No		No	
Pedestrian Recall		No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	L	R
C, Calculated Cycle Length [s]	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	9	53	40	40	12	12
g / C, Green / Cycle	0.13	0.71	0.53	0.53	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.10	0.59	0.48	0.51	0.12	0.05
s, saturation flow rate [veh/h]	1781	3560	1870	1742	1781	1589
c, Capacity [veh/h]	225	2529	993	924	279	249
d1, Uniform Delay [s]	31.99	7.76	15.80	16.93	30.56	28.17
k, delay calibration	0.09	0.16	0.37	0.41	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.72	1.13	9.66	19.30	5.15	0.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.84	0.90	0.96	0.80	0.32
d, Delay for Lane Group [s/veh]	37.71	8.89	25.46	36.23	35.71	28.91
Lane Group LOS	D	A	C	D	D	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.48	8.56	14.34	17.47	4.13	1.29
50th-Percentile Queue Length [ft/ln]	87.10	213.92	358.44	436.69	103.21	32.25
95th-Percentile Queue Length [veh/ln]	6.27	13.35	20.55	24.32	7.43	2.32
95th-Percentile Queue Length [ft/ln]	156.78	333.85	513.69	608.05	185.78	58.04

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.71	37.71	8.89	29.42	36.23	35.71	28.91
Movement LOS	D	D	A	C	D	D	C
d_A, Approach Delay [s/veh]	11.18			30.85		33.91	
Approach LOS	B			C		C	
d_I, Intersection Delay [s/veh]	20.75						
Intersection LOS	C						
Intersection V/C	0.879						

Emissions

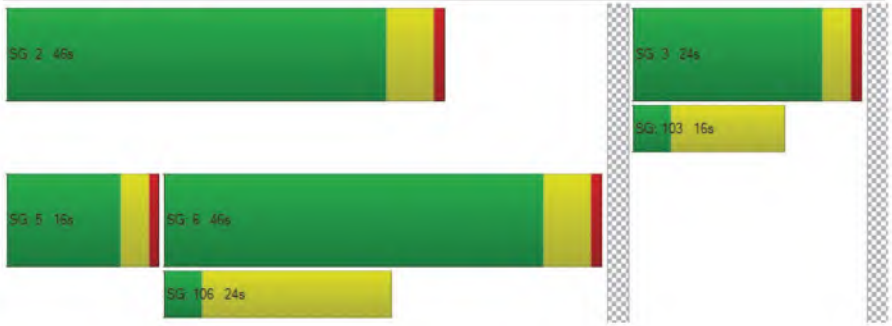
Vehicle Miles Traveled [mph]	127.71	1474.65	314.94	314.94	74.90	26.99
Stops [stops/h]	167.22	821.35	688.13	838.35	198.14	61.90
Fuel consumption [US gal/h]	7.59	69.07	21.38	24.16	5.79	1.92
CO [g/h]	530.23	4827.72	1494.34	1688.71	404.82	134.47
NOx [g/h]	103.16	939.30	290.74	328.56	78.76	26.16
VOC [g/h]	122.88	1118.87	346.33	391.37	93.82	31.17

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.93	0.00	29.93
I_p,int, Pedestrian LOS Score for Intersectio	3.037	0.000	2.310
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1067	1067	533
d_b, Bicycle Delay [s]	8.17	8.17	20.17
I_b,int, Bicycle LOS Score for Intersection	3.453	3.143	1.560
Bicycle LOS	C	C	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	121.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.159

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	60	778	21	276	401	877	613	90	86	136	351	604
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	20	8	0	148	0	0	0	11	28	0	0
Site-Generated Trips [veh/h]	19	74	6	0	-88	-235	-72	-12	-29	-19	-41	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	11	0	0	193	0	0	20	0	0	181
Total Hourly Volume [veh/h]	79	872	24	276	461	449	541	78	48	145	310	423
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	245	7	78	129	126	152	22	13	41	87	119
Total Analysis Volume [veh/h]	89	980	27	310	518	504	608	88	54	163	348	475
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Calculated Cycle Length [s]	91	91	91	91	91	91	91	91	91	91
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	6	25	25	12	31	31	15	15	20	20
g / C, Green / Cycle	0.06	0.28	0.28	0.13	0.34	0.34	0.17	0.17	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.05	0.27	0.27	0.17	0.28	0.32	0.21	0.21	0.28	0.30
s, saturation flow rate [veh/h]	1781	1870	1852	1781	1870	1589	1781	1770	1841	1589
c, Capacity [veh/h]	117	515	510	235	639	544	294	292	405	350
d1, Uniform Delay [s]	41.73	32.68	32.68	39.40	27.19	28.79	37.90	37.90	35.40	35.40
k, delay calibration	0.04	0.38	0.38	0.50	0.40	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.83	30.49	30.69	169.45	8.67	24.24	148.52	149.55	135.74	178.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.98	0.98	1.32	0.81	0.93	1.28	1.28	1.26	1.36
d, Delay for Lane Group [s/veh]	45.56	63.17	63.37	208.85	35.86	53.03	186.42	187.45	171.14	213.55
Lane Group LOS	D	E	E	F	D	D	F	F	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.06	15.03	14.92	15.92	10.53	12.93	18.54	18.51	24.01	24.86
50th-Percentile Queue Length [ft/ln]	51.60	375.87	373.09	398.11	263.35	323.13	463.55	462.79	600.31	621.52
95th-Percentile Queue Length [veh/ln]	3.72	21.39	21.26	25.06	15.86	18.82	28.55	28.53	36.05	38.24
95th-Percentile Queue Length [ft/ln]	92.89	534.85	531.48	626.50	396.42	470.53	713.72	713.13	901.16	955.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.56	63.27	63.37	208.85	35.86	53.03	186.82	187.45	187.45	171.14	171.14	213.55
Movement LOS	D	E	E	F	D	D	F	F	F	F	F	F
d_A, Approach Delay [s/veh]	61.84			82.61			186.94			191.57		
Approach LOS	E			F			F			F		
d_I, Intersection Delay [s/veh]	121.73											
Intersection LOS	F											
Intersection V/C	1.159											

Emissions

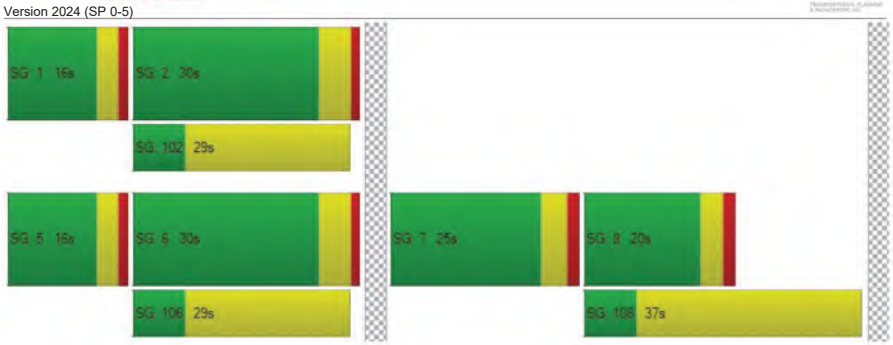
Vehicle Miles Traveled [mph]	51.40	292.14	289.43	216.35	361.51	351.74	28.27	28.15	56.52	52.53
Stops [stops/h]	81.84	596.10	591.69	631.36	417.65	512.45	735.15	733.94	952.03	985.67
Fuel consumption [US gal/h]	3.39	21.82	21.65	32.14	23.63	26.72	19.48	19.48	25.38	28.25
CO [g/h]	237.19	1525.36	1513.08	2246.37	1651.75	1867.94	1361.71	1361.95	1774.03	1974.44
NOx [g/h]	46.15	296.78	294.39	437.06	321.37	363.43	264.94	264.99	345.16	384.15
VOC [g/h]	54.97	353.52	350.67	520.62	382.81	432.91	315.59	315.65	411.15	457.60

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	35.07	0.00	35.07	35.07
l_p,int, Pedestrian LOS Score for Intersectio	2.679	0.000	2.587	2.719
Crosswalk LOS	B	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	544	544	341	441
d_b, Bicycle Delay [s]	24.06	24.06	31.22	27.60
l_b,int, Bicycle LOS Score for Intersection	2.473	2.818	2.830	3.485
Bicycle LOS	B	C	C	C

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	12.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.850

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	122	582	265	358	277	109
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	44	0	0	155	21	0
Site-Generated Trips [veh/h]	-40	171	104	-240	-72	-12
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	82	0	29
Total Hourly Volume [veh/h]	126	753	369	191	226	68
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	209	103	53	63	19
Total Analysis Volume [veh/h]	140	837	410	212	251	76
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	12	40	40	0	20	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	46	46	0	24	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Calculated Cycle Length [s]	39	39	39	39	39	39
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	4	21	13	13	8	8
g / C, Green / Cycle	0.10	0.55	0.34	0.34	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.08	0.45	0.22	0.13	0.14	0.05
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1589
c, Capacity [veh/h]	183	1021	637	542	353	315
d1, Uniform Delay [s]	17.08	7.29	10.87	9.80	14.63	13.20
k, delay calibration	0.04	0.15	0.15	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.51	2.40	1.55	0.66	2.66	0.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.82	0.64	0.39	0.71	0.24
d, Delay for Lane Group [s/veh]	19.59	9.69	12.43	10.45	17.28	13.59
Lane Group LOS	B	A	B	B	B	B
Critical Lane Group	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.99	2.04	1.91	0.86	1.96	0.50
50th-Percentile Queue Length [ft/ln]	24.83	51.05	47.80	21.53	48.88	12.43
95th-Percentile Queue Length [veh/ln]	1.79	3.68	3.44	1.55	3.52	0.90
95th-Percentile Queue Length [ft/ln]	44.70	91.88	86.03	38.76	87.99	22.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	19.59	9.69	12.43	10.45	17.28	13.59
Movement LOS	B	A	B	B	B	B
d_A, Approach Delay [s/veh]	11.11		11.75		16.42	
Approach LOS	B		B		B	
d_I, Intersection Delay [s/veh]	12.22					
Intersection LOS	B					
Intersection V/C	0.850					

Emissions

Vehicle Miles Traveled [mph]	17.27	103.27	236.78	122.44	58.95	17.85
Stops [stops/h]	91.76	188.60	176.60	79.56	180.62	45.93
Fuel consumption [US gal/h]	2.84	8.61	12.24	6.02	4.31	1.20
CO [g/h]	198.54	601.75	855.44	421.11	301.11	83.79
NOx [g/h]	38.63	117.08	166.44	81.93	58.58	16.30
VOC [g/h]	46.01	139.46	198.26	97.60	69.78	19.42

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0		0.0		8.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	12.31		0.00		12.31	
l_p,int, Pedestrian LOS Score for Intersectio	2.787		0.000		2.196	
Crosswalk LOS	C		F		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	2053		2053		1026	
d_b, Bicycle Delay [s]	0.01		0.01		4.62	
l_b,int, Bicycle LOS Score for Intersection	3.172		2.721		1.560	
Bicycle LOS	C		B		A	

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	46.7
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.159

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	658	0	14	360	0	0	0	0	0	0	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	13	0	0	0	4	11	0	0	0	0	0
Site-Generated Trips [veh/h]	1	127	0	0	89	3	4	0	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	798	0	14	449	7	15	0	2	0	0	39
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	217	0	4	122	2	4	0	1	0	0	10
Total Analysis Volume [veh/h]	1	867	0	14	488	8	16	0	2	0	0	39
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			Yes	Yes
Storage Area [veh]	0	0	1	1
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.02	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.11
d_M, Delay for Movement [s/veh]	8.37	0.00	0.00	9.65	0.00	0.00	46.71	36.88	17.17	37.27	32.37	16.49
Movement LOS	A	A	A	A	A	A	E	E	C	E	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.02	0.02	0.02	0.54	0.54	0.54	0.37	0.37	0.37
95th-Percentile Queue Length [ft/ln]	0.04	0.04	0.04	0.59	0.59	0.59	13.57	13.57	13.57	9.25	9.25	9.25
d_A, Approach Delay [s/veh]	0.01			0.26			43.43			16.49		
Approach LOS	A			A			E			C		
d_I, Intersection Delay [s/veh]	1.09											
Intersection LOS	E											

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Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Two-way stop	Delay (sec / veh):	479.5
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.785

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	422	48	74	286	0	0	0	0	12	0	250
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	-25	0	0	-4	64	153	2	17	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	31	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	397	48	74	282	95	153	2	17	12	1	250
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	107	13	20	76	26	41	1	5	3	0	67
Total Analysis Volume [veh/h]	12	427	52	80	303	102	165	2	18	13	1	269
Pedestrian Volume [ped/h]		0			0			0			0	

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.07	0.00	0.00	1.78	0.01	0.03	0.07	0.00	0.44
d_M, Delay for Movement [s/veh]	8.15	0.00	0.00	8.59	0.00	0.00	479.49	457.09	445.78	30.08	28.83	17.66
Movement LOS	A	A	A	A	A	A	F	F	F	D	D	C
95th-Percentile Queue Length [veh/ln]	0.03	0.00	0.00	0.24	0.00	0.00	15.03	15.03	15.03	2.92	2.92	2.92
95th-Percentile Queue Length [ft/ln]	0.79	0.00	0.00	5.97	0.00	0.00	375.83	375.83	375.83	73.05	73.05	73.05
d_A, Approach Delay [s/veh]	0.20			1.42			475.97			18.27		
Approach LOS	A			A			F			C		
d_I, Intersection Delay [s/veh]	65.10											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Two-way stop	Delay (sec / veh):	465.3
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.339

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	13	560	229	53	0	1106	182
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-24	-85	-29	-83	0	-277	19
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	14	0	0	59	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	3	475	200	29	0	829	201
Peak Hour Factor	1.0000	0.9060	0.9060	0.9060	0.9060	1.0000	0.9060	0.9060
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	131	55	8	0	229	55
Total Analysis Volume [veh/h]	0	3	524	221	32	0	915	222
Pedestrian Volume [ped/h]	0			0		0		

Intersection Settings

Priority Scheme	Stop			Free			Free	
Flared Lane	No							
Storage Area [veh]	0			0			0	
Two-Stage Gap Acceptance	No							
Number of Storage Spaces in Median	0			0			0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.34	0.65	0.00	0.00	0.00	0.70	0.00
d_M, Delay for Movement [s/veh]	465.29	465.29	62.85	0.00	0.00	20.46	10.06	0.00
Movement LOS	F	F	F	A	A	C	B	A
95th-Percentile Queue Length [veh/ln]	13.81	13.81	13.81	0.00	0.00	3.27	3.27	3.27
95th-Percentile Queue Length [ft/ln]	345.27	345.27	345.27	0.00	0.00	81.78	81.78	81.78
d_A, Approach Delay [s/veh]	65.14			0.00		8.10		
Approach LOS	F			A		A		
d_I, Intersection Delay [s/veh]	22.71							
Intersection LOS	F							

Intersection Level Of Service Report
Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Control Type:	All-way stop	Delay (sec / veh):	85.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.182

Intersection Setup

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Base Volume Input [veh/h]	16	229	88	2	30	1009	55	19	21	0	258	55	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-117	-90	0	2	-299	-75	6	3	0	-229	-55	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	112	0	2	32	710	0	25	24	0	29	0	74
Peak Hour Factor	0.8300	0.8300	0.8300	1.000	0.830	0.830	0.830	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	34	0	1	10	214	0	8	7	0	9	0	22
Total Analysis Volume [veh/h]	19	135	0	2	39	855	0	30	29	0	35	0	89
Pedestrian Volume [ped/h]	0			0				0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	660	896	555	613
Degree of Utilization, x	0.23	1.18	0.11	0.20

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.90	28.90	0.36	0.75
95th-Percentile Queue Length [ft]	22.53	722.57	8.88	18.79
Approach Delay [s/veh]	10.11	113.69	10.26	10.36
Approach LOS	B	F	B	B
Intersection Delay [s/veh]	85.41			
Intersection LOS	F			

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Intersection Level Of Service Report
Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	16.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.375

Intersection Setup

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00			30.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	No		No			No		

Volumes

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Base Volume Input [veh/h]	175	151	1	131	225	0	67	128
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-104	0	-8	0	0	-3	-2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	175	47	1	123	225	0	64	126
Peak Hour Factor	0.9500	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	12	0	32	59	0	17	33
Total Analysis Volume [veh/h]	184	49	1	129	237	0	67	133
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.38	0.06	0.00	0.00	0.00	0.00	0.06	0.00
d_M, Delay for Movement [s/veh]	16.69	9.85	8.80	0.00	0.00	10.94	8.20	0.00
Movement LOS	C	A	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	1.72	0.20	0.00	0.00	0.00	0.18	0.18	0.00
95th-Percentile Queue Length [ft/ln]	43.12	4.94	0.05	0.05	0.05	4.46	4.46	0.00
d_A, Approach Delay [s/veh]	15.25		0.02			2.75		
Approach LOS	C		A			A		
d_I, Intersection Delay [s/veh]	5.14							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 16: Carson Crossing Rd/Calypso Cir.

Control Type:	Two-way stop	Delay (sec / veh):	26.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.442

Intersection Setup

Name			Carson Crossing Rd		Carson Crossing Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	190.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			Carson Crossing Rd		Carson Crossing Rd	
Base Volume Input [veh/h]	134	128	233	92	194	152
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-104	0	0	-3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	134	128	129	92	194	149
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	35	35	25	53	40
Total Analysis Volume [veh/h]	146	139	140	100	211	162
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.44	0.15	0.00	0.00	0.16	0.00
d_M, Delay for Movement [s/veh]	26.37	19.43	0.00	0.00	8.23	0.00
Movement LOS	D	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	3.81	3.81	0.00	0.00	0.57	0.00
95th-Percentile Queue Length [ft/ln]	95.33	95.33	0.00	0.00	14.13	0.00
d_A, Approach Delay [s/veh]	22.98		0.00		4.65	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	9.23					
Intersection LOS	D					

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Intersection Level Of Service Report
Intersection 17: Carson Crossing Rd/Four Seasons Dr

Control Type:	All-way stop	Delay (sec / veh):	7.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.070

Intersection Setup

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	500.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	500.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Base Volume Input [veh/h]	67	10	12	202	20	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-3	0	0	-104	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	64	10	12	98	20	18
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	3	3	27	5	5
Total Analysis Volume [veh/h]	70	11	13	107	22	20
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	737	767	692	765	765	752
Degree of Utilization, x	0.05	0.05	0.02	0.07	0.07	0.06

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.17	0.17	0.06	0.22	0.22	0.18
95th-Percentile Queue Length [ft]	4.35	4.17	1.44	5.62	5.62	4.43
Approach Delay [s/veh]	7.76		7.79			8.07
Approach LOS	A		A			A
Intersection Delay [s/veh]	7.83					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Signalized	Delay (sec / veh):	16.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.440

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	200.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	65	0	18	66	1	8	4	343	152	60	603	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-3	0	0	0	0	0	0	0	-104	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	62	0	18	66	1	8	4	343	48	60	603	15
Peak Hour Factor	0.9700	1.0000	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	0	5	17	0	2	1	88	12	15	155	4
Total Analysis Volume [veh/h]	64	0	19	68	1	8	4	354	49	62	622	15
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	7	25	0	0	25	0	15	35	0	15	35	0
Amber [s]	3.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	21	0	0	11	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	150.0	150.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	0	30	0	20	40	0	20	40	0
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	9	0	0	9	0	9	9	0	9	9	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	C	L	C	R	L	C	R
C, Calculated Cycle Length [s]	46	46	46	46	46	46	46	46	46	46
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	6	6	6	6	0	9	9	5	13	13
g / C, Green / Cycle	0.13	0.13	0.13	0.12	0.01	0.20	0.20	0.11	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.04	0.00	0.01	0.05	0.00	0.11	0.03	0.04	0.19	0.01
s, saturation flow rate [veh/h]	1603	1683	1431	1584	1603	3204	1431	1603	3204	1431
c, Capacity [veh/h]	210	220	187	199	17	631	282	176	949	423
d1, Uniform Delay [s]	17.99	0.00	17.50	18.38	22.44	16.58	15.27	18.85	14.06	11.45
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.81	0.00	0.23	1.24	7.27	0.79	0.29	1.20	0.78	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.00	0.10	0.39	0.24	0.56	0.17	0.35	0.66	0.04
d, Delay for Lane Group [s/veh]	18.80	0.00	17.74	19.61	29.71	17.36	15.56	20.05	14.83	11.48
Lane Group LOS	B	A	B	B	C	B	B	C	B	B
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.59	0.00	0.17	0.73	0.07	1.52	0.39	0.60	2.43	0.10
50th-Percentile Queue Length [ft/ln]	14.71	0.00	4.21	18.26	1.80	37.88	9.79	14.98	60.63	2.38
95th-Percentile Queue Length [veh/ln]	1.06	0.00	0.30	1.31	0.13	2.73	0.70	1.08	4.37	0.17
95th-Percentile Queue Length [ft/ln]	26.48	0.00	7.58	32.87	3.25	68.18	17.62	26.97	109.13	4.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.80	0.00	17.74	19.61	19.61	19.61	29.71	17.36	15.56	20.05	14.83	11.48
Movement LOS	B	A	B	B	B	B	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	18.56			19.61			17.27			15.22		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	16.37											
Intersection LOS	B											
Intersection V/C	0.440											

Emissions

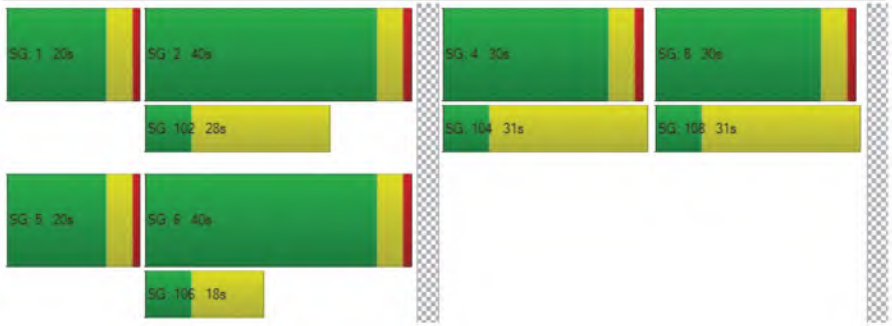
Vehicle Miles Traveled [mph]	19.00	0.00	5.64	1.72	0.57	50.69	7.02	52.17	523.43	12.62
Stops [stops/h]	46.53	0.00	13.32	57.78	5.71	239.65	30.96	47.40	383.60	7.53
Fuel consumption [US gal/h]	1.28	0.00	0.37	0.70	0.08	4.66	0.62	2.66	25.54	0.60
CO [g/h]	89.76	0.00	26.17	48.73	5.54	325.84	42.99	186.13	1785.59	41.68
NOx [g/h]	17.46	0.00	5.09	9.48	1.08	63.40	8.36	36.21	347.41	8.11
VOC [g/h]	20.80	0.00	6.07	11.29	1.28	75.52	9.96	43.14	413.83	9.66

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	13.09	13.09	13.09	13.09
l_p,int, Pedestrian LOS Score for Intersectio	2.298	1.722	2.592	2.599
Crosswalk LOS	B	A	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1098	1098	1538	1538
d_b, Bicycle Delay [s]	4.63	4.63	1.22	1.22
l_b,int, Bicycle LOS Score for Intersection	1.697	1.687	1.895	2.136
Bicycle LOS	A	A	A	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 19: White Rock Rd/Windfield Way

Control Type:	Signalized	Delay (sec / veh):	35.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.656

Intersection Setup

Name	Windfield Way						White Rock Rd			White Rock Rd			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00			
Grade [%]	0.00			0.00			0.00			0.00			
Curb Present	No			No			No			No			
Crosswalk	Yes			Yes			Yes			No			

Volumes

Name	Windfield Way						White Rock Rd			White Rock Rd			
Base Volume Input [veh/h]	72	5	243	5	5	0	5	644	184	0	499	505	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	73	0	0	0	0	0	55	0	0	0	2
Total Hourly Volume [veh/h]	72	5	170	5	5	0	5	644	129	0	499	505	3
Peak Hour Factor	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000	1.0000	0.9700	0.9700	1.000	0.970	0.970	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	19	1	44	1	1	0	1	166	33	0	129	130	1
Total Analysis Volume [veh/h]	74	5	175	5	5	0	5	664	133	0	514	521	3
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	31.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi
Signal Group	3	8	0	7	4	0	5	2	0	0	1	6	0
Auxiliary Signal Groups													
Maximum Green [s]	25	25	0	10	10	0	9	19	0	0	44	54	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	2.0	1.0	0.0	0.0	2.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	26	0	0	13	0	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	245.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	15	15	0	15	25	0	0	50	60	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	3	3	0	5	3	0	5	7	0	0	3	7	0
Vehicle Extension [s]	1.0	1.0	0.0	3.0	1.0	0.0	3.0	3.6	0.0	0.0	1.0	3.6	0.0
Minimum Recall	No	No		No	No		No	Yes			No	Yes	
Maximum Recall	No	No		No	No		No	No			No	No	
Pedestrian Recall	No	No		No	No		No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	6	15	1	10	1	46	46	36	81	81
g / C, Green / Cycle	0.05	0.13	0.01	0.08	0.01	0.38	0.38	0.30	0.68	0.68
(v / s)_i Volume / Saturation Flow Rate	0.04	0.11	0.00	0.00	0.00	0.19	0.08	0.29	0.14	0.14
s, saturation flow rate [veh/h]	1781	1596	1781	1870	1781	3560	1589	1781	1870	1866
c, Capacity [veh/h]	96	204	12	152	12	1354	604	537	1262	1259
d1, Uniform Delay [s]	56.04	51.41	59.33	50.78	59.34	28.34	25.16	41.16	7.39	7.39
k, delay calibration	0.04	0.04	0.11	0.04	0.11	0.50	0.50	0.24	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.83	4.76	19.50	0.03	19.95	1.27	0.84	18.67	0.37	0.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.88	0.40	0.03	0.40	0.49	0.22	0.96	0.21	0.21
d, Delay for Lane Group [s/veh]	60.87	56.16	78.83	50.82	79.29	29.61	26.00	59.83	7.76	7.76
Lane Group LOS	E	E	E	D	E	C	C	E	A	A
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.34	5.58	0.22	0.14	0.22	7.49	2.72	17.53	2.55	2.55
50th-Percentile Queue Length [ft/ln]	58.56	139.55	5.48	3.51	5.50	187.21	67.97	438.14	63.82	63.70
95th-Percentile Queue Length [veh/ln]	4.22	9.46	0.39	0.25	0.40	11.98	4.89	24.39	4.59	4.59
95th-Percentile Queue Length [ft/ln]	105.40	236.42	9.86	6.32	9.90	299.40	122.35	609.78	114.87	114.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	60.87	56.16	56.16	78.83	50.82	0.00	79.29	29.61	26.00	59.83	59.83	7.76	7.76
Movement LOS	E	E	E	E	D		E	C	C	E	E	A	A
d_A, Approach Delay [s/veh]	57.53			64.82			29.32			33.55			
Approach LOS	E			E			C			C			
d_I, Intersection Delay [s/veh]	34.98												
Intersection LOS	C												
Intersection V/C	0.656												

Emissions

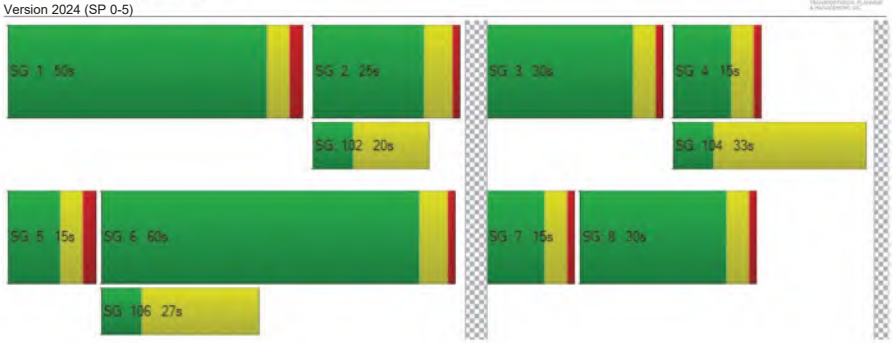
Vehicle Miles Traveled [mph]	28.51	69.36	0.17	0.17	4.21	558.77	111.92	128.07	65.35	65.22
Stops [stops/h]	70.27	167.46	6.57	4.21	6.60	449.30	81.57	525.77	76.58	76.43
Fuel consumption [US gal/h]	2.48	5.84	0.12	0.08	0.29	29.49	5.76	14.44	3.53	3.52
CO [g/h]	173.25	408.03	8.65	5.74	20.30	2061.06	402.74	1009.02	246.58	246.09
NOx [g/h]	33.71	79.39	1.68	1.12	3.95	401.01	78.36	196.32	47.98	47.88
VOC [g/h]	40.15	94.57	2.00	1.33	4.70	477.67	93.34	233.85	57.15	57.03

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00
d_p, Pedestrian Delay [s]	49.50			49.50			49.50			0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.394			1.962			2.781			0.000
Crosswalk LOS	B			A			C			F
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000
c_b, Capacity of the bicycle lane [bicycles/h]	417			167			317			900
d_b, Bicycle Delay [s]	37.60			50.42			42.50			18.15
I_b,int, Bicycle LOS Score for Intersection	2.099			1.576			2.267			1.994
Bicycle LOS	B			A			B			A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 20: White Rock Rd/Post St

Control Type:	Signalized	Delay (sec / veh):	44.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.607

Intersection Setup

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Approach	Northbound			Southbound			Eastbound				Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	300.0	100.0	100.0	100.0	200.00	100.00	400.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00				30.00		
Grade [%]	0.00			0.00			0.00				0.00		
Curb Present	No			No			No				No		
Crosswalk	Yes			Yes			No				No		

Volumes

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	60	7	28	115	11	210	0	243	666	62	56	885	214
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	-18	0	-5	6	0	0	-45	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	58	0	0	0	19	0	0	64
Total Hourly Volume [veh/h]	60	7	20	115	11	134	0	238	672	43	56	840	150
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	1.000	0.910	0.910	0.910	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	2	5	32	3	37	0	65	185	12	15	231	41
Total Analysis Volume [veh/h]	66	8	22	126	12	147	0	262	738	47	62	923	165
Presence of On-Street Parking	No		No	No		No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0				0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0				0		
v_co, Outbound Pedestrian Volume crossing	0			0			0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0				0		
Bicycle Volume [bicycles/h]	0			0			0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	160
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	71.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups													
Maximum Green [s]	7	24	0	7	26	0	0	23	75	0	15	67	0
Amber [s]	3.5	4.0	0.0	3.5	4.0	0.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.7	1.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	24	0	0	0	21	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.2	3.0	0.0	2.5	3.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	100.0	0.0	100.0	100.0	0.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26	29	0	13	31	0	0	28	80	0	20	72	0
Lead / Lag	Lead	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	3	9	0	3	9	0	0	9	9	0	9	9	0
Vehicle Extension [s]	1.0	1.5	0.0	1.0	1.5	0.0	0.0	1.0	1.5	0.0	1.0	1.5	0.0
Minimum Recall		No			No			No	Yes		No	No	
Maximum Recall		No			No			No	No		No	No	
Pedestrian Recall		No			No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	C	R	L	C	R
C, Calculated Cycle Length [s]	160	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	9	9	18	18	70	105	105	8	44	44
g / C, Green / Cycle	0.06	0.06	0.11	0.11	0.44	0.66	0.66	0.05	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.04	0.01	0.07	0.10	0.15	0.21	0.03	0.03	0.26	0.10
s, saturation flow rate [veh/h]	1790	1589	1781	1608	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	100	89	199	179	776	2331	1041	94	969	432
d1, Uniform Delay [s]	74.39	72.32	67.96	70.08	29.88	12.03	9.82	74.36	57.23	47.30
k, delay calibration	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.97	0.53	1.25	5.66	1.18	0.36	0.08	2.90	2.67	0.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.25	0.63	0.89	0.34	0.32	0.05	0.66	0.95	0.38
d, Delay for Lane Group [s/veh]	78.37	72.85	69.21	75.74	31.06	12.38	9.90	77.26	59.90	47.51
Lane Group LOS	E	E	E	E	C	B	A	E	E	D
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.13	0.89	5.03	6.74	7.07	5.91	0.63	2.59	18.72	5.45
50th-Percentile Queue Length [ft/ln]	78.19	22.13	125.81	168.52	176.76	147.70	15.66	64.87	467.98	136.26
95th-Percentile Queue Length [veh/ln]	5.63	1.59	8.71	11.00	11.43	9.89	1.13	4.67	25.81	9.28
95th-Percentile Queue Length [ft/ln]	140.74	39.83	217.78	274.97	285.79	247.36	28.19	116.77	645.37	231.98

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	78.37	78.37	72.85	69.21	75.74	75.74	31.06	31.06	12.38	9.90	77.26	59.90	47.51
Movement LOS	E	E	E	E	E	E	C	C	B	A	E	E	D
d_A, Approach Delay [s/veh]	77.10			72.85			16.94				59.06		
Approach LOS	E			E			B				E		
d_I, Intersection Delay [s/veh]	44.15												
Intersection LOS	D												
Intersection V/C	0.607												

Emissions

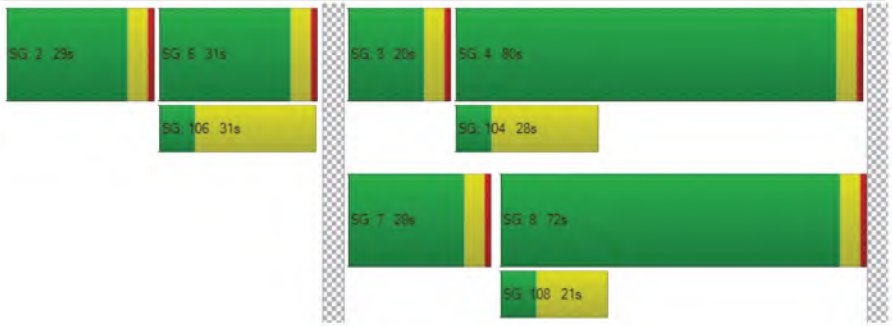
Vehicle Miles Traveled [mph]	3.70	1.10	5.86	7.39	27.48	77.40	4.93	21.71	323.20	57.78
Stops [stops/h]	70.37	19.92	113.23	151.67	159.09	265.87	14.09	58.39	842.37	122.63
Fuel consumption [US gal/h]	1.72	0.48	2.64	3.59	3.67	6.51	0.38	2.19	29.21	4.65
CO [g/h]	120.31	33.65	184.60	251.13	256.25	455.40	26.25	153.15	2041.67	325.10
NOx [g/h]	23.41	6.55	35.92	48.86	49.86	88.60	5.11	29.80	397.24	63.25
VOC [g/h]	27.88	7.80	42.78	58.20	59.39	105.54	6.08	35.49	473.18	75.35

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00
d_p, Pedestrian Delay [s]	69.38			69.38			69.38			0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.058			2.324			2.874			0.000
Crosswalk LOS	B			B			C			F
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000
c_b, Capacity of the bicycle lane [bicycles/h]	300			325			938			838
d_b, Bicycle Delay [s]	57.80			56.11			22.58			27.03
l_b,int, Bicycle LOS Score for Intersection	1.731			2.126			2.223			2.561
Bicycle LOS	A			B			B			B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	26.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.767

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	2	2	0	1	2	0	1	2	0	1
Entry Pocket Length [ft]	300.00	100.00	300.00	200.00	100.00	200.00	300.00	100.00	200.00	500.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	300.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	129	55	474	219	51	48	223	336	271	414	989	335
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-3	4	0	-9	5	7	-1	0	-19	-49	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	143	0	0	16	0	0	81	0	0	101
Total Hourly Volume [veh/h]	129	52	335	219	42	37	230	335	190	395	940	234
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	15	96	63	12	11	66	96	55	114	270	67
Total Analysis Volume [veh/h]	148	60	385	252	48	43	264	385	218	454	1080	269
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	153
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	1	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups			1,4									
Maximum Green [s]	0	35	25	0	40	0	25	45	0	25	44	0
Amber [s]	0.0	3.2	3.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.5	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	28	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.2	1.5	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	150.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	29	0	45	0	29	50	0	29	50	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	5	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	2.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No	No		No		No	No		No	No	
Maximum Recall		No	No		No		No	No		No	No	
Pedestrian Recall		No	No		No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Calculated Cycle Length [s]	84	84	84	84	84	84	84	84	84	84	84	84
L, Total Lost Time per Cycle [s]	4.20	4.20	3.50	4.20	4.20	4.20	3.50	5.30	5.30	3.50	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	0.00	2.20	2.20	2.20	1.50	3.30	3.30	1.50	4.00	4.00
g_i, Effective Green Time [s]	10	10	48	16	16	16	9	27	27	14	32	32
g / C, Green / Cycle	0.12	0.12	0.57	0.18	0.18	0.18	0.10	0.33	0.33	0.16	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.08	0.03	0.14	0.13	0.03	0.03	0.08	0.11	0.14	0.13	0.30	0.17
s, saturation flow rate [veh/h]	1781	1870	2813	1938	1870	1589	3459	3560	1589	3459	3560	1589
c, Capacity [veh/h]	214	224	1601	396	344	293	355	1162	519	571	1355	605
d1, Uniform Delay [s]	35.53	33.65	9.05	34.11	28.74	28.78	36.66	21.40	22.12	33.74	23.17	19.43
k, delay calibration	0.13	0.13	0.04	0.13	0.13	0.13	0.04	0.11	0.11	0.04	0.14	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.95	0.79	0.03	2.12	0.23	0.29	1.17	0.17	0.54	0.97	1.43	0.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.69	0.27	0.24	0.64	0.14	0.15	0.74	0.33	0.42	0.79	0.80	0.44
d, Delay for Lane Group [s/veh]	40.47	34.44	9.08	36.24	28.96	29.06	37.83	21.57	22.67	34.71	24.61	20.09
Lane Group LOS	D	C	A	D	C	C	D	C	C	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.14	1.14	1.60	2.53	0.82	0.74	2.64	2.80	3.32	4.41	9.25	3.86
50th-Percentile Queue Length [ft/ln]	78.58	28.59	40.11	63.37	20.42	18.41	65.95	69.95	83.06	110.37	231.14	96.52
95th-Percentile Queue Length [veh/ln]	5.66	2.06	2.89	4.56	1.47	1.33	4.75	5.04	5.98	7.86	14.23	6.95
95th-Percentile Queue Length [ft/ln]	141.44	51.46	72.19	114.07	36.75	33.13	118.70	125.92	149.50	196.52	355.81	173.74

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.47	34.44	9.08	36.24	28.96	29.06	37.83	21.57	22.67	34.71	24.61	20.09
Movement LOS	D	C	A	D	C	C	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	19.48			34.32			26.80			26.48		
Approach LOS	B			C			C			C		
d_I, Intersection Delay [s/veh]	26.15											
Intersection LOS	C											
Intersection V/C	0.767											

Emissions

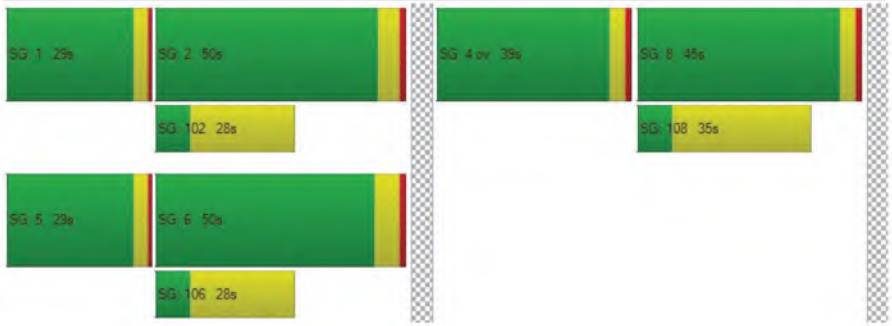
Vehicle Miles Traveled [mph]	253.80	102.89	660.21	51.09	9.73	8.72	92.44	134.81	76.33	204.86	487.32	121.38
Stops [stops/h]	134.73	49.01	137.53	217.31	35.00	31.56	226.14	239.89	142.41	378.48	792.63	165.50
Fuel consumption [US gal/h]	12.41	4.93	28.65	5.16	0.88	0.79	7.09	8.56	4.93	13.73	29.85	7.01
CO [g/h]	867.54	344.39	2002.61	360.83	61.30	55.05	495.38	598.69	344.94	959.79	2086.40	490.08
NOx [g/h]	168.79	67.01	389.64	70.20	11.93	10.71	96.38	116.48	67.11	186.74	405.94	95.35
VOC [g/h]	201.06	79.82	464.12	83.63	14.21	12.76	114.81	138.75	79.94	222.44	483.54	113.58

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.71	31.71	31.71	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.902	2.643	3.016	0.000
Crosswalk LOS	C	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	829	972	1064	1048
d_b, Bicycle Delay [s]	14.40	11.10	9.19	9.52
I_b,int, Bicycle LOS Score for Intersection	2.774	2.152	2.342	3.130
Bicycle LOS	C	B	B	C

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 22: White Rock Rd/Clarksville Crossing

Control Type:	Signalized	Delay (sec / veh):	41.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.928

Intersection Setup

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	460.00	100.00	100.00	290.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	0	0	5	4	0	354	3	1026	0	4	1384	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	3	0	0	-68	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	5	4	0	354	3	1029	0	4	1316	31
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	2	1	0	113	1	330	0	1	422	10
Total Analysis Volume [veh/h]	0	0	6	5	0	454	4	1319	0	5	1687	40
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	20	0	0	20	0	20	50	0	20	50	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	5.0	0.0	4.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	5.0	0.0	3.0	5.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	R
C, Calculated Cycle Length [s]	91	91	91	91	91	91	91	91	91	91
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	7.00	7.00	5.00	7.00	7.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	5.00	5.00	3.00	5.00	5.00
g_i, Effective Green Time [s]	1	1	20	20	1	48	48	1	48	48
g / C, Green / Cycle	0.01	0.01	0.22	0.22	0.01	0.53	0.53	0.01	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.00	0.29	0.00	0.35	0.35	0.00	0.47	0.03
s, saturation flow rate [veh/h]	1870	1589	1781	1589	1781	1870	1870	1781	3560	1589
c, Capacity [veh/h]	15	13	390	348	10	982	982	12	1875	837
d1, Uniform Delay [s]	0.00	45.13	27.97	35.71	45.28	15.91	15.91	45.19	19.47	10.51
k, delay calibration	0.11	0.11	0.11	0.50	0.11	0.18	0.18	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	23.08	0.01	156.85	22.45	1.30	1.30	19.45	1.79	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.46	0.01	1.31	0.39	0.67	0.67	0.40	0.90	0.05
d, Delay for Lane Group [s/veh]	0.00	68.21	27.98	192.55	67.73	17.21	17.21	64.65	21.26	10.53
Lane Group LOS	A	E	C	F	E	B	B	E	C	B
Critical Lane Group	No	Yes	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.00	0.22	0.09	22.68	0.15	9.68	9.68	0.18	15.09	0.38
50th-Percentile Queue Length [ft/ln]	0.00	5.45	2.16	567.09	3.84	242.11	242.11	4.48	377.37	9.50
95th-Percentile Queue Length [veh/ln]	0.00	0.39	0.16	34.74	0.28	14.79	14.79	0.32	21.47	0.68
95th-Percentile Queue Length [ft/ln]	0.00	9.81	3.88	868.49	6.91	369.70	369.70	8.07	536.66	17.09

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	68.21	27.98	27.98	192.55	67.73	17.21	17.21	64.65	21.26	10.53
Movement LOS	A	A	E	C	C	F	E	B	B	E	C	B
d_A, Approach Delay [s/veh]	68.21			190.76			17.37			21.14		
Approach LOS	E			F			B			C		
d_I, Intersection Delay [s/veh]	41.92											
Intersection LOS	D											
Intersection V/C	0.928											

Emissions

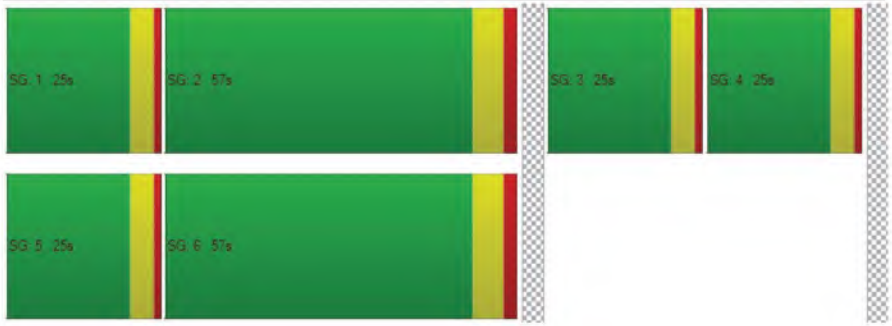
Vehicle Miles Traveled [mph]	0.00	0.30	2.37	215.36	1.80	297.58	297.58	0.87	294.28	6.98
Stops [stops/h]	0.00	8.59	3.40	894.50	6.05	381.90	381.90	7.07	1190.49	14.98
Fuel consumption [US gal/h]	0.00	0.14	0.14	31.59	0.16	16.67	16.67	0.14	25.99	0.46
CO [g/h]	0.00	10.00	10.13	2208.43	11.38	1165.27	1165.27	9.84	1816.83	31.86
NOx [g/h]	0.00	1.95	1.97	429.68	2.21	226.72	226.72	1.91	353.49	6.20
VOC [g/h]	0.00	2.32	2.35	511.83	2.64	270.06	270.06	2.28	421.07	7.38

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	438	438	1095	1095
d_b, Bicycle Delay [s]	27.84	27.84	9.34	9.34
l_b,int, Bicycle LOS Score for Intersection	1.570	2.317	2.651	2.989
Bicycle LOS	A	B	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 23: White Rock Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	11.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.556

Intersection Setup

Name	White Rock Rd			White Rock Rd			US 50 EB					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			No		

Volumes

Name	White Rock Rd			White Rock Rd			US 50 EB					
Base Volume Input [veh/h]	0	425	610	0	1303	320	243	0	116	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	1	0	0	-68	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	12	0	0	0
Total Hourly Volume [veh/h]	3	426	610	0	1235	320	243	0	104	0	0	0
Peak Hour Factor	0.8300	0.8300	1.0000	1.0000	0.8300	0.8300	0.8300	1.0000	0.8300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	128	153	0	372	96	73	0	31	0	0	0
Total Analysis Volume [veh/h]	4	513	610	0	1488	386	293	0	125	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	4	0	0	0	0	0
Auxiliary Signal Groups												
Maximum Green [s]	0	62	0	0	62	0	45	0	0	0	0	0
Amber [s]	0.0	5.0	0.0	0.0	5.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
l2, Clearance Lost Time [s]	0.0	5.0	0.0	0.0	5.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	0.0	245.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	69	0	0	69	0	51	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	9	0	0	9	0	8	0	0	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	1.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		Yes			Yes		No					
Maximum Recall		No			No		No					
Pedestrian Recall		No			No		No					

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	R	
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	
L, Total Lost Time per Cycle [s]	7.00	7.00	7.00	7.00	6.00	6.00	6.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	5.00	5.00	5.00	5.00	4.00	4.00	4.00	
g_i, Effective Green Time [s]	95	95	95	95	12	12	12	
g / C, Green / Cycle	0.79	0.79	0.79	0.79	0.10	0.10	0.10	
(v / s)_i Volume / Saturation Flow Rate	0.14	0.38	0.42	0.24	0.08	0.08	0.08	
s, saturation flow rate [veh/h]	3560	1589	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	2808	1254	2808	1254	183	183	164	
d1, Uniform Delay [s]	3.13	4.34	4.60	3.54	52.62	52.62	52.41	
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.14	1.35	0.72	0.64	3.04	3.04	2.79	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.18	0.49	0.53	0.31	0.80	0.80	0.76	
d, Delay for Lane Group [s/veh]	3.27	5.70	5.32	4.17	55.66	55.66	55.20	
Lane Group LOS	A	A	A	A	E	E	E	
Critical Lane Group	No	No	Yes	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	1.30	4.57	5.57	2.33	4.47	4.47	3.80	
50th-Percentile Queue Length [ft/ln]	32.39	114.14	139.20	58.27	111.78	111.78	94.88	
95th-Percentile Queue Length [veh/ln]	2.33	8.07	9.44	4.20	7.94	7.94	6.83	
95th-Percentile Queue Length [ft/ln]	58.29	201.75	235.94	104.88	198.47	198.47	170.79	

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	3.27	5.70	0.00	5.32	4.17	55.66	0.00	55.20	0.00	0.00	0.00
Movement LOS		A	A		A	A	E		E			
d_A, Approach Delay [s/veh]		4.59			5.08		55.52			0.00		
Approach LOS		A			A		E			A		
d_I, Intersection Delay [s/veh]	11.09											
Intersection LOS	B											
Intersection V/C	0.556											

Emissions

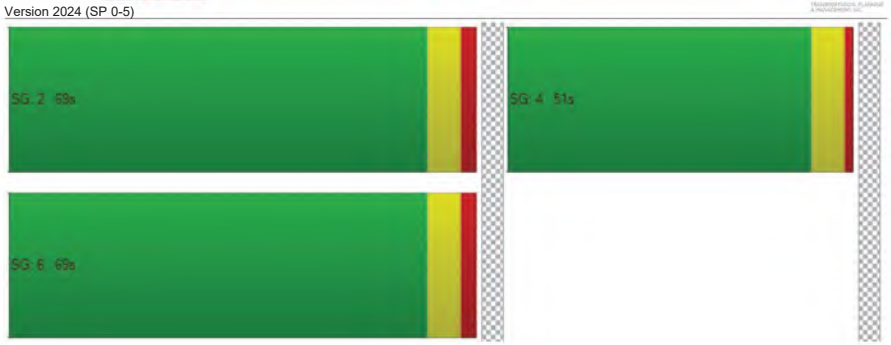
Vehicle Miles Traveled [mph]	89.49	106.41	263.69	68.40	8.87	8.87	7.57	
Stops [stops/h]	77.73	136.97	334.07	69.92	134.13	134.13	113.86	
Fuel consumption [US gal/h]	4.45	5.84	14.31	3.53	2.77	2.77	2.34	
CO [g/h]	311.40	408.53	1000.37	246.75	193.30	193.30	163.89	
NOx [g/h]	60.59	79.48	194.64	48.01	37.61	37.61	31.89	
VOC [g/h]	72.17	94.68	231.85	57.19	44.80	44.80	37.98	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1033	1033	750	0
d_b, Bicycle Delay [s]	14.02	14.02	23.44	60.00
l_b,int, Bicycle LOS Score for Intersection	2.486	3.106	2.269	4.132
Bicycle LOS	B	C	B	D

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 24: Silva Valley Pkwy/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	47.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.009

Intersection Setup

Name	White Rock Rd			Silva Valley Pkwy			US 50 WB			US 50 WB		
Approach	Northbound			Southbound			Westbound			Northeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			No		

Volumes

Name	White Rock Rd			Silva Valley Pkwy			US 50 WB			US 50 WB		
Base Volume Input [veh/h]	0	590	78	0	518	719	1105	0	398	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	0	0	-12	0	-56	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	47	0	0	30	0	0	0
Total Hourly Volume [veh/h]	0	591	78	0	506	672	1049	0	368	0	0	0
Peak Hour Factor	0.7900	0.7900	1.0000	1.0000	0.7900	0.7900	0.7900	0.7900	0.7900	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	187	20	0	160	213	332	0	116	0	0	0
Total Analysis Volume [veh/h]	0	748	78	0	641	851	1328	0	466	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Maximum Green [s]	20	54	0	0	26	0	0	23	0	0	0	0
Amber [s]	3.7	4.8	0.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0
All red [s]	0.5	2.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
l2, Clearance Lost Time [s]	2.2	4.8	0.0	0.0	4.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	125	70	0	0	70	0	0	50	0	0	0	0
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	8	8	0	0	8	0	0	8	0	0	0	0
Vehicle Extension [s]	2.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		Yes			Yes			No				
Maximum Recall		No			No			No				
Pedestrian Recall		No			No			No				

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	R	
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	
L, Total Lost Time per Cycle [s]	6.80	6.80	6.80	6.80	5.80	5.80	5.80	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	4.80	4.80	4.80	4.80	3.80	3.80	3.80	
g_i, Effective Green Time [s]	63	63	63	63	44	44	44	
g / C, Green / Cycle	0.53	0.53	0.53	0.53	0.37	0.37	0.37	
(v / s)_i Volume / Saturation Flow Rate	0.21	0.05	0.18	0.54	0.37	0.37	0.29	
s, saturation flow rate [veh/h]	3560	1589	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	1875	837	1875	837	656	656	585	
d1, Uniform Delay [s]	17.02	14.14	16.39	28.40	37.90	37.90	33.87	
k, delay calibration	0.50	0.50	0.50	0.50	0.44	0.44	0.25	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.64	0.22	0.50	35.31	35.94	35.94	5.74	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.40	0.09	0.34	1.02	1.01	1.01	0.80	
d, Delay for Lane Group [s/veh]	17.65	14.36	16.89	63.71	73.84	73.84	39.61	
Lane Group LOS	B	B	B	F	F	F	D	
Critical Lane Group	No	No	No	Yes	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	6.27	1.11	5.17	31.01	25.42	25.42	12.91	
50th-Percentile Queue Length [ft/ln]	156.76	27.72	129.23	775.37	635.48	635.48	322.85	
95th-Percentile Queue Length [veh/ln]	10.38	2.00	8.90	40.70	33.99	33.99	18.81	
95th-Percentile Queue Length [ft/ln]	259.42	49.90	222.45	1017.52	849.65	849.65	470.18	

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	17.65	14.36	0.00	16.89	63.71	73.84	73.84	39.61	0.00	0.00	0.00
Movement LOS		B	B		B	F	F	E	D			
d_A, Approach Delay [s/veh]		17.34			43.60			64.95			0.00	
Approach LOS		B			D			E			A	
d_I, Intersection Delay [s/veh]	47.64											
Intersection LOS	D											
Intersection V/C	1.009											

Emissions

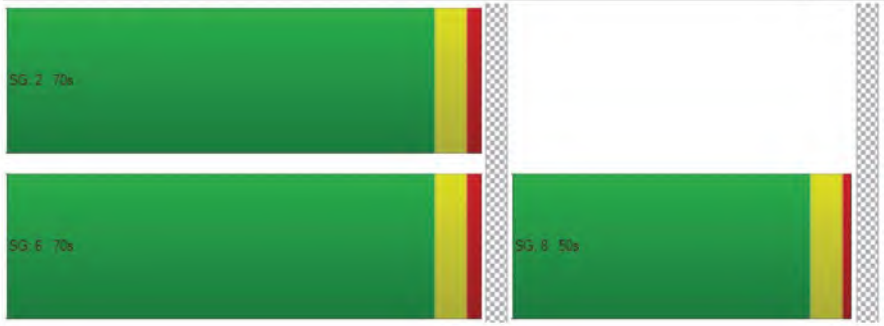
Vehicle Miles Traveled [mph]	132.55	13.82	87.65	116.36	43.60	43.60	30.60	
Stops [stops/h]	376.21	33.27	310.16	930.44	762.57	762.57	387.41	
Fuel consumption [US gal/h]	10.22	0.98	7.53	20.96	15.98	15.98	7.16	
CO [g/h]	714.55	68.55	526.02	1465.33	1117.29	1117.29	500.22	
NOx [g/h]	139.02	13.34	102.34	285.10	217.38	217.38	97.33	
VOC [g/h]	165.60	15.89	121.91	339.61	258.94	258.94	115.93	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1053	1053	737	0
d_b, Bicycle Delay [s]	13.44	13.44	23.94	60.00
l_b,int, Bicycle LOS Score for Intersection	2.241	2.829	4.569	4.132
Bicycle LOS	B	C	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 25: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Base Volume Input [veh/h]	0	658	360	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	13	0	0	0	0
Site-Generated Trips [veh/h]	0	128	60	31	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	31	-31	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	799	451	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	200	113	0	0	0
Total Analysis Volume [veh/h]	0	799	451	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	10.92
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.92	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 26: Latrobe/Wetsl-Oviatt

Control Type:	Two-way stop	Delay (sec / veh):	14.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.028

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Base Volume Input [veh/h]	0	466	260	38	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-21	9	4	7	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	445	269	42	11	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	111	67	11	3	0
Total Analysis Volume [veh/h]	0	445	269	42	11	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.03	0.00
d_M, Delay for Movement [s/veh]	7.88	0.00	0.00	0.00	14.56	10.06
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	2.19	2.19
d_A, Approach Delay [s/veh]	0.00		0.00		14.18	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.22					
Intersection LOS	B					

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Intersection Level Of Service Report
Intersection 27: Latrobe/S. Shingle

Control Type:	Two-way stop	Delay (sec / veh):	21.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.161

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Base Volume Input [veh/h]	6	241	41	52	127	9	48	87	0	37	75	47
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-31	0	8	-6	8	5	0	0	0	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	210	41	60	121	17	53	87	0	37	75	52
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	53	10	15	30	4	13	22	0	9	19	13
Total Analysis Volume [veh/h]	6	210	41	60	121	17	53	87	0	37	75	52
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.05	0.00	0.00	0.16	0.20	0.00	0.11	0.17	0.06
d_M, Delay for Movement [s/veh]	7.50	0.00	0.00	7.81	0.00	0.00	21.04	18.27	14.00	19.04	16.80	13.19
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.11	0.11	0.11	1.60	1.60	1.60	1.48	1.48	1.48
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.26	2.65	2.65	2.65	39.98	39.98	39.98	36.94	36.94	36.94
d_A, Approach Delay [s/veh]	0.18			2.37			19.32			16.16		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	7.73											
Intersection LOS	C											

Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	799	470	39	17
2	775	456	38	16
3	759	447	37	16
4	711	418	35	15
5	631	371	31	13
6	623	367	30	13
7	615	362	30	13
8	559	329	27	12
9	551	324	27	12
10	543	320	27	12
11	471	277	23	10
12	439	259	21	9
13	431	254	21	9
14	320	188	16	7
15	320	188	16	7
16	224	132	11	5
17	128	75	6	3
18	128	75	6	3
19	72	42	4	2
20	40	24	2	1
21	24	14	1	1
22	8	5	0	0
23	8	5	0	0
24	8	5	0	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1269	1	39	No	No	No	No	No	No	No	No	No	No
2	1	1231	1	38	No	No	No	No	No	No	No	No	No	No
3	1	1206	1	37	No	No	No	No	No	No	No	No	No	No
4	1	1129	1	35	No	No	No	No	No	No	No	No	No	No
5	1	1002	1	31	No	No	No	No	No	No	No	No	No	No
6	1	990	1	30	No	No	No	No	No	No	No	No	No	No
7	1	977	1	30	No	No	No	No	No	No	No	No	No	No
8	1	888	1	27	No	No	No	No	No	No	No	No	No	No
9	1	875	1	27	No	No	No	No	No	No	No	No	No	No
10	1	863	1	27	No	No	No	No	No	No	No	No	No	No
11	1	748	1	23	No	No	No	No	No	No	No	No	No	No
12	1	698	1	21	No	No	No	No	No	No	No	No	No	No
13	1	685	1	21	No	No	No	No	No	No	No	No	No	No
14	1	508	1	16	No	No	No	No	No	No	No	No	No	No
15	1	508	1	16	No	No	No	No	No	No	No	No	No	No
16	1	356	1	11	No	No	No	No	No	No	No	No	No	No
17	1	203	1	6	No	No	No	No	No	No	No	No	No	No
18	1	203	1	6	No	No	No	No	No	No	No	No	No	No
19	1	114	1	4	No	No	No	No	No	No	No	No	No	No
20	1	64	1	2	No	No	No	No	No	No	No	No	No	No
21	1	38	1	1	No	No	No	No	No	No	No	No	No	No
22	1	13	1	0	No	No	No	No	No	No	No	No	No	No
23	1	13	1	0	No	No	No	No	No	No	No	No	No	No
24	1	13	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.5	43.4
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:10	0:12
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	39	17
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1325	1325
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 12: Latrobe Rd/Royal Oaks Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	456	451	263	172
2	442	437	255	167
3	433	428	250	163
4	406	401	234	153
5	360	356	208	136
6	356	352	205	134
7	351	347	203	132
8	319	316	184	120
9	315	311	181	119
10	310	307	179	117
11	269	266	155	101
12	251	248	145	95
13	246	244	142	93
14	182	180	105	69
15	182	180	105	69
16	128	126	74	48
17	73	72	42	28
18	73	72	42	28
19	41	41	24	15
20	23	23	13	9
21	14	14	8	5
22	5	5	3	2
23	5	5	3	2
24	5	5	3	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	907	1	263	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	2	879	1	255	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
3	2	861	1	250	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
4	2	807	1	234	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
5	2	716	1	208	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
6	2	708	1	205	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
7	2	698	1	203	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
8	2	635	1	184	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
9	2	626	1	181	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No
10	2	617	1	179	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No
11	2	535	1	155	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
12	2	499	1	145	No	Yes	Yes	Yes	No	No	No	No	No	No
13	2	490	1	142	No	Yes	Yes	Yes	No	No	No	No	No	No
14	2	362	1	105	No	No	No	Yes	No	No	No	No	No	No
15	2	362	1	105	No	No	No	Yes	No	No	No	No	No	No
16	2	254	1	74	No	No	No	No	No	No	No	No	No	No
17	2	145	1	42	No	No	No	No	No	No	No	No	No	No
18	2	145	1	42	No	No	No	No	No	No	No	No	No	No
19	2	82	1	24	No	No	No	No	No	No	No	No	No	No
20	2	46	1	13	No	No	No	No	No	No	No	No	No	No
21	2	28	1	8	No	No	No	No	No	No	No	No	No	No
22	2	10	1	3	No	No	No	No	No	No	No	No	No	No
23	2	10	1	3	No	No	No	No	No	No	No	No	No	No
24	2	10	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					10	13	13	15	1	4	8	11	11	7

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	18.3	476
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:20	22:44
Delay Condition Met	No	Yes
Volume on Minor Street Approach During Same Hour	263	172
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	1342	1342
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	Yes
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 13: Golden Foothill/Robert J Mathews

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	1030	229	478
2	999	222	464
3	979	218	454
4	917	204	425
5	814	181	378
6	803	179	373
7	793	176	368
8	721	160	335
9	711	158	330
10	700	156	325
11	608	135	282
12	567	126	263
13	556	124	258
14	412	92	191
15	412	92	191
16	288	64	134
17	165	37	76
18	165	37	76
19	93	21	43
20	52	11	24
21	31	7	14
22	10	2	5
23	10	2	5
24	10	2	5

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1259	1	478	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1221	1	464	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1197	1	454	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1121	1	425	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	995	1	378	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	982	1	373	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1	969	1	368	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	1	881	1	335	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	1	869	1	330	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
10	1	856	1	325	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
11	1	743	1	282	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
12	1	693	1	263	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
13	1	680	1	258	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
14	1	504	1	191	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
15	1	504	1	191	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
16	1	352	1	134	No	No	Yes	Yes	No	No	No	No	No	No
17	1	202	1	76	No	No	No	No	No	No	No	No	No	No
18	1	202	1	76	No	No	No	No	No	No	No	No	No	No
19	1	114	1	43	No	No	No	No	No	No	No	No	No	No
20	1	63	1	24	No	No	No	No	No	No	No	No	No	No
21	1	38	1	14	No	No	No	No	No	No	No	No	No	No
22	1	12	1	5	No	No	No	No	No	No	No	No	No	No
23	1	12	1	5	No	No	No	No	No	No	No	No	No	No
24	1	12	1	5	No	No	No	No	No	No	No	No	No	No
Hours Met					15	15	16	16	10	13	13	15	13	8

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	65.1
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	8:38
Delay Condition Met	Yes
Volume on Minor Street Approach During Same Hour	478
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1737
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	Yes
Warrant Met for Intersection	**Yes**

Signal Warrants Report For Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	128	744	103	49
2	124	722	100	48
3	122	707	98	47
4	114	662	92	44
5	101	588	81	39
6	100	580	80	38
7	99	573	79	38
8	90	521	72	34
9	88	513	71	34
10	87	506	70	33
11	76	439	61	29
12	70	409	57	27
13	69	402	56	26
14	51	298	41	20
15	51	298	41	20
16	36	208	29	14
17	20	119	16	8
18	20	119	16	8
19	12	67	9	4
20	6	37	5	2
21	4	22	3	1
22	1	7	1	0
23	1	7	1	0
24	1	7	1	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	872	1	103	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
2	1	846	1	100	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
3	1	829	1	98	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
4	1	776	1	92	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
5	1	689	1	81	No	No	No	No	No	Yes	Yes	Yes	No	No
6	1	680	1	80	No	No	No	No	No	Yes	Yes	Yes	No	No
7	1	672	1	79	No	No	No	No	No	Yes	Yes	Yes	No	No
8	1	611	1	72	No	No	No	No	No	Yes	Yes	Yes	No	No
9	1	601	1	71	No	No	No	No	No	Yes	Yes	Yes	No	No
10	1	593	1	70	No	No	No	No	No	No	Yes	Yes	No	No
11	1	515	1	61	No	No	No	No	No	No	No	Yes	No	No
12	1	479	1	57	No	No	No	No	No	No	No	Yes	No	No
13	1	471	1	56	No	No	No	No	No	No	No	Yes	No	No
14	1	349	1	41	No	No	No	No	No	No	No	No	No	No
15	1	349	1	41	No	No	No	No	No	No	No	No	No	No
16	1	244	1	29	No	No	No	No	No	No	No	No	No	No
17	1	139	1	16	No	No	No	No	No	No	No	No	No	No
18	1	139	1	16	No	No	No	No	No	No	No	No	No	No
19	1	79	1	9	No	No	No	No	No	No	No	No	No	No
20	1	43	1	5	No	No	No	No	No	No	No	No	No	No
21	1	26	1	3	No	No	No	No	No	No	No	No	No	No
22	1	8	1	1	No	No	No	No	No	No	No	No	No	No
23	1	8	1	1	No	No	No	No	No	No	No	No	No	No
24	1	8	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	4	4	9	10	13	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	10.4	10.3
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:17	0:08
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	103	49
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1024	1024
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

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Signal Warrants Report For Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	190	349	222
2	184	339	215
3	181	332	211
4	169	311	198
5	150	276	175
6	148	272	173
7	146	269	171
8	133	244	155
9	131	241	153
10	129	237	151
11	112	206	131
12	105	192	122
13	103	188	120
14	76	140	89
15	76	140	89
16	53	98	62
17	30	56	36
18	30	56	36
19	17	31	20
20	10	17	11
21	6	10	7
22	2	3	2
23	2	3	2
24	2	3	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	539	2	222	No	Yes	Yes	Yes	No	No	No	Yes	No	No
2	2	523	2	215	No	Yes	Yes	Yes	No	No	No	Yes	No	No
3	2	513	2	211	No	Yes	Yes	Yes	No	No	No	Yes	No	No
4	2	480	2	198	No	Yes	Yes	Yes	No	No	No	No	No	No
5	2	426	2	175	No	No	Yes	Yes	No	No	No	No	No	No
6	2	420	2	173	No	No	Yes	Yes	No	No	No	No	No	No
7	2	415	2	171	No	No	No	Yes	No	No	No	No	No	No
8	2	377	2	155	No	No	No	Yes	No	No	No	No	No	No
9	2	372	2	153	No	No	No	Yes	No	No	No	No	No	No
10	2	366	2	151	No	No	No	Yes	No	No	No	No	No	No
11	2	318	2	131	No	No	No	No	No	No	No	No	No	No
12	2	297	2	122	No	No	No	No	No	No	No	No	No	No
13	2	291	2	120	No	No	No	No	No	No	No	No	No	No
14	2	216	2	89	No	No	No	No	No	No	No	No	No	No
15	2	216	2	89	No	No	No	No	No	No	No	No	No	No
16	2	151	2	62	No	No	No	No	No	No	No	No	No	No
17	2	86	2	36	No	No	No	No	No	No	No	No	No	No
18	2	86	2	36	No	No	No	No	No	No	No	No	No	No
19	2	48	2	20	No	No	No	No	No	No	No	No	No	No
20	2	27	2	11	No	No	No	No	No	No	No	No	No	No
21	2	16	2	7	No	No	No	No	No	No	No	No	No	No
22	2	5	2	2	No	No	No	No	No	No	No	No	No	No
23	2	5	2	2	No	No	No	No	No	No	No	No	No	No
24	2	5	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	6	10	0	0	0	3	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	15.2
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:56
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	222
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	761
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 16: Carson Crossing Rd/Calypso Cir.

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	343	221	262
2	333	214	254
3	326	210	249
4	305	197	233
5	271	175	207
6	268	172	204
7	264	170	202
8	240	155	183
9	237	152	181
10	233	150	178
11	202	130	155
12	189	122	144
13	185	119	141
14	137	88	105
15	137	88	105
16	96	62	73
17	55	35	42
18	55	35	42
19	31	20	24
20	17	11	13
21	10	7	8
22	3	2	3
23	3	2	3
24	3	2	3

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	564	1	262	No	Yes	Yes	Yes	No	No	No	Yes	No	No
2	2	547	1	254	No	Yes	Yes	Yes	No	No	No	Yes	No	No
3	2	536	1	249	No	Yes	Yes	Yes	No	No	No	Yes	No	No
4	2	502	1	233	No	Yes	Yes	Yes	No	No	No	No	No	No
5	2	446	1	207	No	No	Yes	Yes	No	No	No	No	No	No
6	2	440	1	204	No	No	Yes	Yes	No	No	No	No	No	No
7	2	434	1	202	No	No	Yes	Yes	No	No	No	No	No	No
8	2	395	1	183	No	No	No	Yes	No	No	No	No	No	No
9	2	389	1	181	No	No	No	Yes	No	No	No	No	No	No
10	2	383	1	178	No	No	No	Yes	No	No	No	No	No	No
11	2	332	1	155	No	No	No	No	No	No	No	No	No	No
12	2	311	1	144	No	No	No	No	No	No	No	No	No	No
13	2	304	1	141	No	No	No	No	No	No	No	No	No	No
14	2	225	1	105	No	No	No	No	No	No	No	No	No	No
15	2	225	1	105	No	No	No	No	No	No	No	No	No	No
16	2	158	1	73	No	No	No	No	No	No	No	No	No	No
17	2	90	1	42	No	No	No	No	No	No	No	No	No	No
18	2	90	1	42	No	No	No	No	No	No	No	No	No	No
19	2	51	1	24	No	No	No	No	No	No	No	No	No	No
20	2	28	1	13	No	No	No	No	No	No	No	No	No	No
21	2	17	1	8	No	No	No	No	No	No	No	No	No	No
22	2	5	1	3	No	No	No	No	No	No	No	No	No	No
23	2	5	1	3	No	No	No	No	No	No	No	No	No	No
24	2	5	1	3	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	10	0	0	0	3	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	23
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:40
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	262
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	826
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 17: Carson Crossing Rd/Four Seasons Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	74	110	38
2	72	107	37
3	70	105	36
4	66	98	34
5	58	87	30
6	58	86	30
7	57	85	29
8	52	77	27
9	51	76	26
10	50	75	26
11	44	65	22
12	41	61	21
13	40	59	21
14	30	44	15
15	30	44	15
16	21	31	11
17	12	18	6
18	12	18	6
19	7	10	3
20	4	6	2
21	2	3	1
22	1	1	0
23	1	1	0
24	1	1	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	184	1	38	No	No	No	No	No	No	No	No	No	No
2	3	179	1	37	No	No	No	No	No	No	No	No	No	No
3	3	175	1	36	No	No	No	No	No	No	No	No	No	No
4	3	164	1	34	No	No	No	No	No	No	No	No	No	No
5	3	145	1	30	No	No	No	No	No	No	No	No	No	No
6	3	144	1	30	No	No	No	No	No	No	No	No	No	No
7	3	142	1	29	No	No	No	No	No	No	No	No	No	No
8	3	129	1	27	No	No	No	No	No	No	No	No	No	No
9	3	127	1	26	No	No	No	No	No	No	No	No	No	No
10	3	125	1	26	No	No	No	No	No	No	No	No	No	No
11	3	109	1	22	No	No	No	No	No	No	No	No	No	No
12	3	102	1	21	No	No	No	No	No	No	No	No	No	No
13	3	99	1	21	No	No	No	No	No	No	No	No	No	No
14	3	74	1	15	No	No	No	No	No	No	No	No	No	No
15	3	74	1	15	No	No	No	No	No	No	No	No	No	No
16	3	52	1	11	No	No	No	No	No	No	No	No	No	No
17	3	30	1	6	No	No	No	No	No	No	No	No	No	No
18	3	30	1	6	No	No	No	No	No	No	No	No	No	No
19	3	17	1	3	No	No	No	No	No	No	No	No	No	No
20	3	10	1	2	No	No	No	No	No	No	No	No	No	No
21	3	5	1	1	No	No	No	No	No	No	No	No	No	No
22	3	2	1	0	No	No	No	No	No	No	No	No	No	No
23	3	2	1	0	No	No	No	No	No	No	No	No	No	No
24	3	2	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	8.1
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:05
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	38
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	222
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 25: New Intersection

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	799	451	0
2	775	437	0
3	759	428	0
4	711	401	0
5	631	356	0
6	623	352	0
7	615	347	0
8	559	316	0
9	551	311	0
10	543	307	0
11	471	266	0
12	439	248	0
13	431	244	0
14	320	180	0
15	320	180	0
16	224	126	0
17	128	72	0
18	128	72	0
19	72	41	0
20	40	23	0
21	24	14	0
22	8	5	0
23	8	5	0
24	8	5	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1250	1	0	No	No	No	No	No	No	No	No	No	No
2	1	1212	1	0	No	No	No	No	No	No	No	No	No	No
3	1	1187	1	0	No	No	No	No	No	No	No	No	No	No
4	1	1112	1	0	No	No	No	No	No	No	No	No	No	No
5	1	987	1	0	No	No	No	No	No	No	No	No	No	No
6	1	975	1	0	No	No	No	No	No	No	No	No	No	No
7	1	962	1	0	No	No	No	No	No	No	No	No	No	No
8	1	875	1	0	No	No	No	No	No	No	No	No	No	No
9	1	862	1	0	No	No	No	No	No	No	No	No	No	No
10	1	850	1	0	No	No	No	No	No	No	No	No	No	No
11	1	737	1	0	No	No	No	No	No	No	No	No	No	No
12	1	687	1	0	No	No	No	No	No	No	No	No	No	No
13	1	675	1	0	No	No	No	No	No	No	No	No	No	No
14	1	500	1	0	No	No	No	No	No	No	No	No	No	No
15	1	500	1	0	No	No	No	No	No	No	No	No	No	No
16	1	350	1	0	No	No	No	No	No	No	No	No	No	No
17	1	200	1	0	No	No	No	No	No	No	No	No	No	No
18	1	200	1	0	No	No	No	No	No	No	No	No	No	No
19	1	113	1	0	No	No	No	No	No	No	No	No	No	No
20	1	63	1	0	No	No	No	No	No	No	No	No	No	No
21	1	38	1	0	No	No	No	No	No	No	No	No	No	No
22	1	13	1	0	No	No	No	No	No	No	No	No	No	No
23	1	13	1	0	No	No	No	No	No	No	No	No	No	No
24	1	13	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	10.9
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1250
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 26: Latrobe/Wetsl-Oviatt

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	445	311	12
2	432	302	12
3	423	295	11
4	396	277	11
5	352	246	9
6	347	243	9
7	343	239	9
8	312	218	8
9	307	215	8
10	303	211	8
11	263	183	7
12	245	171	7
13	240	168	6
14	178	124	5
15	178	124	5
16	125	87	3
17	71	50	2
18	71	50	2
19	40	28	1
20	22	16	1
21	13	9	0
22	4	3	0
23	4	3	0
24	4	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	756	1	12	No	No	No	No	No	No	No	No	No	No
2	1	734	1	12	No	No	No	No	No	No	No	No	No	No
3	1	718	1	11	No	No	No	No	No	No	No	No	No	No
4	1	673	1	11	No	No	No	No	No	No	No	No	No	No
5	1	598	1	9	No	No	No	No	No	No	No	No	No	No
6	1	590	1	9	No	No	No	No	No	No	No	No	No	No
7	1	582	1	9	No	No	No	No	No	No	No	No	No	No
8	1	530	1	8	No	No	No	No	No	No	No	No	No	No
9	1	522	1	8	No	No	No	No	No	No	No	No	No	No
10	1	514	1	8	No	No	No	No	No	No	No	No	No	No
11	1	446	1	7	No	No	No	No	No	No	No	No	No	No
12	1	416	1	7	No	No	No	No	No	No	No	No	No	No
13	1	408	1	6	No	No	No	No	No	No	No	No	No	No
14	1	302	1	5	No	No	No	No	No	No	No	No	No	No
15	1	302	1	5	No	No	No	No	No	No	No	No	No	No
16	1	212	1	3	No	No	No	No	No	No	No	No	No	No
17	1	121	1	2	No	No	No	No	No	No	No	No	No	No
18	1	121	1	2	No	No	No	No	No	No	No	No	No	No
19	1	68	1	1	No	No	No	No	No	No	No	No	No	No
20	1	38	1	1	No	No	No	No	No	No	No	No	No	No
21	1	22	1	0	No	No	No	No	No	No	No	No	No	No
22	1	7	1	0	No	No	No	No	No	No	No	No	No	No
23	1	7	1	0	No	No	No	No	No	No	No	No	No	No
24	1	7	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.2
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:02
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	12
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	768
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 27: Latrobe/S. Shingle

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	257	198	164	140
2	249	192	159	136
3	244	188	156	133
4	229	176	146	125
5	203	156	130	111
6	200	154	128	109
7	198	152	126	108
8	180	139	115	98
9	177	137	113	97
10	175	135	112	95
11	152	117	97	83
12	141	109	90	77
13	139	107	89	76
14	103	79	66	56
15	103	79	66	56
16	72	55	46	39
17	41	32	26	22
18	41	32	26	22
19	23	18	15	13
20	13	10	8	7
21	8	6	5	4
22	3	2	2	1
23	3	2	2	1
24	3	2	2	1

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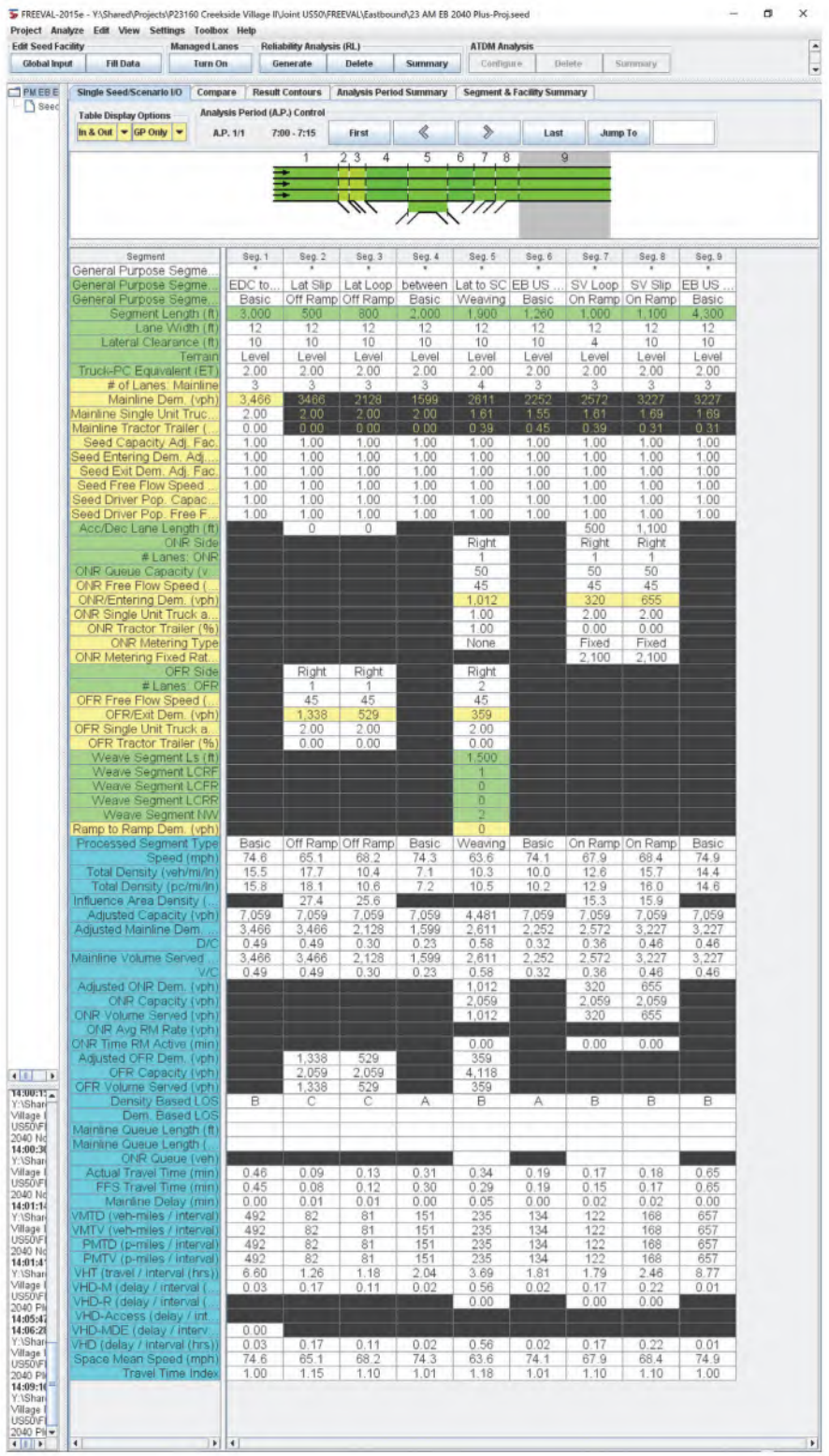
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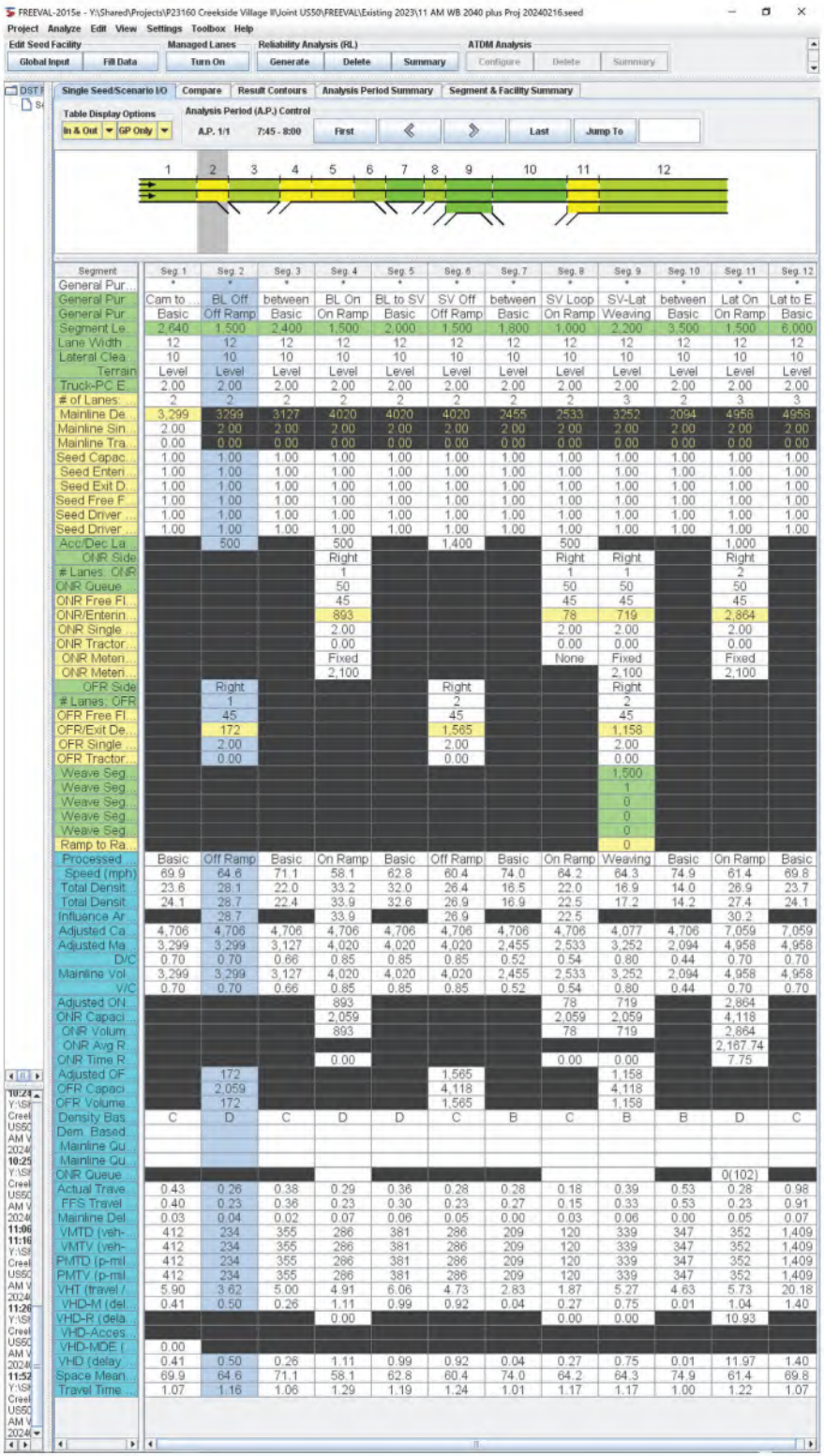
Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	455	1	164	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
2	1	441	1	159	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
3	1	432	1	156	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
4	1	405	1	146	No	Yes	Yes	Yes	No	No	No	No	No	No
5	1	359	1	130	No	No	Yes	Yes	No	No	No	No	No	No
6	1	354	1	128	No	No	Yes	Yes	No	No	No	No	No	No
7	1	350	1	126	No	No	Yes	Yes	No	No	No	No	No	No
8	1	319	1	115	No	No	No	Yes	No	No	No	No	No	No
9	1	314	1	113	No	No	No	Yes	No	No	No	No	No	No
10	1	310	1	112	No	No	No	Yes	No	No	No	No	No	No
11	1	269	1	97	No	No	No	No	No	No	No	No	No	No
12	1	250	1	90	No	No	No	No	No	No	No	No	No	No
13	1	246	1	89	No	No	No	No	No	No	No	No	No	No
14	1	182	1	66	No	No	No	No	No	No	No	No	No	No
15	1	182	1	66	No	No	No	No	No	No	No	No	No	No
16	1	127	1	46	No	No	No	No	No	No	No	No	No	No
17	1	73	1	26	No	No	No	No	No	No	No	No	No	No
18	1	73	1	26	No	No	No	No	No	No	No	No	No	No
19	1	41	1	15	No	No	No	No	No	No	No	No	No	No
20	1	23	1	8	No	No	No	No	No	No	No	No	No	No
21	1	14	1	5	No	No	No	No	No	No	No	No	No	No
22	1	5	1	2	No	No	No	No	No	No	No	No	No	No
23	1	5	1	2	No	No	No	No	No	No	No	No	No	No
24	1	5	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	10	0	0	0	3	3	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.2	19.3
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:44	0:45
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	164	140
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	759	759
Number of Approaches on Intersection	4	4
Total Volume Condition Met	No	No
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	





Cumulative PM plus Project

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Scenario 6 2040 PM with CCSP, + Project
9/30/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	El Dorado Hills Blvd/Serrano Pkwy	Signalized	HCM 7th Edition	NB Thru	0.974	58.2	E
2	El Dorado Hills Blvd/Saratoga Way	Signalized	HCM 7th Edition	NB Left	0.963	65.4	E
3	El Dorado Hills Blvd/US 50 WB	Signalized	HCM 7th Edition	NB Left	1.048	63.9	E
4	Latrobe Rd/US 50 EB	Signalized	HCM 7th Edition	EB Right	0.950	61.0	E
5	Latrobe Rd/Town Center Blvd	Signalized	HCM 7th Edition	SB Left	1.035	67.0	E
6	Latrobe Rd/White Rock Rd	Signalized	HCM 7th Edition	NB Left	0.784	50.0	D
7	Latrobe Rd/Golden Foothill Pkwy N	Signalized	HCM 7th Edition	SB Left	0.799	22.6	C
8	Latrobe Rd/Suncast Ln	Signalized	HCM 7th Edition	EB Left	0.981	41.6	D
9	Latrobe Rd/Golden Foothill Pkwy S	Signalized	HCM 7th Edition	SB Left	1.126	147.4	F
10	Latrobe Rd/Investment Blvd	Signalized	HCM 7th Edition	NB Left	0.870	27.8	C
11	Latrobe Rd/Avanti	Two-way stop	HCM 7th Edition	EB Left	0.164	54.6	F
12	Latrobe Rd/Royal Oaks Dr	Two-way stop	HCM 7th Edition	EB Left	1.388	313.4	F
13	Golden Foothill/Robert J Mathews	Two-way stop	HCM 7th Edition	NB Left	21.977	10,000.0	F
14	Investment Blvd/Robert J Mathews Pkwy	All-way stop	HCM 7th Edition	SB Thru	0.929	34.1	D
15	Golden Foothill Pkwy/Carson Crossing Rd	Two-way stop	HCM 7th Edition	NB Left	0.451	20.5	C
16	Carson Crossing Rd/Calypso Cir.	Two-way stop	HCM 7th Edition	NB Left	0.843	100.5	F
17	Carson Crossing Rd/Four Seasons Dr	All-way stop	HCM 7th Edition	NB Thru	0.167	8.4	A
	White Rock Rd/Carson		HCM 7th				

18	White Rock Rd/Carson Crossing Rd	Signalized	HCM 7th Edition	EB Left	0.520	16.6	B
19	White Rock Rd/Windfield Way	Signalized	HCM 7th Edition	SB Thru	0.640	34.8	C
20	White Rock Rd/Post St	Signalized	HCM 7th Edition	WB Left	0.664	44.0	D
21	White Rock Rd/Valley View Pkwy	Signalized	HCM 7th Edition	EB Left	0.883	32.4	C
22	White Rock Rd/Clarksville Crossing	Signalized	HCM 7th Edition	SB Right	0.992	53.8	D
23	White Rock Rd/US 50 EB	Signalized	HCM 7th Edition	NB Right	1.043	34.1	C
24	Silva Valley Pkwy/US 50 WB	Signalized	HCM 7th Edition	WB Left	0.737	27.1	C
25	New Intersection	Two-way stop	HCM 7th Edition	SB Thru	0.007	0.0	A
26	Latrobe/Wetsl-Oviatt	Two-way stop	HCM 7th Edition	EB Left	0.096	16.5	C
27	Latrobe/S. Shingle	Two-way stop	HCM 7th Edition	EB Left	0.070	20.1	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: El Dorado Hills Blvd/Serrano Pkwy

Control Type:	Signalized	Delay (sec / veh):	58.2
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.974

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	260.0	100.0	100.0	100.0	110.00	100.00	100.00	100.00	100.00	100.00	430.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Curb Present	No				No			No			No		
Crosswalk	No				Yes			Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd			Lassen Ln			Serrano Pkwy		
Base Volume Input [veh/h]	3	131	1772	406	35	1147	74	62	29	110	339	66	22
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-50	0	0	-12	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	22	0	0	33	0	0	7
Total Hourly Volume [veh/h]	3	131	1722	406	35	1135	52	62	29	77	339	66	15
Peak Hour Factor	1.000	0.870	0.870	0.870	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	38	495	117	10	326	15	18	8	22	97	19	4
Total Analysis Volume [veh/h]	3	151	1979	467	40	1305	60	71	33	89	390	76	17
Presence of On-Street Parking	No			No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0			0			0		
v_co, Outbound Pedestrian Volume crossing	0				0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0			0			0		
Bicycle Volume [bicycles/h]	0				0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	1	6	0	7	7	0	0	8	0
Auxiliary Signal Groups													
Maximum Green [s]	0	25	40	0	25	40	0	35	35	0	0	35	0
Amber [s]	0.0	3.0	4.7	0.0	3.0	4.7	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	12	0	0	12	0	0	0	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	2.0	3.7	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	100.0	245.0	0.0	100.0	100.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	29	46	0	29	46	0	39	39	0	0	39	0
Lead / Lag	-	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	3	6	0	3	3	0	3	3	0	0	3	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	4.0	0.0
Minimum Recall		No	No		No	No			No			No	
Maximum Recall		No	No		No	No			No			No	
Pedestrian Recall		No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	L	C
C, Calculated Cycle Length [s]	83	83	83	83	83	83	83	83	83	83
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	40	40	2	33	33	8	8	15	15
g / C, Green / Cycle	0.11	0.48	0.48	0.03	0.40	0.40	0.10	0.10	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.09	0.56	0.29	0.02	0.37	0.37	0.04	0.07	0.14	0.14
s, saturation flow rate [veh/h]	1781	3560	1589	1781	1870	1841	1781	1657	1781	1793
c, Capacity [veh/h]	193	1710	763	51	749	738	176	163	322	324
d1, Uniform Delay [s]	36.39	21.74	16.00	40.36	23.75	23.79	35.39	36.68	32.45	32.45
k, delay calibration	0.04	0.07	0.10	0.04	0.23	0.23	0.04	0.04	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.86	71.87	0.72	9.29	9.57	10.00	0.56	2.55	4.89	4.86
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	1.16	0.61	0.78	0.92	0.92	0.40	0.75	0.75	0.75
d, Delay for Lane Group [s/veh]	39.25	93.60	16.72	49.65	33.31	33.79	35.94	39.23	37.34	37.31
Lane Group LOS	D	F	B	D	C	C	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.04	31.00	5.75	0.91	13.18	13.12	1.36	2.49	4.92	4.95
50th-Percentile Queue Length [ft/ln]	75.91	774.91	143.81	22.67	329.45	327.95	33.97	62.17	123.00	123.73
95th-Percentile Queue Length [veh/ln]	5.47	44.57	9.69	1.63	19.13	19.06	2.45	4.48	8.56	8.60
95th-Percentile Queue Length [ft/ln]	136.63	1114.17	242.14	40.81	478.29	476.45	61.14	111.91	213.94	214.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.25	39.25	93.60	16.72	49.65	33.54	33.79	35.94	39.23	39.23	37.33	37.31	37.31
Movement LOS	D	D	F	B	D	C	C	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	76.57				34.01			38.02			37.33		
Approach LOS	E				C			D			D		
d_I, Intersection Delay [s/veh]	58.16												
Intersection LOS	E												
Intersection V/C	0.974												

Emissions

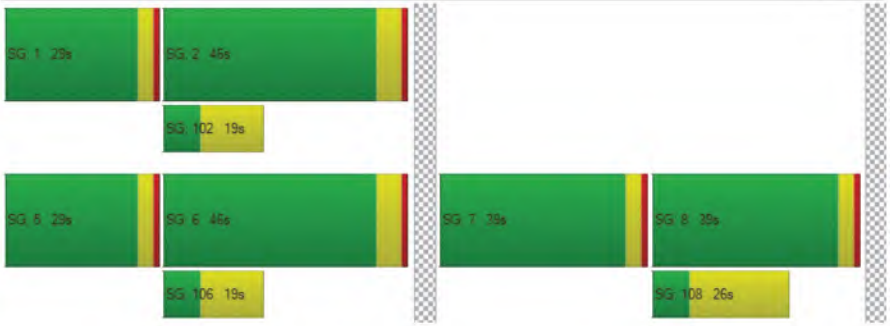
Vehicle Miles Traveled [mph]	36.78	472.65	111.53	5.88	100.97	99.72	3.03	5.21	12.60	12.68
Stops [stops/h]	131.06	2675.90	248.30	39.15	568.83	566.24	58.64	107.35	212.37	213.64
Fuel consumption [US gal/h]	4.12	87.16	8.50	1.09	15.19	15.12	0.97	1.78	3.52	3.54
CO [g/h]	288.01	6092.70	594.10	76.36	1061.73	1057.08	67.67	124.52	246.12	247.57
NOx [g/h]	56.04	1185.42	115.59	14.86	206.57	205.67	13.17	24.23	47.89	48.17
VOC [g/h]	66.75	1412.04	137.69	17.70	246.07	244.99	15.68	28.86	57.04	57.38

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	31.43	31.43	31.43
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.351	2.157	2.280
Crosswalk LOS	F	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	966	966	839	839
d_b, Bicycle Delay [s]	11.14	11.14	14.04	14.04
l_b,int, Bicycle LOS Score for Intersection	3.702	2.737	1.933	2.368
Bicycle LOS	D	B	A	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: El Dorado Hills Blvd/Saratoga Way

Control Type:	Signalized	Delay (sec / veh):	65.4
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.963

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	500.0	100.0	100.0	100.0	500.0	100.0	100.0	300.0	150.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				Yes			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				Saratoga Way			Park Dr		
Base Volume Input [veh/h]	5	445	1623	173	4	218	1176	198	390	53	619	69	107	295
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-23	-50	0	0	0	-12	0	0	0	-6	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	52	0	0	0	59	0	0	184	0	0	89
Total Hourly Volume [veh/h]	5	422	1573	121	4	218	1164	139	390	53	429	69	107	206
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	113	423	33	1	59	313	37	105	14	115	19	29	55
Total Analysis Volume [veh/h]	5	454	1691	130	4	234	1252	149	419	57	461	74	115	222
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Overlap	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	7	7	5	3	8	0
Auxiliary Signal Groups											5,7			
Maximum Green [s]	0	20	50	0	0	20	50	0	20	20	20	0	20	0
Amber [s]	0.0	3.0	4.7	0.0	0.0	3.0	4.7	0.0	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	14	0	0	0	24	0	0	0	0	0	31	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	3.7	0.0	0.0	2.0	3.7	0.0	2.0	2.0	2.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	56	0	0	24	56	0	24	24	24	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	4	5	0	0	4	4	0	5	5	4	0	5	0
Vehicle Extension [s]	0.0	2.0	3.5	0.0	0.0	2.0	3.5	0.0	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No	No		No	
Maximum Recall		No	No			No	No			No	No		No	
Pedestrian Recall		No	No			No	No			No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C
C, Calculated Cycle Length [s]	121	121	121	121	121	121	121	121	121	121	121
L, Total Lost Time per Cycle [s]	4.00	5.70	5.70	4.00	5.70	5.70	4.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00
I2, Clearance Lost Time [s]	2.00	3.70	3.70	2.00	3.70	3.70	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	20	47	47	18	45	45	18	18	66	20	20
g / C, Green / Cycle	0.17	0.39	0.39	0.15	0.37	0.37	0.15	0.15	0.55	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.25	0.34	0.34	0.13	0.25	0.09	0.13	0.13	0.16	0.08	0.20
s, saturation flow rate [veh/h]	1808	3560	1803	1781	5094	1589	1781	1801	2813	931	1675
c, Capacity [veh/h]	329	1378	698	265	1885	588	270	274	1546	198	278
d1, Uniform Delay [s]	52.98	34.28	34.48	50.46	31.75	26.42	50.10	50.03	14.65	47.47	50.35
k, delay calibration	0.22	0.13	0.33	0.25	0.13	0.13	0.25	0.25	0.04	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	185.58	2.28	10.76	20.85	0.49	0.27	18.38	16.97	0.04	0.43	124.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.39	0.87	0.88	0.90	0.66	0.25	0.88	0.87	0.30	0.37	1.21
d, Delay for Lane Group [s/veh]	238.56	36.56	45.24	71.31	32.24	26.69	68.48	66.99	14.68	47.90	175.08
Lane Group LOS	F	D	D	E	C	C	E	E	B	D	F
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	13.41	15.88	18.00	8.39	9.80	2.93	8.39	8.30	3.37	2.08	17.96
50th-Percentile Queue Length [ft/ln]	335.32	397.01	449.96	209.76	244.88	73.23	209.70	207.44	84.28	52.08	448.88
95th-Percentile Queue Length [veh/ln]	22.15	22.42	24.96	13.14	14.93	5.27	13.14	13.02	6.07	3.75	27.24
95th-Percentile Queue Length [ft/ln]	553.78	560.40	623.90	328.52	373.20	131.81	328.45	325.55	151.70	93.74	680.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	238.5	238.5	39.06	45.24	71.31	71.31	32.24	26.69	67.84	66.99	14.68	47.90	175.08	175.08
Movement LOS	F	F	D	D	E	E	C	C	E	E	B	D	F	F
d_A, Approach Delay [s/veh]	79.57				37.41				41.64			152.18		
Approach LOS	E				D				D			F		
d_I, Intersection Delay [s/veh]	65.37													
Intersection LOS	E													
Intersection V/C	0.963													

Emissions

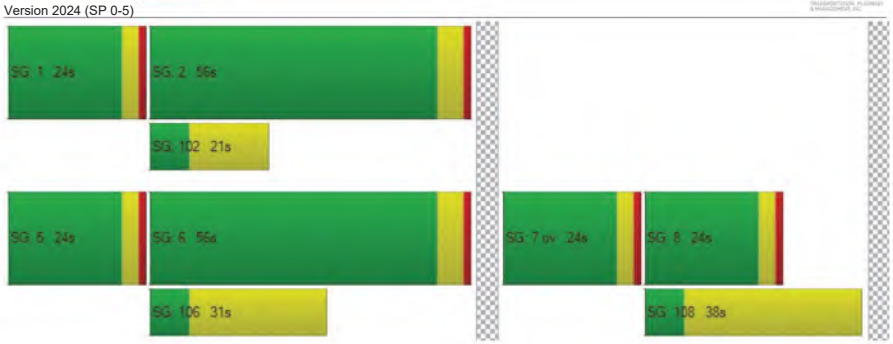
Vehicle Miles Traveled [mph]	86.38	226.63	116.08	56.84	299.02	35.59	14.83	14.86	28.75	3.61	16.43
Stops [stops/h]	800.76	948.08	537.26	250.46	877.19	87.44	250.39	247.69	201.26	62.18	535.97
Fuel consumption [US gal/h]	35.20	28.51	16.34	8.52	29.37	3.12	5.31	5.23	3.67	1.21	15.64
CO [g/h]	2460.16	1993.16	1141.92	595.27	2052.99	217.83	371.00	365.37	256.75	84.81	1093.39
NOx [g/h]	478.66	387.80	222.18	115.82	399.44	42.38	72.18	71.09	49.95	16.50	212.73
VOC [g/h]	570.17	461.93	264.65	137.96	475.80	50.48	85.98	84.68	59.51	19.66	253.40

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.80	49.80	49.80
l_p,int, Pedestrian LOS Score for Intersectio	0.000	3.576	3.690	2.397
Crosswalk LOS	F	D	D	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	834	834	332	332
d_b, Bicycle Delay [s]	20.49	20.49	41.96	41.96
l_b,int, Bicycle LOS Score for Intersection	2.839	2.365	3.409	2.385
Bicycle LOS	C	B	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: El Dorado Hills Blvd/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	63.9
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.048

Intersection Setup

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	220.0	100.0	100.0	220.0	100.00	100.00	200.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				No				No			Yes		

Volumes

Name	El Dorado Hills Blvd				El Dorado Hills Blvd				US 50 WB			Saratoga Way		
Base Volume Input [veh/h]	1	1441	1689	425	0	37	1298	534	306	130	409	257	92	251
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-99	-73	-16	0	0	-18	0	0	0	-11	-3	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	123	0	0	0	160	0	0	119	0	0	75
Total Hourly Volume [veh/h]	1	1342	1616	286	0	37	1280	374	306	130	279	254	92	176
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	336	404	72	0	9	320	94	77	33	70	64	23	44
Total Analysis Volume [veh/h]	1	1342	1616	286	0	37	1280	374	306	130	279	254	92	176
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	136
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Overl	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	5	2	0	0	1	6	7	0	7	5	0	8	0
Auxiliary Signal Groups								6,7					8	
Maximum Green [s]	0	45	62	0	0	14	29	22	0	22	45	0	16	0
Amber [s]	0.0	3.6	4.8	0.0	0.0	3.6	4.8	4.1	0.0	4.1	3.6	0.0	3.6	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	3.8	0.0	0.0	2.6	3.8	3.1	0.0	3.1	2.6	0.0	2.6	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	0.0	245.0	245.0	245.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	6.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	50	68	0	0	19	35	28	0	28	50	0	21	0
Lead / Lag	-	Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	10	0	0	8	10	10	0	10	10	0	10	0
Vehicle Extension [s]	0.0	2.0	3.0	0.0	0.0	2.0	2.0	2.5	0.0	2.5	2.0	0.0	2.0	0.0
Minimum Recall		No	Yes			No	Yes	No		No			No	
Maximum Recall		No	No			No	No	No		No			No	
Pedestrian Recall		No	No			No	No	No		No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	C
C, Calculated Cycle Length [s]	136	136	136	136	136	136	136	136	136	136	136
L, Total Lost Time per Cycle [s]	4.60	5.80	5.80	4.60	5.80	5.80	5.10	5.10	4.60	4.60	4.60
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.60	3.80	3.80	2.60	3.80	0.00	3.10	3.10	2.60	2.60	2.60
g_i, Effective Green Time [s]	45	74	74	6	34	59	19	19	17	17	17
g / C, Green / Cycle	0.33	0.54	0.54	0.04	0.25	0.43	0.14	0.14	0.12	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.39	0.35	0.38	0.02	0.25	0.24	0.12	0.12	0.10	0.10	0.11
s, saturation flow rate [veh/h]	3459	3532	1722	1781	5053	1589	1781	1832	1781	1827	1589
c, Capacity [veh/h]	1155	1913	933	81	1278	685	250	257	223	228	199
d1, Uniform Delay [s]	45.28	22.08	23.05	63.30	50.81	28.83	57.16	57.15	57.60	57.57	58.54
k, delay calibration	0.09	0.50	0.50	0.04	0.50	0.50	0.16	0.16	0.15	0.15	0.24
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	74.96	1.74	4.40	1.51	25.62	3.12	12.10	11.78	7.63	7.17	23.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.16	0.65	0.70	0.46	1.00	0.55	0.86	0.86	0.77	0.77	0.89
d, Delay for Lane Group [s/veh]	120.25	23.82	27.45	64.81	76.43	31.95	69.25	68.93	65.24	64.74	81.67
Lane Group LOS	F	C	C	E	F	C	E	E	E	E	F
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	31.35	14.35	16.37	1.26	17.08	9.37	8.07	8.28	6.19	6.28	7.25
50th-Percentile Queue Length [ft/ln]	783.85	358.73	409.20	31.57	427.05	234.17	201.87	207.05	154.73	157.11	181.19
95th-Percentile Queue Length [veh/ln]	44.63	20.56	23.00	2.27	23.89	14.39	12.73	13.00	10.27	10.40	11.66
95th-Percentile Queue Length [ft/ln]	1115.71	514.04	575.07	56.82	597.19	359.65	318.37	325.04	256.73	259.89	291.57

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	120.2	120.2	24.65	27.45	64.81	64.81	76.43	31.95	69.16	68.93	0.00	65.07	64.74	81.67
Movement LOS	F	F	C	C	E	E	F	C	E	E		E	E	F
d_A, Approach Delay [s/veh]	64.46				66.34				42.13			70.61		
Approach LOS	E				E				D			E		
d_I, Intersection Delay [s/veh]	63.89													
Intersection LOS	E													
Intersection V/C	1.048													

Emissions

Vehicle Miles Traveled [mph]	230.01	213.58	112.17	6.96	240.89	70.39	9.94	10.23	5.44	5.56	5.60
Stops [stops/h]	1659.93	759.67	433.27	33.42	1356.53	247.95	213.74	219.23	163.83	166.35	191.85
Fuel consumption [US gal/h]	51.50	19.04	10.67	1.14	45.03	7.93	4.62	4.73	3.40	3.45	4.21
CO [g/h]	3599.69	1330.57	745.88	79.84	3147.53	554.07	322.86	330.81	237.84	241.12	294.62
NOx [g/h]	700.37	258.88	145.12	15.53	612.39	107.80	62.82	64.36	46.27	46.91	57.32
VOC [g/h]	834.26	308.37	172.87	18.50	729.47	128.41	74.83	76.67	55.12	55.88	68.28

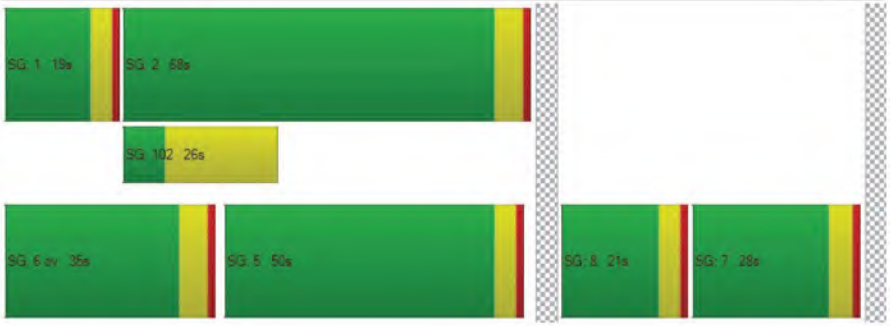
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	57.44
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.543
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	915	429	337	241
d_b, Bicycle Delay [s]	20.02	41.93	47.03	52.59
l_b,int, Bicycle LOS Score for Intersection	3.411	2.557	2.279	2.052
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 4: Latrobe Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	61.0
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.950

Intersection Setup

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	2	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	300.00	570.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No			No		
Crosswalk	No			No				No			Yes		

Volumes

Name	Latrobe Rd			El Dorado Hills Blvd				US 50 EB Off Ramp			US 50 EB Loop Off Ramp		
Base Volume Input [veh/h]	0	2691	613	1	388	1576	0	0	0	1667	0	0	864
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-188	-38	0	0	-32	0	0	0	-21	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	173	0	0	0	0	0	0	494	0	0	259
Total Hourly Volume [veh/h]	0	2503	402	1	388	1544	0	0	0	1152	0	0	605
Peak Hour Factor	1.0000	0.9500	0.8400	1.000	0.840	0.950	1.000	1.0000	1.0000	0.8400	1.0000	1.0000	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	659	120	0	115	406	0	0	0	343	0	0	180
Total Analysis Volume [veh/h]	0	2635	479	1	462	1625	0	0	0	1371	0	0	720
Presence of On-Street Parking	No		No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0				0			0	
v_co, Outbound Pedestrian Volume crossing		0			0				0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0	
Bicycle Volume [bicycles/h]		0			0				0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	68
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	26.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	0	5	0	0	0
Auxiliary Signal Groups													
Maximum Green [s]	0	30	0	0	26	34	0	0	0	22	0	0	0
Amber [s]	0.0	5.2	0.0	0.0	3.6	5.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Walk [s]	0	7	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No				No			
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	4.2	0.0	0.0	2.6	4.2	0.0	0.0	0.0	2.6	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	245.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	31	41	0	0	0	27	0	0	0
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	15	0	0	10	15	0	0	0	10	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	2.5	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Minimum Recall		No			No	No				No			
Maximum Recall		No			No	No				No			
Pedestrian Recall		No			No	No				No			

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	R	L	C	R	
C, Calculated Cycle Length [s]	68	68	68	68	68	
L, Total Lost Time per Cycle [s]	6.20	6.20	4.60	6.20	4.60	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	4.20	4.20	2.60	4.20	2.60	
g_i, Effective Green Time [s]	38	38	20	35	22	
g / C, Green / Cycle	0.55	0.55	0.29	0.51	0.33	
(v / s)_i Volume / Saturation Flow Rate	0.39	0.30	0.26	0.24	0.49	
s, saturation flow rate [veh/h]	6792	1589	1781	6792	2813	
c, Capacity [veh/h]	3745	876	516	3476	927	
d1, Uniform Delay [s]	11.18	9.79	23.17	10.65	22.80	
k, delay calibration	0.50	0.50	0.17	0.50	0.19	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.13	2.45	8.80	0.45	217.96	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.70	0.55	0.90	0.47	1.48	
d, Delay for Lane Group [s/veh]	12.31	12.24	31.97	11.11	240.76	
Lane Group LOS	B	B	C	B	F	
Critical Lane Group	No	No	No	Yes	Yes	
50th-Percentile Queue Length [veh/ln]	5.56	3.95	7.43	3.13	34.81	
50th-Percentile Queue Length [ft/ln]	139.04	98.77	185.84	78.26	870.36	
95th-Percentile Queue Length [veh/ln]	9.43	7.11	11.90	5.64	54.54	
95th-Percentile Queue Length [ft/ln]	235.73	177.78	297.62	140.88	1363.62	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	12.31	12.24	31.97	31.97	11.11	0.00	0.00	0.00	240.76	0.00	0.00	0.00
Movement LOS		B	B	C	C	B				F			
d_A, Approach Delay [s/veh]		12.30			15.73			240.76			0.00		
Approach LOS		B			B			F			A		
d_I, Intersection Delay [s/veh]	61.04												
Intersection LOS	E												
Intersection V/C	0.950												

Emissions

Vehicle Miles Traveled [mph]	381.28	69.31	79.30	278.31	98.11	
Stops [stops/h]	1177.74	209.16	393.53	662.94	3686.23	
Fuel consumption [US gal/h]	34.32	6.17	10.62	21.46	91.56	
CO [g/h]	2398.66	431.26	742.59	1499.78	6400.32	
NOx [g/h]	466.69	83.91	144.48	291.80	1245.27	
VOC [g/h]	555.91	99.95	172.10	347.59	1483.34	

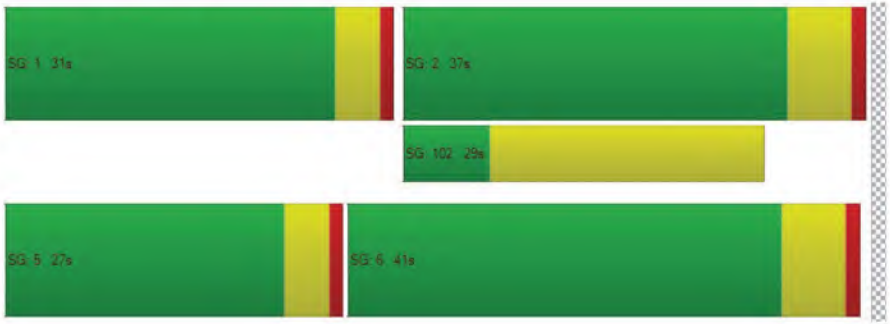
Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	23.89
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	2.243
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	906	1024	659	0
d_b, Bicycle Delay [s]	10.18	8.10	15.29	34.00
l_b,int, Bicycle LOS Score for Intersection	2.915	2.230	1.560	1.560
Bicycle LOS	C	B	A	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Version 2024 (SP 0-5)



Intersection Level Of Service Report
Intersection 5: Latrobe Rd/Town Center Blvd

Control Type:	Signalized	Delay (sec / veh):	67.0
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.035

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Approach	Northbound				Southbound				Eastbound			Westbound			
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	2	0	0	0	2	0	0	1	0	0	0
Entry Pocket Length [ft]	220.0	100.0	100.0	100.0	330.0	100.0	100.0	100.0	300.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00				30.00			30.00			
Grade [%]	0.00				0.00				0.00			0.00			
Curb Present	No				No				No			No			
Crosswalk	Yes				No				Yes			Yes			

Volumes

Name	Latrobe Rd				Latrobe Rd				Town Center Blvd			Town Center Blvd			
Base Volume Input [veh/h]	1	24	2098	245	3	606	2038	596	508	40	83	1	94	6	695
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-5	-226	-13	0	0	-53	0	0	0	-1	0	-2	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	70	0	0	0	179	0	0	25	0	0	0	209
Total Hourly Volume [veh/h]	1	19	1872	162	3	606	1985	417	508	40	57	1	92	6	486
Peak Hour Factor	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.9600	0.9600	0.9600	0.960	0.960	0.960	0.960
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	5	488	42	1	158	517	109	132	10	15	0	24	2	127
Total Analysis Volume [veh/h]	1	20	1950	169	3	631	2068	434	529	42	59	1	96	6	506
Presence of On-Street Parking	No			No	No			No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0			
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0			
v_co, Outbound Pedestrian Volume crossing	0				0				0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0			
Bicycle Volume [bicycles/h]	0				0				0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	138
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	1	6	0	0	5	2	0	3	4	0	0	3	3	0
Auxiliary Signal Groups															
Maximum Green [s]	0	20	40	0	0	12	65	0	15	20	0	0	15	15	0
Amber [s]	0.0	3.0	4.5	0.0	0.0	3.0	4.5	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.5	1.0	0.0	0.0	0.5	1.0	0.0	0.5	0.5	0.0	0.0	0.5	0.5	0.0
Walk [s]	0	0	7	0	0	0	7	0	0	7	0	0	0	0	0
Pedestrian Clearance [s]	0	0	15	0	0	0	15	0	0	20	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No				No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.5	3.5	0.0	0.0	1.5	3.5	0.0	1.5	1.5	0.0	0.0	1.5	1.5	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	200.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	24	46	0	0	16	71	0	19	24	0	0	19	19	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	4	5	0	0	4	5	0	6	6	0	0	6	6	0
Vehicle Extension [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.5	2.5	0.0	0.0	2.5	2.5	0.0
Minimum Recall		No	Yes			No	Yes			No				No	
Maximum Recall		No	No			No	No			No				No	
Pedestrian Recall		No	No			No	No			No				No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Calculated Cycle Length [s]	107	107	107	107	107	107	107	107	107	107	107	107
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	5.50	5.50	3.50	3.50	3.50	3.50	3.50	3.50
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	1.50	3.50	3.50	1.50	3.50	3.50	1.50	1.50	1.50	1.50	1.50	1.50
g_i, Effective Green Time [s]	2	45	45	12	55	55	18	18	18	15	15	15
g / C, Green / Cycle	0.02	0.42	0.42	0.11	0.52	0.52	0.17	0.17	0.17	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.01	0.38	0.11	0.18	0.41	0.27	0.15	0.02	0.04	0.05	0.16	0.16
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	1870	1589	1781	1595	1589
c, Capacity [veh/h]	61	2163	675	388	2645	825	598	323	275	250	224	223
d1, Uniform Delay [s]	51.89	28.66	19.79	47.44	20.78	16.98	43.15	37.39	37.96	41.77	45.94	45.94
k, delay calibration	0.04	0.04	0.04	0.25	0.04	0.04	0.08	0.08	0.08	0.08	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.24	0.60	0.07	290.53	0.20	0.19	3.45	0.13	0.29	0.73	104.95	105.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.34	0.90	0.25	1.63	0.78	0.53	0.88	0.13	0.21	0.39	1.15	1.15
d, Delay for Lane Group [s/veh]	53.13	29.26	19.86	337.97	20.98	17.18	46.60	37.52	38.25	42.50	150.89	151.07
Lane Group LOS	D	C	B	F	C	B	D	D	D	D	F	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.29	15.06	2.70	20.79	13.24	6.83	7.05	0.94	1.35	2.37	12.41	12.38
50th-Percentile Queue Length [ft/ln]	7.19	376.45	67.39	519.84	331.04	170.80	176.13	23.55	33.70	59.23	310.28	309.47
95th-Percentile Queue Length [veh/ln]	0.52	21.42	4.85	33.18	19.21	11.12	11.40	1.70	2.43	4.26	19.30	19.26
95th-Percentile Queue Length [ft/ln]	12.95	535.55	121.30	829.38	480.23	277.97	284.96	42.38	60.66	106.61	482.42	481.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.13	53.13	29.26	19.86	337.9	337.9	20.98	17.18	46.60	37.52	38.25	42.50	42.50	150.8	150.9
Movement LOS	D	D	C	B	F	F	C	B	D	D	D	D	D	F	F
d_A, Approach Delay [s/veh]	28.75				84.54				45.22			133.70			
Approach LOS	C				F				D			F			
d_I, Intersection Delay [s/veh]	67.01														
Intersection LOS	E														
Intersection V/C	1.035														

Emissions

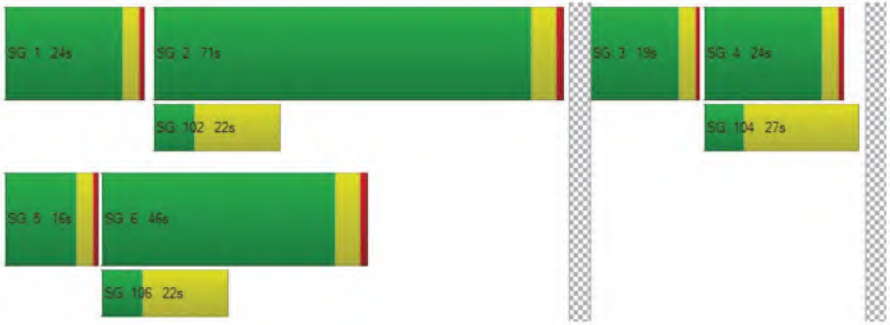
Vehicle Miles Traveled [mph]	4.69	435.31	37.73	91.74	299.23	62.80	67.47	5.36	7.53	34.04	90.00	89.70
Stops [stops/h]	19.41	1523.58	90.91	1402.61	1339.78	230.42	475.22	31.77	45.46	79.90	418.59	417.50
Fuel consumption [US gal/h]	0.53	37.95	2.74	55.12	28.55	5.38	10.42	0.72	1.02	2.68	13.89	13.86
CO [g/h]	36.85	2652.62	191.42	3852.91	1995.62	375.74	728.35	50.10	71.31	187.45	970.93	968.47
NOx [g/h]	7.17	516.10	37.24	749.64	388.28	73.11	141.71	9.75	13.87	36.47	188.91	188.43
VOC [g/h]	8.54	614.77	44.36	892.95	462.51	87.08	168.80	11.61	16.53	43.44	225.02	224.45

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	42.94	0.00	42.94	42.94
l_p,int, Pedestrian LOS Score for Intersectio	3.440	0.000	2.707	2.943
Crosswalk LOS	C	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	759	1227	384	290
d_b, Bicycle Delay [s]	20.55	7.97	34.84	39.00
l_b,int, Bicycle LOS Score for Intersection	2.775	3.036	2.100	2.751
Bicycle LOS	C	C	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Latrobe Rd/White Rock Rd

Control Type:	Signalized	Delay (sec / veh):	50.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.784

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Approach	Northbound				Southbound				Eastbound				Westbound		
Lane Configuration															
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	2	0	0	1	2	0	0	1	1	0	2
Entry Pocket Length [ft]	270.0	100.0	100.0	180.0	400.0	100.0	100.0	400.0	360.0	100.0	100.0	300.0	400.00	100.00	300.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				45.00				30.00				30.00		
Grade [%]	0.00				0.00				0.00				0.00		
Curb Present	No				No				No				No		
Crosswalk	Yes				Yes				Yes				Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	6	155	1777	629	2	259	1490	465	2	395	566	152	600	264	194
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00														
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-244	-57	0	0	-56	0	0	0	0	0	-14	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	172	0	0	0	140	0	0	0	46	0	0	58
Total Hourly Volume [veh/h]	6	155	1533	400	2	259	1434	325	2	395	566	106	586	264	136
Peak Hour Factor	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	1.000	0.930	0.930	0.930	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	42	412	108	1	70	385	87	1	106	152	28	158	71	37
Total Analysis Volume [veh/h]	6	167	1648	430	2	278	1542	349	2	425	609	114	630	284	146
Presence of On-Street Parking	No			No	No			No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0				0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0				0		
v_co, Outbound Pedestrian Volume crossing	0				0				0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0				0		
Bicycle Volume [bicycles/h]	0				0				0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	160
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Overl	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	0	5	2	3	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups				2,3											
Maximum Green [s]	0	20	53	37	0	20	53	0	0	22	30	0	37	45	0
Amber [s]	0.0	4.0	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	5	0	0	0	5	0	0	0	4	0	0	5	0
Pedestrian Clearance [s]	0	0	28	0	0	0	24	0	0	0	31	0	0	31	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	58	42	0	25	58	0	0	27	35	0	42	50	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	9	9	9	0	9	9	0	0	9	9	0	9	9	0
Vehicle Extension [s]	0.0	1.0	1.5	1.0	0.0	1.0	1.5	0.0	0.0	1.0	1.5	0.0	1.0	1.5	0.0
Minimum Recall		No	No	No		No	No			No	No		No	No	
Maximum Recall		No	No	No		No	No			No	No		No	No	
Pedestrian Recall		No	No	No		No	No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Calculated Cycle Length [s]	160	160	160	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	0.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	10	46	101	15	51	51	22	29	29	50	57	57
g / C, Green / Cycle	0.06	0.29	0.63	0.09	0.32	0.32	0.14	0.18	0.18	0.31	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.05	0.24	0.27	0.08	0.30	0.22	0.12	0.17	0.07	0.18	0.08	0.09
s, saturation flow rate [veh/h]	3459	6792	1589	3459	5094	1589	3459	3560	1589	3459	3560	1589
c, Capacity [veh/h]	218	1973	1003	322	1634	510	469	648	289	1069	1266	565
d1, Uniform Delay [s]	73.93	53.16	14.93	71.57	52.93	47.29	68.18	64.58	57.67	24.43	15.54	15.65
k, delay calibration	0.04	0.04	0.23	0.04	0.04	0.07	0.04	0.04	0.04	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.48	0.37	0.62	2.81	1.40	1.08	2.89	3.12	0.32	2.38	0.41	1.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.84	0.43	0.87	0.94	0.68	0.91	0.94	0.39	0.59	0.22	0.26
d, Delay for Lane Group [s/veh]	76.41	53.53	15.56	74.38	54.33	48.37	71.07	67.69	57.99	26.81	15.95	16.76
Lane Group LOS	E	D	B	E	D	D	E	E	E	C	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.61	15.64	8.14	5.72	19.84	12.06	8.84	12.58	4.14	5.88	1.77	1.93
50th-Percentile Queue Length [ft/ln]	90.14	390.96	203.40	143.07	495.88	301.45	221.05	314.40	103.42	147.08	44.23	48.20
95th-Percentile Queue Length [veh/ln]	6.49	22.12	12.81	9.65	27.14	17.75	13.72	18.39	7.45	9.86	3.18	3.47
95th-Percentile Queue Length [ft/ln]	162.26	553.10	320.35	241.16	678.48	443.82	342.97	459.79	186.15	246.52	79.61	86.77

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	76.41	76.41	53.53	15.56	74.38	74.38	54.33	48.37	71.07	71.07	67.69	57.99	26.81	15.95	16.76
Movement LOS	E	E	D	B	E	E	D	D	E	E	E	E	C	B	B
d_A, Approach Delay [s/veh]	48.04				55.96				67.98				22.51		
Approach LOS	D				E				E				C		
d_I, Intersection Delay [s/veh]	50.01														
Intersection LOS	D														
Intersection V/C	0.784														

Emissions

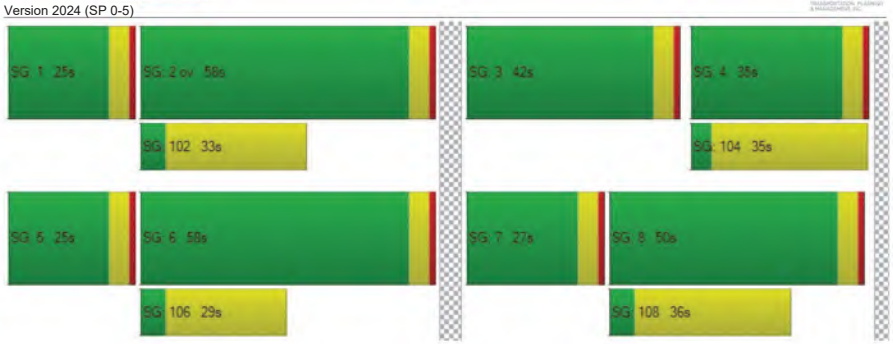
Vehicle Miles Traveled [mph]	68.89	656.23	171.23	62.51	344.23	77.91	106.57	151.99	28.45	66.56	30.01	15.43
Stops [stops/h]	162.26	1407.47	183.06	257.53	1338.87	271.30	397.90	565.91	93.08	264.74	79.61	43.38
Fuel consumption [US gal/h]	6.42	52.74	9.42	9.58	45.49	9.48	12.76	17.77	3.03	7.64	2.60	1.37
CO [g/h]	448.90	3686.60	658.55	669.81	3179.87	662.57	891.91	1242.23	211.84	533.99	181.50	95.94
NOx [g/h]	87.34	717.28	128.13	130.32	618.69	128.91	173.53	241.69	41.22	103.89	35.31	18.67
VOC [g/h]	104.04	854.41	152.62	155.23	736.97	153.56	206.71	287.90	49.10	123.76	42.06	22.24

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	72.20	71.25	71.25	71.25
l_p,int, Pedestrian LOS Score for Intersectio	3.704	3.865	2.985	3.068
Crosswalk LOS	D	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	663	663	375	563
d_b, Bicycle Delay [s]	35.78	35.78	52.81	41.33
l_b,int, Bicycle LOS Score for Intersection	2.557	2.678	2.196	2.482
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Latrobe Rd/Golden Foothill Pkwy N

Control Type:	Signalized	Delay (sec / veh):	22.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.799

Intersection Setup

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0	0	1	1	0	1	0	0	0
Entry Pocket Length [ft]	200.0	100.0	100.0	300.0	200.0	100.0	100.0	100.0	320.00	100.00	320.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				55.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	Yes				No				Yes			Yes		

Volumes

Name	Latrobe Rd				Latrobe Rd				Golden Foothill Pkwy N			Monteverde Dr		
Base Volume Input [veh/h]	1	18	1787	36	0	34	1740	490	751	10	41	2	8	19
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00													
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-301	0	0	0	-70	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	11	0	0	0	147	0	0	12	0	0	6
Total Hourly Volume [veh/h]	1	18	1486	25	0	34	1670	343	751	10	29	2	8	13
Peak Hour Factor	1.000	0.890	0.890	0.870	1.000	0.870	0.890	0.890	0.8900	0.8700	0.8900	0.8700	0.8700	0.8700
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	5	417	7	0	10	469	96	211	3	8	1	2	4
Total Analysis Volume [veh/h]	1	20	1670	29	0	39	1876	385	844	11	33	2	9	15
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	3	0
Auxiliary Signal Groups														
Maximum Green [s]	0	16	34	0	0	15	34	0	0	36	0	0	16	0
Amber [s]	0.0	3.0	5.0	0.0	0.0	3.0	5.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	0	0	4	0	0	4	0	0	0	0
Pedestrian Clearance [s]	0	0	11	0	0	0	18	0	0	24	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	245.0	0.0	0.0	0.0	0.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	20	40	0	0	20	40	0	0	40	0	0	20	0
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	3	5	0	0	5	0	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	3.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	C
C, Calculated Cycle Length [s]	78	78	78	78	78	78	78	78	78	78
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	4.00	6.00	6.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	4.00	4.00	2.00	4.00	4.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	34	34	2	34	34	22	22	22	2
g / C, Green / Cycle	0.02	0.43	0.43	0.03	0.43	0.43	0.28	0.28	0.28	0.03
(v / s)_i Volume / Saturation Flow Rate	0.01	0.31	0.31	0.02	0.37	0.24	0.24	0.24	0.02	0.02
s, saturation flow rate [veh/h]	1781	3560	1854	1781	5094	1589	1781	1783	1589	1691
c, Capacity [veh/h]	42	1527	795	49	2203	688	508	509	454	47
d1, Uniform Delay [s]	37.69	18.59	18.59	37.78	19.92	16.61	26.26	26.26	20.38	37.50
k, delay calibration	0.04	0.15	0.25	0.04	0.15	0.15	0.11	0.11	0.11	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.30	0.98	3.07	10.16	1.41	1.02	3.84	3.82	0.07	3.65
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.73	0.73	0.79	0.85	0.56	0.84	0.84	0.07	0.55
d, Delay for Lane Group [s/veh]	40.99	19.57	21.66	47.94	21.33	17.63	30.10	30.07	20.45	41.16
Lane Group LOS	D	B	C	D	C	B	C	C	C	D
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.43	7.94	8.73	0.82	8.48	4.40	7.64	7.64	0.43	0.53
50th-Percentile Queue Length [ft/ln]	10.69	198.39	218.20	20.48	211.96	109.97	191.00	190.97	10.85	13.21
95th-Percentile Queue Length [veh/ln]	0.77	12.56	13.57	1.47	13.25	7.84	12.17	12.17	0.78	0.95
95th-Percentile Queue Length [ft/ln]	19.24	313.88	339.32	36.87	331.35	195.96	304.33	304.28	19.52	23.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.99	40.99	20.26	21.66	47.94	47.94	21.33	17.63	30.09	30.07	20.45	41.16	41.16	41.16
Movement LOS	D	D	C	C	D	D	C	B	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	20.54				21.16				29.73			41.16		
Approach LOS	C				C				C			D		
d_I, Intersection Delay [s/veh]	22.59													
Intersection LOS	C													
Intersection V/C	0.799													

Emissions

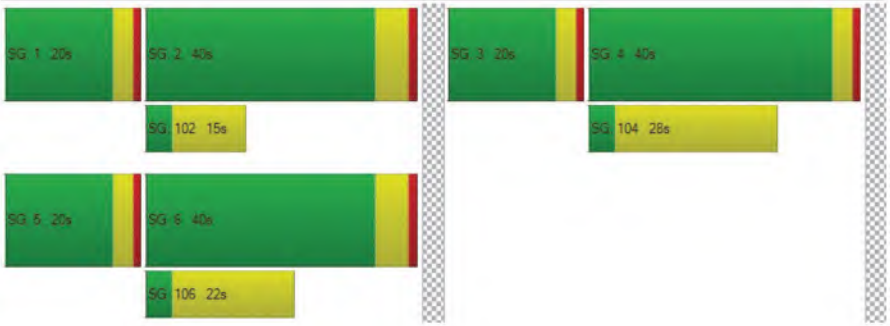
Vehicle Miles Traveled [mph]	7.43	395.21	205.82	15.53	747.02	153.31	102.89	102.93	7.94	0.49
Stops [stops/h]	19.71	731.91	402.50	37.78	1173.00	202.85	352.33	352.27	20.01	24.37
Fuel consumption [US gal/h]	0.59	24.76	13.26	1.60	54.92	10.28	8.80	8.80	0.57	0.37
CO [g/h]	41.23	1730.90	926.98	111.96	3839.04	718.39	615.14	615.13	40.18	26.06
NOx [g/h]	8.02	336.77	180.36	21.78	746.94	139.77	119.68	119.68	7.82	5.07
VOC [g/h]	9.56	401.15	214.84	25.95	889.73	166.49	142.56	142.56	9.31	6.04

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.44	0.00	31.44	31.44
l_p,int, Pedestrian LOS Score for Intersectio	3.114	0.000	2.500	1.778
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	871	871	922	410
d_b, Bicycle Delay [s]	12.44	12.44	11.33	24.67
l_b,int, Bicycle LOS Score for Intersection	2.511	2.884	3.045	1.612
Bicycle LOS	B	C	C	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Latrobe Rd/Suncast Ln

Control Type:	Signalized	Delay (sec / veh):	41.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.981

Intersection Setup

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Approach	Northbound			Southbound		Eastbound	
Lane Configuration							
Turning Movement	U-turn	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			No		Yes	

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Volumes

Name	Latrobe Rd			Latrobe Rd		Suncast Ln	
Base Volume Input [veh/h]	0	131	1454	1541	243	388	219
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	69	0	0	0	0
Site-Generated Trips [veh/h]	0	-1	-301	-70	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	73	0	66
Total Hourly Volume [veh/h]	0	130	1222	1471	170	388	155
Peak Hour Factor	1.0000	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	37	343	413	48	109	44
Total Analysis Volume [veh/h]	0	146	1373	1653	191	436	174
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permissive	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	5	2	6	0	3	0
Auxiliary Signal Groups							
Maximum Green [s]	0	12	40	40	0	20	0
Amber [s]	0.0	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No	No		No	
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	16	46	46	0	24	0
Lead / Lag	-	Lead	-	-	-	Lead	-
Minimum Green [s]	0	5	5	5	0	5	0
Vehicle Extension [s]	0.0	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall		No	No	No		No	
Maximum Recall		No	No	No		No	
Pedestrian Recall		No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	C	L	R
C, Calculated Cycle Length [s]	82	82	82	82	82	82
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	8	52	40	40	20	20
g / C, Green / Cycle	0.10	0.64	0.49	0.49	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.08	0.39	0.49	0.51	0.24	0.11
s, saturation flow rate [veh/h]	1781	3560	1870	1804	1781	1589
c, Capacity [veh/h]	182	2264	908	876	432	386
d1, Uniform Delay [s]	36.19	8.89	21.21	21.21	31.21	26.54
k, delay calibration	0.04	0.15	0.45	0.47	0.44	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.13	0.38	32.27	44.47	42.59	0.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.61	1.02	1.05	1.01	0.45
d, Delay for Lane Group [s/veh]	39.31	9.26	53.47	65.67	73.80	27.37
Lane Group LOS	D	A	F	F	F	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.97	6.21	23.81	25.94	13.36	2.91
50th-Percentile Queue Length [ft/ln]	74.21	155.18	595.28	648.47	333.92	72.77
95th-Percentile Queue Length [veh/ln]	5.34	10.29	32.21	35.68	19.45	5.24
95th-Percentile Queue Length [ft/ln]	133.57	257.33	805.25	892.00	486.23	130.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.31	39.31	9.26	58.87	65.67	73.80	27.37
Movement LOS	D	D	A	E	E	F	C
d_A, Approach Delay [s/veh]	12.15			59.57		60.55	
Approach LOS	B			E		E	
d_I, Intersection Delay [s/veh]	41.59						
Intersection LOS	D						
Intersection V/C	0.981						

Emissions

Vehicle Miles Traveled [mph]	101.55	954.99	326.16	326.16	147.10	58.71
Stops [stops/h]	129.71	542.48	1040.49	1133.45	583.65	127.20
Fuel consumption [US gal/h]	6.07	44.90	29.21	32.01	15.83	4.09
CO [g/h]	423.95	3138.47	2041.64	2237.51	1106.35	285.78
NOx [g/h]	82.49	610.63	397.23	435.34	215.26	55.60
VOC [g/h]	98.25	727.37	473.17	518.56	256.41	66.23

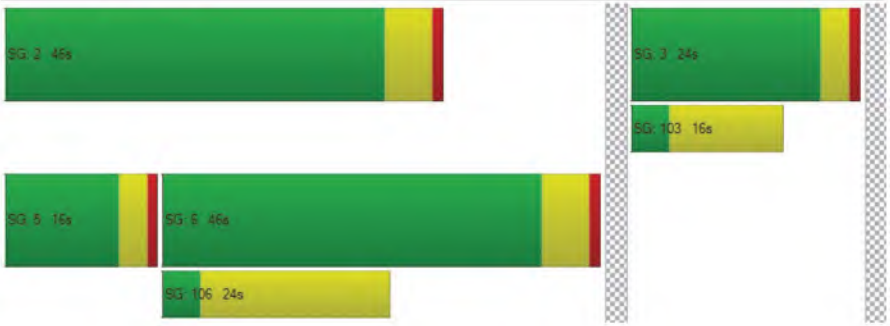
Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	33.58	0.00	33.58
l_p,int, Pedestrian LOS Score for Intersectio	2.963	0.000	2.385
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	971	971	486
d_b, Bicycle Delay [s]	10.90	10.90	23.62
l_b,int, Bicycle LOS Score for Intersection	2.813	3.141	1.560
Bicycle LOS	C	C	A

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 9: Latrobe Rd/Golden Foothill Pkwy S

Control Type:	Signalized	Delay (sec / veh):	147.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.126

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	220.00	100.00	100.00	530.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			Golden Foothill Pkwy S			Clubview Dr		
Base Volume Input [veh/h]	114	590	31	419	446	895	817	306	63	76	201	178
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	147	17	0	85	0	0	0	6	0	0	0
Site-Generated Trips [veh/h]	-23	-67	-14	0	55	-123	-236	-40	13	2	-21	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	10	0	0	232	0	0	25	0	0	53
Total Hourly Volume [veh/h]	91	670	24	419	586	540	581	266	57	78	180	125
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	184	7	115	161	148	160	73	16	21	49	34
Total Analysis Volume [veh/h]	100	736	26	460	644	593	638	292	63	86	198	137
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	106
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	8	0	0	7	0
Auxiliary Signal Groups												
Maximum Green [s]	12	25	0	12	25	0	0	15	0	0	20	0
Amber [s]	3.0	4.3	0.0	3.0	4.3	0.0	0.0	3.0	0.0	0.0	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	30	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.3	0.0	2.0	3.3	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	200.0	245.0	0.0	245.0	245.0	0.0	0.0	100.0	0.0	0.0	150.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	16	30	0	0	20	0	0	25	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	R
C, Calculated Cycle Length [s]	78	78	78	78	78	78	78	78	78	78
L, Total Lost Time per Cycle [s]	4.00	5.30	5.30	4.00	5.30	5.30	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	3.30	3.30	2.00	3.30	3.30	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	6	19	19	12	25	25	15	15	14	14
g / C, Green / Cycle	0.07	0.24	0.24	0.15	0.32	0.32	0.19	0.19	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.06	0.20	0.20	0.26	0.34	0.37	0.28	0.28	0.15	0.09
s, saturation flow rate [veh/h]	1781	1870	1848	1781	1870	1590	1781	1804	1842	1589
c, Capacity [veh/h]	130	446	440	272	596	506	340	345	328	283
d1, Uniform Delay [s]	35.75	28.64	28.64	33.25	26.75	26.75	31.75	31.75	31.34	29.01
k, delay calibration	0.04	0.10	0.10	0.50	0.46	0.50	0.50	0.50	0.06	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.62	4.74	4.80	325.83	58.05	97.98	222.22	214.05	4.22	0.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.86	0.86	1.69	1.08	1.18	1.46	1.44	0.87	0.48
d, Delay for Lane Group [s/veh]	39.37	33.38	33.44	359.08	84.80	124.74	253.97	245.80	35.56	29.49
Lane Group LOS	D	C	C	F	F	F	F	F	D	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.97	7.20	7.12	29.27	19.05	21.82	27.20	26.77	5.43	2.29
50th-Percentile Queue Length [ft/ln]	49.13	179.89	177.95	731.85	476.26	545.50	680.00	669.21	135.74	57.25
95th-Percentile Queue Length [veh/ln]	3.54	11.59	11.49	46.11	27.48	32.47	42.15	41.39	9.25	4.12
95th-Percentile Queue Length [ft/ln]	88.43	289.87	287.34	1152.85	687.02	811.71	1053.75	1034.77	231.28	103.05

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.37	33.41	33.44	359.08	84.93	124.74	252.16	245.80	245.80	35.56	35.56	29.49
Movement LOS	D	C	C	F	F	F	F	F	F	D	D	C
d_A, Approach Delay [s/veh]	34.10			173.15			249.89			33.59		
Approach LOS	C			F			F			C		
d_I, Intersection Delay [s/veh]	147.37											
Intersection LOS	F											
Intersection V/C	1.126											

Emissions

Vehicle Miles Traveled [mph]	57.75	221.34	218.73	319.95	446.44	413.96	37.35	37.35	31.41	15.15
Stops [stops/h]	90.24	330.39	326.84	1344.16	874.74	1001.91	1248.93	1229.12	249.31	105.15
Fuel consumption [US gal/h]	3.68	13.54	13.39	69.28	42.26	47.56	34.09	33.16	4.73	2.03
CO [g/h]	257.03	946.49	935.79	4842.49	2953.77	3324.63	2383.15	2317.83	330.33	141.67
NOx [g/h]	50.01	184.15	182.07	942.17	574.70	646.85	463.67	450.97	64.27	27.56
VOC [g/h]	59.57	219.36	216.88	1122.29	684.56	770.52	552.32	537.18	76.56	32.83

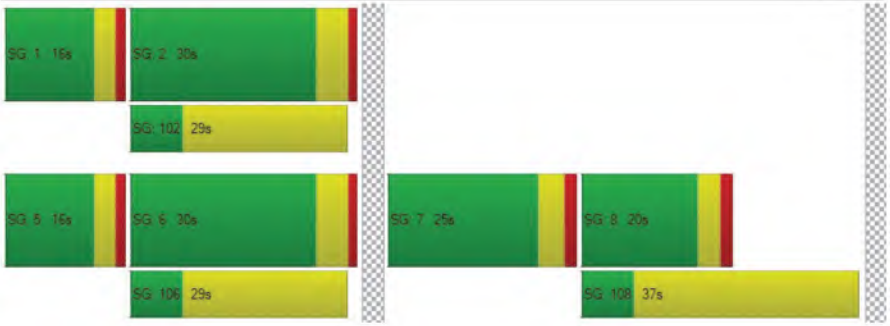
Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	28.97	0.00	28.97	28.97
l_p,int, Pedestrian LOS Score for Intersectio	2.636	0.000	2.664	2.418
Crosswalk LOS	B	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	630	630	395	510
d_b, Bicycle Delay [s]	18.39	18.39	25.23	21.75
l_b,int, Bicycle LOS Score for Intersection	2.279	3.151	3.239	2.342
Bicycle LOS	B	C	C	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	27.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.870

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

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Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	171	325	456	129	410	157
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	47	209	0
Site-Generated Trips [veh/h]	-19	136	195	-125	-239	-37
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	15	0	36
Total Hourly Volume [veh/h]	152	461	651	36	380	84
Peak Hour Factor	0.9000	0.9000	0.9000	0.7900	0.7900	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	128	181	11	120	23
Total Analysis Volume [veh/h]	169	512	723	46	481	93
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	164
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	50	50	50	0	50	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	54	56	56	0	54	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Calculated Cycle Length [s]	88	88	88	88	88	88
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	10	52	38	38	27	27
g / C, Green / Cycle	0.12	0.59	0.43	0.43	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.09	0.27	0.39	0.03	0.27	0.06
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1589
c, Capacity [veh/h]	206	1097	796	676	535	478
d1, Uniform Delay [s]	38.26	10.43	23.83	15.05	29.68	23.01
k, delay calibration	0.04	0.15	0.25	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.06	0.44	9.10	0.06	5.70	0.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.47	0.91	0.07	0.90	0.19
d, Delay for Lane Group [s/veh]	41.32	10.87	32.93	15.11	35.38	23.20
Lane Group LOS	D	B	C	B	D	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.48	4.46	13.91	0.49	10.27	1.44
50th-Percentile Queue Length [ft/ln]	87.01	111.58	347.73	12.23	256.76	35.96
95th-Percentile Queue Length [veh/ln]	6.26	7.93	20.03	0.88	15.53	2.59
95th-Percentile Queue Length [ft/ln]	156.62	198.20	500.64	22.02	388.15	64.73

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.32	10.87	32.93	15.11	35.38	23.20
Movement LOS	D	B	C	B	D	C
d_A, Approach Delay [s/veh]	18.43		31.87		33.41	
Approach LOS	B		C		C	
d_I, Intersection Delay [s/veh]	27.78					
Intersection LOS	C					
Intersection V/C	0.870					

Emissions

Vehicle Miles Traveled [mph]	20.85	63.17	417.55	26.57	112.97	21.84
Stops [stops/h]	141.69	181.70	566.23	19.92	418.09	58.56
Fuel consumption [US gal/h]	4.75	6.62	29.33	1.40	10.42	1.66
CO [g/h]	332.05	462.82	2050.20	97.88	728.62	116.16
NOx [g/h]	64.60	90.05	398.89	19.04	141.76	22.60
VOC [g/h]	76.96	107.26	475.15	22.68	168.86	26.92

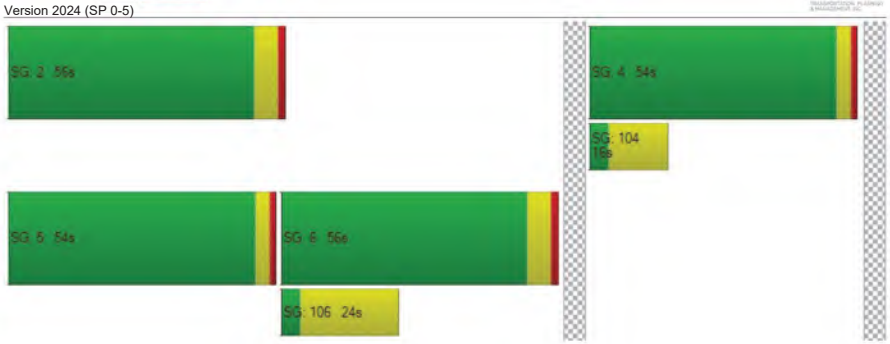
Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.58	0.00	36.58
l_p,int, Pedestrian LOS Score for Intersectio	2.855	0.000	2.266
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1131	1131	1131
d_b, Bicycle Delay [s]	8.35	8.35	8.35
l_b,int, Bicycle LOS Score for Intersection	2.683	2.853	1.560
Bicycle LOS	B	C	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 11: Latrobe Rd/Avanti

Control Type:	Two-way stop	Delay (sec / veh):	54.6
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.164

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd			Avanti			Avanti		
Base Volume Input [veh/h]	0	438	0	25	588	0	0	0	0	2	0	58
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	10	6	0	0	0	0	0
Site-Generated Trips [veh/h]	2	110	0	0	149	9	7	0	1	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	548	0	25	737	19	13	0	1	2	0	58
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	149	0	6	200	5	4	0	0	1	0	15
Total Analysis Volume [veh/h]	2	596	0	25	801	21	14	0	1	2	0	58
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			Yes	Yes
Storage Area [veh]	0	0	1	1
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.03	0.01	0.00	0.16	0.00	0.00	0.02	0.00	0.12
d_M, Delay for Movement [s/veh]	9.46	0.00	0.00	8.70	0.00	0.00	54.57	41.97	22.02	41.56	35.81	13.08
Movement LOS	A	A	A	A	A	A	F	E	C	E	E	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.04	0.04	0.04	0.55	0.55	0.55	0.39	0.39	0.39
95th-Percentile Queue Length [ft/ln]	0.08	0.08	0.08	1.06	1.06	1.06	13.86	13.86	13.86	9.86	9.86	9.86
d_A, Approach Delay [s/veh]	0.03			0.26			52.40			14.02		
Approach LOS	A			A			F			B		
d_I, Intersection Delay [s/veh]	1.23											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Two-way stop	Delay (sec / veh):	313.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.388

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	334	21	144	446	0	0	0	0	59	0	104
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	20	-9	0	0	-21	161	121	0	14	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	10	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	325	21	144	425	171	121	0	14	59	2	104
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	87	6	39	114	46	33	0	4	16	1	28
Total Analysis Volume [veh/h]	22	349	23	155	457	184	130	0	15	63	2	112
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.13	0.00	0.00	1.39	0.00	0.03	0.53	0.02	0.16
d_M, Delay for Movement [s/veh]	8.91	0.00	0.00	8.49	0.00	0.00	313.37	300.35	281.67	63.69	61.94	38.80
Movement LOS	A	A	A	A	A	A	F	F	F	F	F	E
95th-Percentile Queue Length [veh/ln]	0.07	0.00	0.00	0.45	0.00	0.00	10.50	10.50	10.50	4.76	4.76	4.76
95th-Percentile Queue Length [ft/ln]	1.79	0.00	0.00	11.23	0.00	0.00	262.49	262.49	262.49	119.12	119.12	119.12
d_A, Approach Delay [s/veh]	0.50			1.65			310.09			47.92		
Approach LOS	A			A			F			E		
d_I, Intersection Delay [s/veh]	36.35											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 13: Golden Foothill/Robert J Mathews

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	21.977

Intersection Setup

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Approach	Northbound			Eastbound		Westbound		
Lane Configuration								
Turning Movement	U-turn	Left	Right	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00		30.00		
Grade [%]	0.00			0.00		0.00		
Crosswalk	No			No		No		

Volumes

Name	Robert J Mathews Pkwy			Golden Foothill Pkwy		Golden Foothill Pkwy S		
Base Volume Input [veh/h]	0	127	1017	168	55	1	1019	190
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-83	-276	13	-43	0	-144	-23
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	59	0	0	36	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	103	741	181	48	1	875	167
Peak Hour Factor	1.0000	0.8800	0.8800	0.8800	0.8800	1.0000	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	29	211	51	14	0	249	47
Total Analysis Volume [veh/h]	0	117	842	206	55	1	994	190
Pedestrian Volume [ped/h]	0			0		0		

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	21.98	1.05	0.00	0.00	0.00	0.76	0.00
d_M, Delay for Movement [s/veh]	10000.00	10000.00	10000.00	0.00	0.00	10000.00	14.01	0.00
Movement LOS	F	F	F	A	A	F	B	A
95th-Percentile Queue Length [veh/ln]	117.72	117.72	117.72	0.00	0.00	6.68	6.68	6.68
95th-Percentile Queue Length [ft/ln]	2943.07	2943.07	2943.07	0.00	0.00	167.00	167.00	167.00
d_A, Approach Delay [s/veh]	10000.00			0.00		20.19		
Approach LOS	F			A		C		
d_I, Intersection Delay [s/veh]	3997.48							
Intersection LOS	F							

Intersection Level Of Service Report
Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Control Type:	All-way stop	Delay (sec / veh):	34.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.929

Intersection Setup

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name	Robert J Mathews Pkwy			Robert J Mathews Pkwy				Investment Blvd			Investment Blvd		
Base Volume Input [veh/h]	60	657	105	0	40	585	40	56	49	40	225	17	79
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-293	-225	0	5	-176	-18	-79	-56	0	-135	-13	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	364	0	0	45	409	22	0	0	40	90	4	83
Peak Hour Factor	0.8300	0.8300	0.8300	1.000	0.790	0.830	0.830	0.8300	0.8300	0.8300	0.8300	0.8300	0.7900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	110	0	0	14	123	7	0	0	12	27	1	26
Total Analysis Volume [veh/h]	72	439	0	0	57	493	27	0	0	48	108	5	105
Pedestrian Volume [ped/h]	0			0				0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	607	621	501	524
Degree of Utilization, x	0.84	0.93	0.10	0.42

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	9.09	12.22	0.32	2.03
95th-Percentile Queue Length [ft]	227.21	305.57	7.91	50.70
Approach Delay [s/veh]	32.62	44.65	10.95	14.67
Approach LOS	D	E	B	B
Intersection Delay [s/veh]	34.09			
Intersection LOS	D			

Intersection Level Of Service Report
Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Control Type:	Two-way stop	Delay (sec / veh):	20.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.451

Intersection Setup

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00			30.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	No		No			No		

Volumes

Name	Carson Crossing Rd		Golden Foothill Pkwy N			Golden Foothill Pkwy		
Base Volume Input [veh/h]	159	80	0	143	294	2	132	196
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-26	0	-4	0	0	-98	-8
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	159	54	0	139	294	2	34	188
Peak Hour Factor	0.8400	0.8400	1.0000	0.8400	0.8400	1.0000	0.8400	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	16	0	41	88	1	10	56
Total Analysis Volume [veh/h]	189	64	0	165	350	2	40	224
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Priority Scheme	Stop		Free			Free		
Flared Lane								
Storage Area [veh]	0		0			0		
Two-Stage Gap Acceptance	No							
Number of Storage Spaces in Median	0		0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.45	0.09	0.00	0.00	0.00	0.00	0.04	0.00
d_M, Delay for Movement [s/veh]	20.47	10.64	9.36	0.00	0.00	12.61	8.59	0.00
Movement LOS	C	B	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	2.28	0.30	0.00	0.00	0.00	0.13	0.13	0.00
95th-Percentile Queue Length [ft/ln]	57.12	7.49	0.00	0.00	0.00	3.30	3.30	0.00
d_A, Approach Delay [s/veh]	17.98		0.00			1.39		
Approach LOS	C		A			A		
d_I, Intersection Delay [s/veh]	4.76							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 16: Carson Crossing Rd/Calypso Cir.

Control Type:	Two-way stop	Delay (sec / veh):	100.5
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.843

Intersection Setup

Name			Carson Crossing Rd		Carson Crossing Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	190.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			Carson Crossing Rd		Carson Crossing Rd	
Base Volume Input [veh/h]	205	208	87	201	294	187
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-26	0	0	-98
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	205	208	61	201	294	89
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	57	17	55	80	24
Total Analysis Volume [veh/h]	223	226	66	218	320	97
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.84	0.23	0.00	0.00	0.25	0.00
d_M, Delay for Movement [s/veh]	100.51	90.50	0.00	0.00	8.75	0.00
Movement LOS	F	F	A	A	A	A
95th-Percentile Queue Length [veh/ln]	14.94	14.94	0.00	0.00	0.99	0.00
95th-Percentile Queue Length [ft/ln]	373.46	373.46	0.00	0.00	24.84	0.00
d_A, Approach Delay [s/veh]	95.47		0.00		6.72	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	39.71					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 17: Carson Crossing Rd/Four Seasons Dr

Control Type:	All-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.167

Intersection Setup

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	500.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	500.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Carson Crossing Rd		Carson Crossing Rd		Four Seasons Dr	
Base Volume Input [veh/h]	310	12	28	203	0	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-98	0	0	-26	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	212	12	28	177	0	3
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	58	3	8	48	0	1
Total Analysis Volume [veh/h]	230	13	30	192	0	3
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	729	740	689	762	762	734
Degree of Utilization, x	0.17	0.16	0.04	0.13	0.13	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.60	0.59	0.14	0.43	0.43	0.01
95th-Percentile Queue Length [ft]	14.89	14.63	3.41	10.76	10.76	0.31
Approach Delay [s/veh]	8.57		8.11			7.93
Approach LOS	A		A			A
Intersection Delay [s/veh]	8.35					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 18: White Rock Rd/Carson Crossing Rd

Control Type:	Signalized	Delay (sec / veh):	16.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.520

Intersection Setup

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	200.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	300.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Carson Crossing Rd						White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	253	10	50	7	1	21	5	697	138	90	634	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-98	0	0	0	0	0	0	0	-26	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	15	0	0	6	0	0	34	0	0	3
Total Hourly Volume [veh/h]	155	10	35	7	1	15	5	697	78	90	634	8
Peak Hour Factor	0.9700	1.0000	0.9300	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9300	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	3	9	2	0	4	1	180	20	24	163	2
Total Analysis Volume [veh/h]	160	10	38	7	1	15	5	719	80	97	654	8
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	25	0	0	25	0	15	35	0	15	35	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	21	0	0	11	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	0.0	150.0	0.0	0.0	100.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	30	0	0	30	0	20	40	0	20	40	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	9	0	0	9	0	9	9	0	9	9	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	C	L	C	R	L	C	R
C, Calculated Cycle Length [s]	52	52	52	52	52	52	52	52	52	52
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	9	9	9	3	1	14	14	7	20	20
g / C, Green / Cycle	0.16	0.16	0.16	0.05	0.01	0.27	0.27	0.13	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.09	0.01	0.02	0.01	0.00	0.20	0.05	0.05	0.18	0.01
s, saturation flow rate [veh/h]	1781	1870	1589	1654	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	293	307	261	83	22	969	433	234	1392	621
d1, Uniform Delay [s]	20.06	18.36	18.71	23.94	25.57	17.36	14.59	20.87	11.88	9.75
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.59	0.04	0.25	1.81	5.06	1.14	0.20	1.18	0.25	0.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.55	0.03	0.15	0.28	0.23	0.74	0.18	0.42	0.47	0.01
d, Delay for Lane Group [s/veh]	21.65	18.40	18.96	25.75	30.64	18.50	14.79	22.05	12.13	9.76
Lane Group LOS	C	B	B	C	C	B	B	C	B	A
Critical Lane Group	Yes	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.75	0.10	0.38	0.30	0.09	3.61	0.67	1.07	2.43	0.05
50th-Percentile Queue Length [ft/ln]	43.75	2.41	9.43	7.38	2.21	90.21	16.76	26.80	60.77	1.23
95th-Percentile Queue Length [veh/ln]	3.15	0.17	0.68	0.53	0.16	6.50	1.21	1.93	4.38	0.09
95th-Percentile Queue Length [ft/ln]	78.75	4.33	16.98	13.29	3.98	162.38	30.17	48.24	109.39	2.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.65	18.40	18.96	25.75	25.75	25.75	30.64	18.50	14.79	22.05	12.13	9.76
Movement LOS	C	B	B	C	C	C	C	B	B	C	B	A
d_A, Approach Delay [s/veh]	21.00			25.75			18.21			13.37		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	16.58											
Intersection LOS	B											
Intersection V/C	0.520											

Emissions

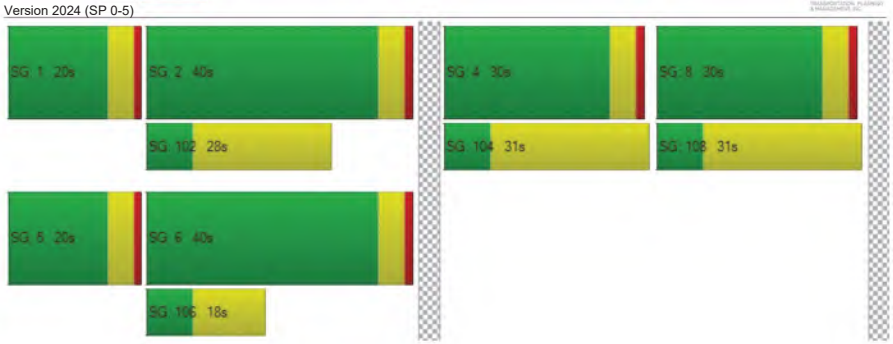
Vehicle Miles Traveled [mph]	47.50	2.97	11.28	0.51	0.72	102.95	11.45	81.63	550.36	6.73
Stops [stops/h]	120.80	6.65	26.05	20.39	6.10	498.17	46.29	74.00	335.62	3.40
Fuel consumption [US gal/h]	3.33	0.20	0.75	0.25	0.09	9.70	0.97	4.20	26.13	0.31
CO [g/h]	232.61	13.73	52.77	17.77	6.60	677.85	67.67	293.89	1826.14	21.80
NOx [g/h]	45.26	2.67	10.27	3.46	1.28	131.88	13.17	57.18	355.30	4.24
VOC [g/h]	53.91	3.18	12.23	4.12	1.53	157.10	15.68	68.11	423.23	5.05

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	16.24	16.24	16.24	16.24
l_p,int, Pedestrian LOS Score for Intersectio	2.375	1.719	2.742	2.677
Crosswalk LOS	B	A	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	959	959	1342	1342
d_b, Bicycle Delay [s]	7.07	7.07	2.82	2.82
l_b,int, Bicycle LOS Score for Intersection	1.928	1.607	2.251	2.188
Bicycle LOS	A	A	B	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 19: White Rock Rd/Windfield Way

Control Type:	Signalized	Delay (sec / veh):	34.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.640

Intersection Setup

Name	Windfield Way						White Rock Rd			White Rock Rd			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	200.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00			
Grade [%]	0.00			0.00			0.00			0.00			
Curb Present	No			No			No			No			
Crosswalk	Yes			Yes			Yes			No			

Volumes

Name	Windfield Way						White Rock Rd			White Rock Rd			
Base Volume Input [veh/h]	305	5	361	5	5	5	5	754	92	14	260	607	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	108	0	0	0	0	0	28	0	0	0	0
Total Hourly Volume [veh/h]	305	5	253	5	5	5	5	754	64	14	260	607	5
Peak Hour Factor	0.9400	1.0000	0.9400	1.0000	1.0000	1.0000	1.0000	0.9400	0.9400	1.000	0.940	0.940	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	81	1	67	1	1	1	1	201	17	4	69	161	1
Total Analysis Volume [veh/h]	324	5	269	5	5	5	5	802	68	14	277	646	5
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0			
v_co, Outbound Pedestrian Volume crossing	0			0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0			
Bicycle Volume [bicycles/h]	0			0			0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	135
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	73.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi
Signal Group	3	8	0	7	4	0	5	2	0	0	1	6	0
Auxiliary Signal Groups													
Maximum Green [s]	25	25	0	10	10	0	9	19	0	0	44	54	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	5.0	0.0	0.0	4.0	5.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	2.0	1.0	0.0	0.0	2.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	26	0	0	13	0	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	245.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	30	30	0	15	15	0	15	25	0	0	50	60	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	-	Lead	-	-
Minimum Green [s]	3	3	0	5	3	0	5	7	0	0	3	7	0
Vehicle Extension [s]	1.0	1.0	0.0	3.0	1.0	0.0	3.0	3.6	0.0	0.0	1.0	3.6	0.0
Minimum Recall	No	No		No	No		No	Yes			No	Yes	
Maximum Recall	No	No		No	No		No	No			No	No	
Pedestrian Recall	No	No		No	No		No	No			No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	23	24	1	1	1	52	52	21	73	73
g / C, Green / Cycle	0.20	0.20	0.01	0.01	0.01	0.44	0.44	0.18	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.18	0.17	0.00	0.01	0.00	0.23	0.04	0.16	0.17	0.17
s, saturation flow rate [veh/h]	1781	1594	1781	1718	1781	3560	1589	1781	1870	1865
c, Capacity [veh/h]	349	313	12	13	12	1548	691	318	1134	1131
d1, Uniform Delay [s]	47.44	46.78	59.33	59.43	59.34	24.73	20.02	48.42	11.26	11.26
k, delay calibration	0.30	0.09	0.11	0.04	0.11	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	23.29	6.61	19.50	27.26	19.95	1.24	0.28	4.44	0.64	0.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.93	0.88	0.40	0.76	0.40	0.52	0.10	0.92	0.29	0.29
d, Delay for Lane Group [s/veh]	70.72	53.39	78.83	86.69	79.29	25.97	20.30	52.87	11.90	11.91
Lane Group LOS	E	D	E	F	E	C	C	D	B	B
Critical Lane Group	Yes	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	11.73	8.48	0.22	0.40	0.22	8.52	1.19	8.92	4.24	4.23
50th-Percentile Queue Length [ft/ln]	293.26	212.08	5.48	10.09	5.50	212.88	29.66	222.95	105.90	105.63
95th-Percentile Queue Length [veh/ln]	17.35	13.26	0.39	0.73	0.40	13.30	2.14	13.82	7.61	7.60
95th-Percentile Queue Length [ft/ln]	433.68	331.49	9.86	18.17	9.90	332.52	53.40	345.39	190.28	189.90

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	70.72	53.39	53.39	78.83	86.69	86.69	79.29	25.97	20.30	52.87	52.87	11.90	11.91
Movement LOS	E	D	D	E	F	F	E	C	C	D	D	B	B
d_A, Approach Delay [s/veh]	62.78			84.07			25.84			24.56			
Approach LOS	E			F			C			C			
d_I, Intersection Delay [s/veh]	34.79												
Intersection LOS	C												
Intersection V/C	0.640												

Emissions

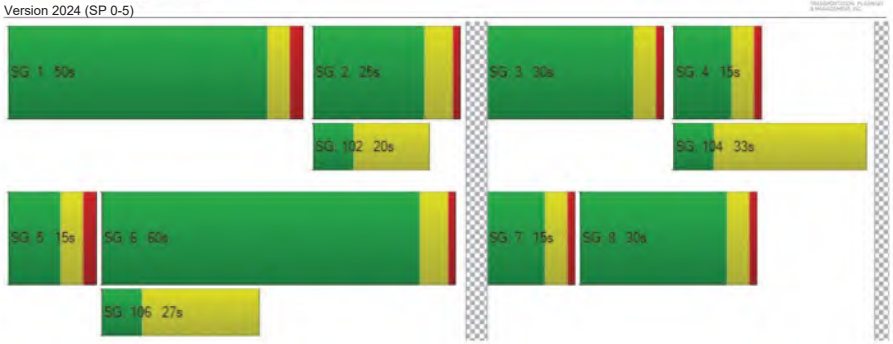
Vehicle Miles Traveled [mph]	124.84	105.58	0.23	0.46	4.21	674.90	57.22	72.63	81.35	81.13
Stops [stops/h]	351.91	254.49	6.57	12.11	6.60	510.92	35.60	267.54	127.08	126.75
Fuel consumption [US gal/h]	11.75	8.73	0.13	0.26	0.29	34.84	2.83	7.60	4.84	4.83
CO [g/h]	821.04	610.15	8.80	18.32	20.29	2435.66	198.05	531.12	338.35	337.45
NOx [g/h]	159.75	118.71	1.71	3.56	3.95	473.89	38.53	103.34	65.83	65.65
VOC [g/h]	190.29	141.41	2.04	4.25	4.70	564.49	45.90	123.09	78.41	78.21

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.460	1.964	2.812	0.000
Crosswalk LOS	B	A	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	417	167	317	900
d_b, Bicycle Delay [s]	37.60	50.42	42.50	18.15
l_b,int, Bicycle LOS Score for Intersection	2.725	1.584	2.305	2.108
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 20: White Rock Rd/Post St

Control Type:	Signalized	Delay (sec / veh):	44.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.664

Intersection Setup

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Approach	Northbound			Southbound			Eastbound				Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	300.0	100.0	100.0	100.0	200.00	100.00	400.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00				30.00		
Grade [%]	0.00			0.00			0.00				0.00		
Curb Present	No			No			No				No		
Crosswalk	Yes			Yes			No				No		

Volumes

Name	Post St			Post St			White Rock Rd				White Rock Rd		
Base Volume Input [veh/h]	71	16	42	191	15	246	3	227	1167	57	86	738	181
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00												
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	-10	0	-18	-39	0	0	-4	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	13	0	0	71	0	0	0	17	0	0	54
Total Hourly Volume [veh/h]	71	16	29	191	15	165	3	209	1128	40	86	734	127
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	1.000	0.910	0.860	0.910	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	4	8	52	4	45	1	57	328	11	24	202	35
Total Analysis Volume [veh/h]	78	18	32	210	16	181	3	230	1312	44	95	807	140
Presence of On-Street Parking	No		No	No		No	No			No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0				0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0				0		
v_co, Outbound Pedestrian Volume crossing	0			0			0				0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0				0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0				0		
Bicycle Volume [bicycles/h]	0			0			0				0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	160
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	55.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Permi	Prote	Permi	Permi	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	7	4	0	3	8	0
Auxiliary Signal Groups													
Maximum Green [s]	7	24	0	7	26	0	0	24	75	0	15	67	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	24	0	0	0	21	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Advanced Detector Location [ft]	100.0	100.0	0.0	100.0	100.0	0.0	0.0	100.0	245.0	0.0	150.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	13	29	0	47	31	0	0	28	80	0	20	72	0
Lead / Lag	Lead	-	-	Lead	-	-	-	Lead	-	-	Lag	-	-
Minimum Green [s]	3	9	0	3	9	0	0	9	9	0	9	9	0
Vehicle Extension [s]	1.0	1.5	0.0	1.0	1.5	0.0	0.0	1.0	1.5	0.0	1.0	1.5	0.0
Minimum Recall		No			No			No	No		No	No	
Maximum Recall		No			No			No	No		No	No	
Pedestrian Recall		No			No			No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	R	L	C	L	C	R	L	C	R
C, Calculated Cycle Length [s]	160	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	11	11	22	22	70	98	98	10	38	38
g / C, Green / Cycle	0.07	0.07	0.14	0.14	0.43	0.61	0.61	0.06	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.05	0.02	0.12	0.12	0.13	0.37	0.03	0.05	0.23	0.09
s, saturation flow rate [veh/h]	1797	1589	1781	1609	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	118	105	241	218	774	2170	969	115	853	381
d1, Uniform Delay [s]	73.74	71.24	67.82	68.17	29.45	19.33	12.55	73.96	59.83	50.74
k, delay calibration	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.92	0.60	3.82	5.59	1.00	1.26	0.09	5.60	2.68	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.31	0.87	0.91	0.30	0.60	0.05	0.83	0.95	0.37
d, Delay for Lane Group [s/veh]	78.66	71.84	71.64	73.77	30.45	20.59	12.64	79.56	62.51	50.96
Lane Group LOS	E	E	E	E	C	C	B	E	E	D
Critical Lane Group	Yes	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.08	1.28	8.72	8.32	6.18	15.40	0.68	4.06	16.45	4.77
50th-Percentile Queue Length [ft/ln]	102.02	31.99	217.98	207.97	154.42	385.05	16.96	101.55	411.25	119.25
95th-Percentile Queue Length [veh/ln]	7.35	2.30	13.56	13.05	10.25	21.84	1.22	7.31	23.10	8.35
95th-Percentile Queue Length [ft/ln]	183.64	57.58	339.05	326.22	256.31	545.95	30.52	182.79	577.54	208.80

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	78.66	78.66	71.84	71.70	73.77	73.77	30.45	30.45	20.59	12.64	79.56	62.51	50.96
Movement LOS	E	E	E	E	E	E	C	C	C	B	E	E	D
d_A, Approach Delay [s/veh]	76.96			72.67			21.82				62.51		
Approach LOS	E			E			C				E		
d_I, Intersection Delay [s/veh]	43.98												
Intersection LOS	D												
Intersection V/C	0.664												

Emissions

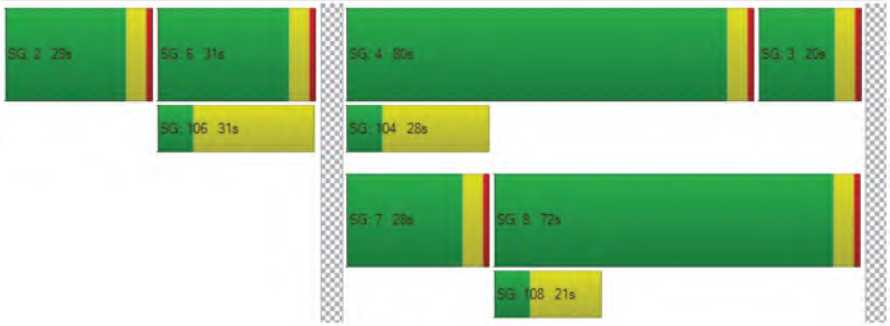
Vehicle Miles Traveled [mph]	4.80	1.60	9.76	9.16	24.62	138.62	4.65	33.15	281.63	48.86
Stops [stops/h]	91.82	28.79	196.18	187.17	138.98	693.09	15.26	91.40	740.25	107.33
Fuel consumption [US gal/h]	2.24	0.69	4.55	4.37	3.22	15.03	0.39	3.41	25.95	4.06
CO [g/h]	156.69	48.42	317.83	305.32	225.42	1050.81	27.18	238.19	1813.75	283.50
NOx [g/h]	30.49	9.42	61.84	59.40	43.86	204.45	5.29	46.34	352.89	55.16
VOC [g/h]	36.31	11.22	73.66	70.76	52.24	243.54	6.30	55.20	420.35	65.70

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	69.38	69.38	69.38	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.088	2.368	2.950	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	300	325	938	838
d_b, Bicycle Delay [s]	57.80	56.11	22.58	27.03
l_b,int, Bicycle LOS Score for Intersection	1.792	2.348	2.695	2.464
Bicycle LOS	A	B	B	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 21: White Rock Rd/Valley View Pkwy

Control Type:	Signalized	Delay (sec / veh):	32.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.883

Intersection Setup

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	2	2	0	1	2	0	1	2	0	1
Entry Pocket Length [ft]	300.00	100.00	300.00	200.00	100.00	200.00	300.00	100.00	200.00	500.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	300.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Valley View Pkwy			Valley View Pkwy			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	117	83	587	373	142	63	67	1081	264	432	840	207
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-9	-17	0	-5	8	6	-44	0	0	-12	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	171	0	0	21	0	0	79	0	0	62
Total Hourly Volume [veh/h]	117	74	399	373	137	50	73	1037	185	432	828	145
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	19	103	96	35	13	19	267	48	111	213	37
Total Analysis Volume [veh/h]	121	76	411	385	141	52	75	1069	191	445	854	149
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	153
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	4	1	0	8	0	5	2	0	1	6	0
Auxiliary Signal Groups			1,4									
Maximum Green [s]	0	35	25	0	40	0	25	45	0	25	44	0
Amber [s]	0.0	3.2	3.0	0.0	3.2	0.0	3.0	4.3	0.0	3.0	5.0	0.0
All red [s]	0.0	1.0	0.5	0.0	1.0	0.0	0.5	1.0	0.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	28	0	0	24	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	1.5	0.0	2.2	0.0	1.5	3.3	0.0	1.5	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	245.0	0.0	150.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	6.0	0.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	29	0	45	0	29	50	0	29	50	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	5	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.6	2.0	0.0	3.6	0.0	2.0	3.0	0.0	2.0	3.7	0.0
Minimum Recall		No	No		No		No	No		No	No	
Maximum Recall		No	No		No		No	No		No	No	
Pedestrian Recall		No	No		No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Calculated Cycle Length [s]	109	109	109	109	109	109	109	109	109	109	109	109
L, Total Lost Time per Cycle [s]	4.20	4.20	3.50	4.20	4.20	4.20	3.50	5.30	5.30	3.50	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	0.00	2.20	2.20	2.20	1.50	3.30	3.30	1.50	4.00	4.00
g_i, Effective Green Time [s]	11	11	63	27	27	27	4	37	37	17	48	48
g / C, Green / Cycle	0.10	0.10	0.58	0.25	0.25	0.25	0.04	0.34	0.34	0.15	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.07	0.04	0.15	0.20	0.08	0.03	0.02	0.30	0.12	0.13	0.24	0.09
s, saturation flow rate [veh/h]	1781	1870	2813	1893	1870	1589	3459	3560	1589	3459	3560	1589
c, Capacity [veh/h]	182	191	1637	502	464	395	143	1200	536	533	1579	705
d1, Uniform Delay [s]	46.99	45.66	11.13	40.42	33.21	31.74	51.05	34.12	27.14	44.63	22.14	18.57
k, delay calibration	0.13	0.13	0.04	0.13	0.13	0.13	0.04	0.11	0.11	0.04	0.14	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.11	1.67	0.03	3.09	0.46	0.19	1.11	2.51	0.40	1.35	0.37	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.66	0.40	0.25	0.77	0.30	0.13	0.53	0.89	0.36	0.84	0.54	0.21
d, Delay for Lane Group [s/veh]	52.10	47.32	11.16	43.51	33.66	31.93	52.17	36.63	27.54	45.98	22.51	18.76
Lane Group LOS	D	D	B	D	C	C	D	D	C	D	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.40	2.00	2.35	5.13	3.08	1.08	1.02	13.48	3.77	5.88	7.89	2.32
50th-Percentile Queue Length [ft/ln]	84.96	50.11	58.67	128.19	76.88	27.10	25.49	337.06	94.32	146.92	197.25	58.07
95th-Percentile Queue Length [veh/ln]	6.12	3.61	4.22	8.84	5.54	1.95	1.84	19.50	6.79	9.85	12.50	4.18
95th-Percentile Queue Length [ft/ln]	152.93	90.20	105.61	221.02	138.39	48.77	45.88	487.61	169.77	246.32	312.42	104.52

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	52.10	47.32	11.16	43.51	33.66	31.93	52.17	36.63	27.54	45.98	22.51	18.76
Movement LOS	D	D	B	D	C	C	D	D	C	D	C	B
d_A, Approach Delay [s/veh]	23.83			40.07			36.20			29.34		
Approach LOS	C			D			D			C		
d_I, Intersection Delay [s/veh]	32.36											
Intersection LOS	C											
Intersection V/C	0.883											

Emissions

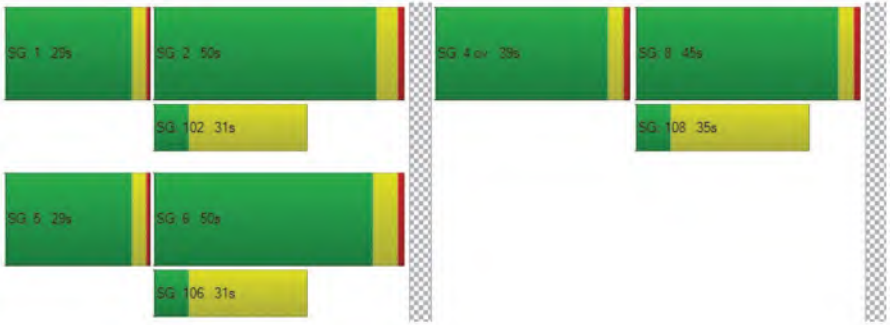
Vehicle Miles Traveled [mph]	206.98	130.00	703.05	78.05	28.59	10.54	26.17	373.06	66.66	200.80	385.35	67.23
Stops [stops/h]	112.71	66.48	155.67	340.11	101.99	35.95	67.63	894.31	125.13	389.83	523.36	77.03
Fuel consumption [US gal/h]	10.43	6.45	30.73	8.50	2.71	0.97	2.25	28.27	4.51	14.58	22.67	3.76
CO [g/h]	728.79	450.92	2148.38	594.21	189.16	67.83	157.08	1975.78	314.94	1019.35	1584.45	262.98
NOx [g/h]	141.80	87.73	418.00	115.61	36.80	13.20	30.56	384.41	61.28	198.33	308.28	51.17
VOC [g/h]	168.90	104.50	497.91	137.71	43.84	15.72	36.40	457.91	72.99	236.25	367.21	60.95

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	43.83	43.83	43.83	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.971	2.648	3.058	0.000
Crosswalk LOS	C	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	641	752	824	811
d_b, Bicycle Delay [s]	25.05	21.14	18.78	19.19
l_b,int, Bicycle LOS Score for Intersection	2.845	2.548	2.726	2.805
Bicycle LOS	C	B	B	C

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 22: White Rock Rd/Clarksville Crossing

Control Type:	Signalized	Delay (sec / veh):	53.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.992

Intersection Setup

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	180.00	460.00	100.00	100.00	290.00	100.00	190.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

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Volumes

Name	Clarksville Crossing			Clarksville Crossing			White Rock Rd			White Rock Rd		
Base Volume Input [veh/h]	0	0	2	80	0	334	8	2032	1	0	1145	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	-61	0	0	-13	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	2	80	0	334	8	1971	1	0	1132	2
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.9600	0.7800	0.7800	0.9600	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	26	0	107	3	513	0	0	295	1
Total Analysis Volume [veh/h]	0	0	3	103	0	428	10	2053	1	0	1179	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	20	0	0	20	0	20	50	0	20	50	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	5.0	0.0	4.0	5.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	5.0	0.0	3.0	5.0	0.0
Detector Location [ft]	0.0	20.0	0.0	0.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	100.0	0.0	0.0	0.0	0.0	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	0.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	R
C, Calculated Cycle Length [s]	93	93	93	93	93	93	93	93	93	93
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	7.00	7.00	5.00	7.00	7.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	5.00	5.00	3.00	5.00	5.00
g_i, Effective Green Time [s]	0	0	20	20	1	50	50	0	49	49
g / C, Green / Cycle	0.00	0.00	0.22	0.22	0.01	0.54	0.54	0.00	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.06	0.27	0.01	0.55	0.55	0.00	0.33	0.00
s, saturation flow rate [veh/h]	1870	1589	1781	1589	1781	1870	1870	1781	3560	1589
c, Capacity [veh/h]	11	9	384	343	25	1009	1009	3	1877	838
d1, Uniform Delay [s]	0.00	45.90	30.25	36.34	45.31	21.34	21.34	0.00	15.50	10.38
k, delay calibration	0.11	0.11	0.11	0.50	0.11	0.44	0.44	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	19.59	0.37	133.62	9.98	31.25	31.30	0.00	0.35	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.33	0.27	1.25	0.40	1.02	1.02	0.00	0.63	0.00
d, Delay for Lane Group [s/veh]	0.00	65.49	30.62	169.96	55.29	52.59	52.65	0.00	15.85	10.39
Lane Group LOS	A	E	C	F	E	F	F	A	B	B
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.00	0.12	1.93	20.28	0.30	28.31	28.33	0.00	8.24	0.03
50th-Percentile Queue Length [ft/ln]	0.00	2.95	48.17	506.99	7.39	707.87	708.13	0.00	206.01	0.70
95th-Percentile Queue Length [veh/ln]	0.00	0.21	3.47	30.90	0.53	37.60	37.61	0.00	12.95	0.05
95th-Percentile Queue Length [ft/ln]	0.00	5.30	86.70	772.40	13.29	939.92	940.35	0.00	323.71	1.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	65.49	30.62	30.62	169.96	55.29	52.62	52.65	0.00	15.85	10.39
Movement LOS	A	A	E	C	C	F	E	F	D	A	B	B
d_A, Approach Delay [s/veh]	65.49			142.93			52.63			15.83		
Approach LOS	E			F			D			B		
d_I, Intersection Delay [s/veh]	53.82											
Intersection LOS	D											
Intersection V/C	0.992											

Emissions

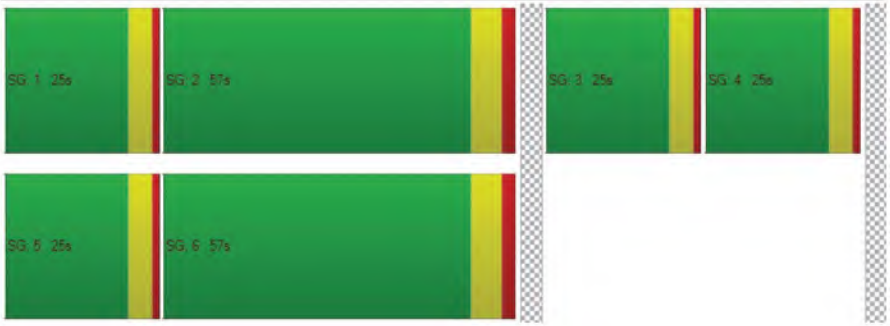
Vehicle Miles Traveled [mph]	0.00	0.15	48.86	203.03	4.51	463.42	463.42	0.00	205.67	0.52
Stops [stops/h]	0.00	4.59	74.96	789.00	11.49	1101.63	1102.02	0.00	641.21	1.10
Fuel consumption [US gal/h]	0.00	0.07	3.07	27.52	0.36	36.15	36.17	0.00	15.81	0.03
CO [g/h]	0.00	5.00	214.41	1923.50	25.29	2527.21	2528.14	0.00	1105.22	2.37
NOx [g/h]	0.00	0.97	41.72	374.24	4.92	491.70	491.88	0.00	215.04	0.46
VOC [g/h]	0.00	1.16	49.69	445.79	5.86	585.70	585.92	0.00	256.14	0.55

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	432	432	1081	1081
d_b, Bicycle Delay [s]	28.43	28.43	9.77	9.77
l_b,int, Bicycle LOS Score for Intersection	1.565	2.436	3.262	2.535
Bicycle LOS	A	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 23: White Rock Rd/US 50 EB

Control Type:	Signalized	Delay (sec / veh):	34.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.043

Intersection Setup

Name	White Rock Rd			White Rock Rd			US 50 EB					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No			No				
Crosswalk		No			No			No			No	

Volumes

Name	White Rock Rd			White Rock Rd			US 50 EB					
Base Volume Input [veh/h]	0	855	1259	0	1056	301	512	0	91	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-9	-9	-43	0	-13	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	12	0	0	0
Total Hourly Volume [veh/h]	0	846	1216	0	1043	301	512	0	79	0	0	0
Peak Hour Factor	0.8300	0.9100	1.0000	1.0000	0.9100	0.8300	0.8300	1.0000	0.8300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	232	304	0	287	91	154	0	24	0	0	0
Total Analysis Volume [veh/h]	0	930	1216	0	1146	363	617	0	95	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	4	0	0	0	0	0
Auxiliary Signal Groups												
Maximum Green [s]	0	73	0	0	73	0	34	0	0	0	0	0
Amber [s]	0.0	5.0	0.0	0.0	5.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	5.0	0.0	0.0	5.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	0.0	245.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	80	0	0	80	0	40	0	0	0	0	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	9	0	0	9	0	8	0	0	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	1.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		Yes			Yes		No					
Maximum Recall		No			No		No					
Pedestrian Recall		No			No		No					

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	R	C	R	L	C	R	
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	
L, Total Lost Time per Cycle [s]	7.00	7.00	7.00	7.00	6.00	6.00	6.00	
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	5.00	5.00	5.00	5.00	4.00	4.00	4.00	
g_i, Effective Green Time [s]	84	84	84	84	23	23	23	
g / C, Green / Cycle	0.70	0.70	0.70	0.70	0.19	0.19	0.19	
(v / s)_i Volume / Saturation Flow Rate	0.26	0.77	0.32	0.23	0.17	0.17	0.06	
s, saturation flow rate [veh/h]	3560	1589	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	2485	1109	2485	1109	345	345	308	
d1, Uniform Delay [s]	7.42	18.13	8.08	7.10	47.16	47.16	41.47	
k, delay calibration	0.50	0.50	0.50	0.50	0.08	0.08	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.43	57.32	0.62	0.79	6.43	6.43	0.21	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.37	1.10	0.46	0.33	0.89	0.89	0.31	
d, Delay for Lane Group [s/veh]	7.85	75.45	8.70	7.89	53.60	53.60	41.68	
Lane Group LOS	A	F	A	A	D	D	D	
Critical Lane Group	No	Yes	No	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	4.66	43.98	6.27	3.62	9.57	9.57	2.44	
50th-Percentile Queue Length [ft/ln]	116.57	1099.47	156.82	90.40	239.36	239.36	61.08	
95th-Percentile Queue Length [veh/ln]	8.20	59.48	10.38	6.51	14.65	14.65	4.40	
95th-Percentile Queue Length [ft/ln]	205.10	1487.00	259.50	162.72	366.22	366.22	109.95	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	7.85	75.45	0.00	8.70	7.89	53.60	0.00	41.68	0.00	0.00	0.00
Movement LOS		A	F		A	A	D		D			
d_A, Approach Delay [s/veh]		46.15			8.50			52.01			0.00	
Approach LOS		D			A			D			A	
d_I, Intersection Delay [s/veh]						34.10						
Intersection LOS						C						
Intersection V/C						1.043						

Emissions

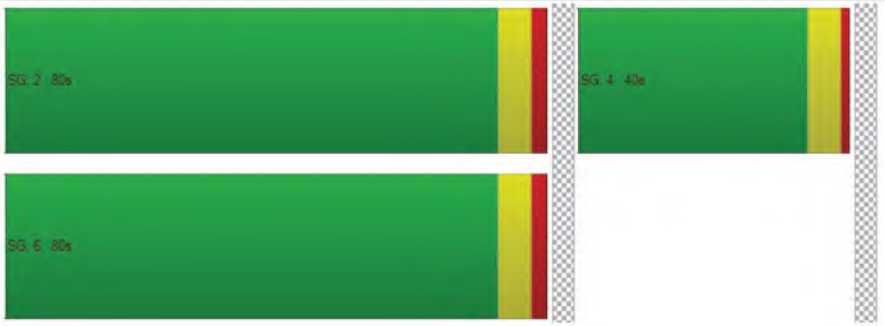
Vehicle Miles Traveled [mph]	162.23	212.12	203.08	64.33	18.68	18.68	5.75	
Stops [stops/h]	279.76	1319.37	376.36	108.48	287.23	287.23	73.30	
Fuel consumption [US gal/h]	9.71	34.69	12.47	3.83	5.72	5.72	1.45	
CO [g/h]	678.71	2424.75	871.53	267.73	399.85	399.85	101.18	
NOx [g/h]	132.05	471.77	169.57	52.09	77.80	77.80	19.69	
VOC [g/h]	157.30	561.96	201.98	62.05	92.67	92.67	23.45	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1217	1217	567	0
d_b, Bicycle Delay [s]	9.20	9.20	30.82	60.00
l_b,int, Bicycle LOS Score for Intersection	3.330	2.805	2.754	4.132
Bicycle LOS	C	C	C	D

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 24: Silva Valley Pkwy/US 50 WB

Control Type:	Signalized	Delay (sec / veh):	27.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.737

Intersection Setup

Name	White Rock Rd			Silva Valley Pkwy			US 50 WB			US 50 WB		
Approach	Northbound			Southbound			Westbound			Northeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	550.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No			No				
Crosswalk		No			No			No			No	

Volumes

Name	White Rock Rd			Silva Valley Pkwy			US 50 WB			US 50 WB		
Base Volume Input [veh/h]	0	1215	152	0	686	254	671	1	310	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-9	0	0	-2	0	-11	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	47	0	0	30	0	0	0
Total Hourly Volume [veh/h]	0	1206	152	0	684	207	660	1	280	0	0	0
Peak Hour Factor	0.7900	0.7900	1.0000	1.0000	0.7900	0.7900	0.7900	0.7900	0.7900	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	382	38	0	216	66	209	0	89	0	0	0
Total Analysis Volume [veh/h]	0	1527	152	0	866	262	835	1	354	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Maximum Green [s]	0	73	0	0	73	0	0	34	0	0	0	0
Amber [s]	0.0	4.8	0.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	4.8	0.0	0.0	4.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	80	0	0	80	0	0	40	0	0	0	0
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	8	0	0	8	0	0	8	0	0	0	0
Vehicle Extension [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		Yes			Yes			No				
Maximum Recall		No			No			No				
Pedestrian Recall		No			No			No				

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	R	C	R	L	C	R	
C, Calculated Cycle Length [s]	120	120	120	120	120	120	120	
L, Total Lost Time per Cycle [s]	6.80	6.80	6.80	6.80	5.80	5.80	5.80	
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
I2, Clearance Lost Time [s]	4.80	4.80	4.80	4.80	3.80	3.80	3.80	
g_i, Effective Green Time [s]	77	77	77	77	30	30	30	
g / C, Green / Cycle	0.64	0.64	0.64	0.64	0.25	0.25	0.25	
(v / s)_i Volume / Saturation Flow Rate	0.43	0.10	0.24	0.16	0.23	0.23	0.22	
s, saturation flow rate [veh/h]	3560	1589	3560	1589	1781	1781	1589	
c, Capacity [veh/h]	2295	1025	2295	1025	446	446	398	
d1, Uniform Delay [s]	13.27	8.38	10.01	9.07	44.06	44.05	43.38	
k, delay calibration	0.50	0.50	0.50	0.50	0.26	0.26	0.23	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.54	0.31	0.47	0.60	18.93	18.91	13.09	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.67	0.15	0.38	0.26	0.94	0.94	0.89	
d, Delay for Lane Group [s/veh]	14.81	8.69	10.49	9.68	62.99	62.96	56.46	
Lane Group LOS	B	A	B	A	E	E	E	
Critical Lane Group	Yes	No	No	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	12.46	1.59	5.27	2.98	14.42	14.42	11.52	
50th-Percentile Queue Length [ft/ln]	311.44	39.78	131.81	74.48	360.59	360.53	287.96	
95th-Percentile Queue Length [veh/ln]	18.25	2.86	9.04	5.36	20.65	20.65	17.08	
95th-Percentile Queue Length [ft/ln]	456.15	71.61	225.95	134.07	516.31	516.22	427.10	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	14.81	8.69	0.00	10.49	9.68	62.98	62.96	56.46	0.00	0.00	0.00
Movement LOS		B	A		B	A	E	E	E			
d_A, Approach Delay [s/veh]		14.26			10.30			61.04			0.00	
Approach LOS		B			B			E			A	
d_I, Intersection Delay [s/veh]						27.07						
Intersection LOS						C						
Intersection V/C						0.737						

Emissions

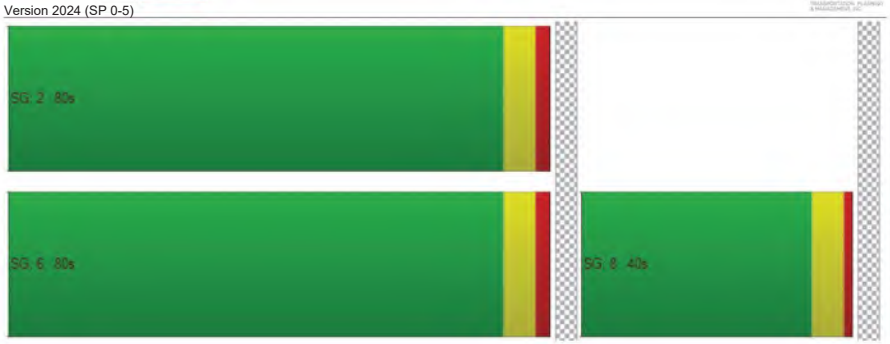
Vehicle Miles Traveled [mph]	270.60	26.94	118.42	35.83	14.48	14.48	12.26	
Stops [stops/h]	747.45	47.74	316.35	89.38	432.71	432.63	345.55	
Fuel consumption [US gal/h]	19.87	1.64	8.47	2.48	8.34	8.34	6.48	
CO [g/h]	1389.06	114.73	592.12	173.67	583.24	583.08	453.01	
NOx [g/h]	270.26	22.32	115.21	33.79	113.48	113.45	88.14	
VOC [g/h]	321.93	26.59	137.23	40.25	135.17	135.13	104.99	

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1220	1220	570	0
d_b, Bicycle Delay [s]	9.13	9.13	30.67	60.00
l_b,int, Bicycle LOS Score for Intersection	2.945	2.529	3.573	4.132
Bicycle LOS	C	B	D	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 25: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Latrobe Rd		Latrobe Rd		Commercial Access	
Base Volume Input [veh/h]	0	438	590	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	112	140	10	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	10	-10	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	550	740	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	138	185	0	0	0
Total Analysis Volume [veh/h]	0	550	740	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.64
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		13.64	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Scenario 6: 6 2040 PM with CCSP, + Project
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Intersection Level Of Service Report
Intersection 26: Latrobe/Wetsl-Oviatt

Control Type:	Two-way stop	Delay (sec / veh):	16.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.096

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Wetsel-Oviatt Rd	
Base Volume Input [veh/h]	0	328	485	20	27	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	5	-17	9	6	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	333	468	29	33	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	83	117	7	8	0
Total Analysis Volume [veh/h]	1	333	468	29	33	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					Yes	
Storage Area [veh]	0		0		1	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.10	0.00
d_M, Delay for Movement [s/veh]	8.38	0.00	0.00	0.00	16.49	12.23
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.31	0.31
95th-Percentile Queue Length [ft/ln]	0.04	0.04	0.00	0.00	7.86	7.86
d_A, Approach Delay [s/veh]	0.03		0.00		16.36	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.65					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 27: Latrobe/S. Shingle

Control Type:	Two-way stop	Delay (sec / veh):	20.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.070

Intersection Setup

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Latrobe Rd			Latrobe Rd			S. Shingle Rd			S. Shingle Rd		
Base Volume Input [veh/h]	0	185	67	47	288	46	10	41	2	49	25	87
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-12	0	6	-28	6	9	0	0	0	0	9
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	173	67	53	260	52	19	41	2	49	25	96
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	45	17	14	67	13	5	11	1	13	6	25
Total Analysis Volume [veh/h]	0	178	69	55	268	54	20	42	2	51	26	99
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Free		Free		Stop		Stop	
Flared Lane					No		No	
Storage Area [veh]	0		0		0		0	
Two-Stage Gap Acceptance					No		No	
Number of Storage Spaces in Median	0		0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.00	0.00	0.07	0.11	0.00	0.16	0.07	0.12
d_M, Delay for Movement [s/veh]	7.91	0.00	0.00	7.80	0.00	0.00	20.06	17.21	12.25	19.67	18.38	13.03
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.10	0.10	0.10	0.68	0.68	0.68	1.53	1.53	1.53
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.44	2.44	2.44	16.95	16.95	16.95	38.18	38.18	38.18
d_A, Approach Delay [s/veh]	0.00			1.14			17.95			15.75		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	5.03											
Intersection LOS	C											

Signal Warrants Report For Intersection 11: Latrobe Rd/Avanti

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	550	781	60	14
2	534	758	58	14
3	523	742	57	13
4	490	695	53	12
5	435	617	47	11
6	429	609	47	11
7	424	601	46	11
8	385	547	42	10
9	379	539	41	10
10	374	531	41	10
11	325	461	35	8
12	303	430	33	8
13	297	422	32	8
14	220	312	24	6
15	220	312	24	6
16	154	219	17	4
17	88	125	10	2
18	88	125	10	2
19	50	70	5	1
20	28	39	3	1
21	17	23	2	0
22	6	8	1	0
23	6	8	1	0
24	6	8	1	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1331	1	60	No	No	No	No	No	Yes	Yes	Yes	No	No
2	1	1292	1	58	No	No	No	No	No	No	Yes	Yes	No	No
3	1	1265	1	57	No	No	No	No	No	No	Yes	Yes	No	No
4	1	1185	1	53	No	No	No	No	No	No	Yes	Yes	No	No
5	1	1052	1	47	No	No	No	No	No	No	No	Yes	No	No
6	1	1038	1	47	No	No	No	No	No	No	No	Yes	No	No
7	1	1025	1	46	No	No	No	No	No	No	No	Yes	No	No
8	1	932	1	42	No	No	No	No	No	No	No	Yes	No	No
9	1	918	1	41	No	No	No	No	No	No	No	No	No	No
10	1	905	1	41	No	No	No	No	No	No	No	No	No	No
11	1	786	1	35	No	No	No	No	No	No	No	No	No	No
12	1	733	1	33	No	No	No	No	No	No	No	No	No	No
13	1	719	1	32	No	No	No	No	No	No	No	No	No	No
14	1	532	1	24	No	No	No	No	No	No	No	No	No	No
15	1	532	1	24	No	No	No	No	No	No	No	No	No	No
16	1	373	1	17	No	No	No	No	No	No	No	No	No	No
17	1	213	1	10	No	No	No	No	No	No	No	No	No	No
18	1	213	1	10	No	No	No	No	No	No	No	No	No	No
19	1	120	1	5	No	No	No	No	No	No	No	No	No	No
20	1	67	1	3	No	No	No	No	No	No	No	No	No	No
21	1	40	1	2	No	No	No	No	No	No	No	No	No	No
22	1	14	1	1	No	No	No	No	No	No	No	No	No	No
23	1	14	1	1	No	No	No	No	No	No	No	No	No	No
24	1	14	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	1	4	8	0	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	14	52.4
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:14	0:12
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	60	14
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1405	1405
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 12: Latrobe Rd/Royal Oaks Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	366	740	165	135
2	355	718	160	131
3	348	703	157	128
4	326	659	147	120
5	289	585	130	107
6	285	577	129	105
7	282	570	127	104
8	256	518	115	95
9	253	511	114	93
10	249	503	112	92
11	216	437	97	80
12	201	407	91	74
13	198	400	89	73
14	146	296	66	54
15	146	296	66	54
16	102	207	46	38
17	59	118	26	22
18	59	118	26	22
19	33	67	15	12
20	18	37	8	7
21	11	22	5	4
22	4	7	2	1
23	4	7	2	1
24	4	7	2	1

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1106	1	165	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	2	1073	1	160	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	2	1051	1	157	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	2	985	1	147	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	2	874	1	130	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
6	2	862	1	129	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
7	2	852	1	127	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
8	2	774	1	115	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No
9	2	764	1	114	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No
10	2	752	1	112	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No
11	2	653	1	97	No	No	No	Yes	No	No	Yes	Yes	No	No
12	2	608	1	91	No	No	No	Yes	No	No	No	Yes	No	No
13	2	598	1	89	No	No	No	Yes	No	No	No	Yes	No	No
14	2	442	1	66	No	No	No	No	No	No	No	No	No	No
15	2	442	1	66	No	No	No	No	No	No	No	No	No	No
16	2	309	1	46	No	No	No	No	No	No	No	No	No	No
17	2	177	1	26	No	No	No	No	No	No	No	No	No	No
18	2	177	1	26	No	No	No	No	No	No	No	No	No	No
19	2	100	1	15	No	No	No	No	No	No	No	No	No	No
20	2	55	1	8	No	No	No	No	No	No	No	No	No	No
21	2	33	1	5	No	No	No	No	No	No	No	No	No	No
22	2	11	1	2	No	No	No	No	No	No	No	No	No	No
23	2	11	1	2	No	No	No	No	No	No	No	No	No	No
24	2	11	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					3	7	10	13	4	10	11	13	10	4

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	47.9	310.1
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2:11	11:37
Delay Condition Met	No	Yes
Volume on Minor Street Approach During Same Hour	165	135
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	1406	1406
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	Yes
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 13: Golden Foothill/Robert J Mathews

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	1043	229	844
2	1012	222	819
3	991	218	802
4	928	204	751
5	824	181	667
6	814	179	658
7	803	176	650
8	730	160	591
9	720	158	582
10	709	156	574
11	615	135	498
12	574	126	464
13	563	124	456
14	417	92	338
15	417	92	338
16	292	64	236
17	167	37	135
18	167	37	135
19	94	21	76
20	52	11	42
21	31	7	25
22	10	2	8
23	10	2	8
24	10	2	8

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1272	1	844	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1	1234	1	819	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1	1209	1	802	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1	1132	1	751	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1	1005	1	667	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1	993	1	658	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1	979	1	650	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	1	890	1	591	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	1	878	1	582	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	1	865	1	574	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	1	750	1	498	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	1	700	1	464	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
13	1	687	1	456	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
14	1	509	1	338	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No
15	1	509	1	338	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No
16	1	356	1	236	No	No	Yes	Yes	No	No	No	No	No	No
17	1	204	1	135	No	No	No	No	No	No	No	No	No	No
18	1	204	1	135	No	No	No	No	No	No	No	No	No	No
19	1	115	1	76	No	No	No	No	No	No	No	No	No	No
20	1	63	1	42	No	No	No	No	No	No	No	No	No	No
21	1	38	1	25	No	No	No	No	No	No	No	No	No	No
22	1	12	1	8	No	No	No	No	No	No	No	No	No	No
23	1	12	1	8	No	No	No	No	No	No	No	No	No	No
24	1	12	1	8	No	No	No	No	No	No	No	No	No	No
Hours Met					15	15	16	16	11	13	13	15	15	13

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	10000
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2344:26
Delay Condition Met	Yes
Volume on Minor Street Approach During Same Hour	844
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	2116
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	Yes
Warrant Met for Intersection	**Yes**

Signal Warrants Report For Intersection 14: Investment Blvd/Robert J Mathews Pkwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	80%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	424	476	177	40
2	411	462	172	39
3	403	452	168	38
4	377	424	158	36
5	335	376	140	32
6	331	371	138	31
7	326	367	136	31
8	297	333	124	28
9	293	328	122	28
10	288	324	120	27
11	250	281	104	24
12	233	262	97	22
13	229	257	96	22
14	170	190	71	16
15	170	190	71	16
16	119	133	50	11
17	68	76	28	6
18	68	76	28	6
19	38	43	16	4
20	21	24	9	2
21	13	14	5	1
22	4	5	2	0
23	4	5	2	0
24	4	5	2	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	900	1	177	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
2	1	873	1	172	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
3	1	855	1	168	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
4	1	801	1	158	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
5	1	711	1	140	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
6	1	702	1	138	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
7	1	693	1	136	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
8	1	630	1	124	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
9	1	621	1	122	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
10	1	612	1	120	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
11	1	531	1	104	No	No	No	Yes	No	No	Yes	Yes	No	No
12	1	495	1	97	No	No	No	Yes	No	No	No	Yes	No	No
13	1	486	1	96	No	No	No	Yes	No	No	No	Yes	No	No
14	1	360	1	71	No	No	No	No	No	No	No	No	No	No
15	1	360	1	71	No	No	No	No	No	No	No	No	No	No
16	1	252	1	50	No	No	No	No	No	No	No	No	No	No
17	1	144	1	28	No	No	No	No	No	No	No	No	No	No
18	1	144	1	28	No	No	No	No	No	No	No	No	No	No
19	1	81	1	16	No	No	No	No	No	No	No	No	No	No
20	1	45	1	9	No	No	No	No	No	No	No	No	No	No
21	1	27	1	5	No	No	No	No	No	No	No	No	No	No
22	1	9	1	2	No	No	No	No	No	No	No	No	No	No
23	1	9	1	2	No	No	No	No	No	No	No	No	No	No
24	1	9	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					4	10	10	13	4	10	11	13	4	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.7	11
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:43	0:07
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	177	40
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	1117	1117
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 15: Golden Foothill Pkwy/Carson Crossing Rd

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	224	433	213
2	217	420	207
3	213	411	202
4	199	385	190
5	177	342	168
6	175	338	166
7	172	333	164
8	157	303	149
9	155	299	147
10	152	294	145
11	132	255	126
12	123	238	117
13	121	234	115
14	90	173	85
15	90	173	85
16	63	121	60
17	36	69	34
18	36	69	34
19	20	39	19
20	11	22	11
21	7	13	6
22	2	4	2
23	2	4	2
24	2	4	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	657	2	213	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
2	2	637	2	207	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
3	2	624	2	202	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
4	2	584	2	190	No	Yes	Yes	Yes	No	No	No	Yes	No	No
5	2	519	2	168	No	Yes	Yes	Yes	No	No	No	Yes	No	No
6	2	513	2	166	No	Yes	Yes	Yes	No	No	No	Yes	No	No
7	2	505	2	164	No	Yes	Yes	Yes	No	No	No	Yes	No	No
8	2	460	2	149	No	No	Yes	Yes	No	No	No	No	No	No
9	2	454	2	147	No	No	Yes	Yes	No	No	No	No	No	No
10	2	446	2	145	No	No	Yes	Yes	No	No	No	No	No	No
11	2	387	2	126	No	No	No	Yes	No	No	No	No	No	No
12	2	361	2	117	No	No	No	Yes	No	No	No	No	No	No
13	2	355	2	115	No	No	No	Yes	No	No	No	No	No	No
14	2	263	2	85	No	No	No	No	No	No	No	No	No	No
15	2	263	2	85	No	No	No	No	No	No	No	No	No	No
16	2	184	2	60	No	No	No	No	No	No	No	No	No	No
17	2	105	2	34	No	No	No	No	No	No	No	No	No	No
18	2	105	2	34	No	No	No	No	No	No	No	No	No	No
19	2	59	2	19	No	No	No	No	No	No	No	No	No	No
20	2	33	2	11	No	No	No	No	No	No	No	No	No	No
21	2	20	2	6	No	No	No	No	No	No	No	No	No	No
22	2	6	2	2	No	No	No	No	No	No	No	No	No	No
23	2	6	2	2	No	No	No	No	No	No	No	No	No	No
24	2	6	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					3	7	10	13	0	0	2	7	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	18
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:03
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	213
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	870
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 16: Carson Crossing Rd/Calypso Cir.

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	383	262	413
2	372	254	401
3	364	249	392
4	341	233	368
5	303	207	326
6	299	204	322
7	295	202	318
8	268	183	289
9	264	181	285
10	260	178	281
11	226	155	244
12	211	144	227
13	207	141	223
14	153	105	165
15	153	105	165
16	107	73	116
17	61	42	66
18	61	42	66
19	34	24	37
20	19	13	21
21	11	8	12
22	4	3	4
23	4	3	4
24	4	3	4

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	645	1	413	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
2	2	626	1	401	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No
3	2	613	1	392	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No
4	2	574	1	368	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
5	2	510	1	326	No	Yes	Yes	Yes	No	No	No	Yes	No	No
6	2	503	1	322	No	Yes	Yes	Yes	No	No	No	No	No	No
7	2	497	1	318	No	Yes	Yes	Yes	No	No	No	No	No	No
8	2	451	1	289	No	No	Yes	Yes	No	No	No	No	No	No
9	2	445	1	285	No	No	Yes	Yes	No	No	No	No	No	No
10	2	438	1	281	No	No	Yes	Yes	No	No	No	No	No	No
11	2	381	1	244	No	No	No	Yes	No	No	No	No	No	No
12	2	355	1	227	No	No	No	Yes	No	No	No	No	No	No
13	2	348	1	223	No	No	No	Yes	No	No	No	No	No	No
14	2	258	1	165	No	No	No	No	No	No	No	No	No	No
15	2	258	1	165	No	No	No	No	No	No	No	No	No	No
16	2	180	1	116	No	No	No	No	No	No	No	No	No	No
17	2	103	1	66	No	No	No	No	No	No	No	No	No	No
18	2	103	1	66	No	No	No	No	No	No	No	No	No	No
19	2	58	1	37	No	No	No	No	No	No	No	No	No	No
20	2	32	1	21	No	No	No	No	No	No	No	No	No	No
21	2	19	1	12	No	No	No	No	No	No	No	No	No	No
22	2	7	1	4	No	No	No	No	No	No	No	No	No	No
23	2	7	1	4	No	No	No	No	No	No	No	No	No	No
24	2	7	1	4	No	No	No	No	No	No	No	No	No	No
Hours Met					3	7	10	13	0	0	1	5	4	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	95.5
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	10:57
Delay Condition Met	Yes
Volume on Minor Street Approach During Same Hour	413
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1058
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	Yes
Warrant Met for Intersection	**Yes**

Signal Warrants Report For Intersection 17: Carson Crossing Rd/Four Seasons Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	E
1	224	205	3
2	217	199	3
3	213	195	3
4	199	182	3
5	177	162	2
6	175	160	2
7	172	158	2
8	157	144	2
9	155	141	2
10	152	139	2
11	132	121	2
12	123	113	2
13	121	111	2
14	90	82	1
15	90	82	1
16	63	57	1
17	36	33	0
18	36	33	0
19	20	18	0
20	11	10	0
21	7	6	0
22	2	2	0
23	2	2	0
24	2	2	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	429	1	3	No	No	No	No	No	No	No	No	No	No
2	3	416	1	3	No	No	No	No	No	No	No	No	No	No
3	3	408	1	3	No	No	No	No	No	No	No	No	No	No
4	3	381	1	3	No	No	No	No	No	No	No	No	No	No
5	3	339	1	2	No	No	No	No	No	No	No	No	No	No
6	3	335	1	2	No	No	No	No	No	No	No	No	No	No
7	3	330	1	2	No	No	No	No	No	No	No	No	No	No
8	3	301	1	2	No	No	No	No	No	No	No	No	No	No
9	3	296	1	2	No	No	No	No	No	No	No	No	No	No
10	3	291	1	2	No	No	No	No	No	No	No	No	No	No
11	3	253	1	2	No	No	No	No	No	No	No	No	No	No
12	3	236	1	2	No	No	No	No	No	No	No	No	No	No
13	3	232	1	2	No	No	No	No	No	No	No	No	No	No
14	3	172	1	1	No	No	No	No	No	No	No	No	No	No
15	3	172	1	1	No	No	No	No	No	No	No	No	No	No
16	3	120	1	1	No	No	No	No	No	No	No	No	No	No
17	3	69	1	0	No	No	No	No	No	No	No	No	No	No
18	3	69	1	0	No	No	No	No	No	No	No	No	No	No
19	3	38	1	0	No	No	No	No	No	No	No	No	No	No
20	3	21	1	0	No	No	No	No	No	No	No	No	No	No
21	3	13	1	0	No	No	No	No	No	No	No	No	No	No
22	3	4	1	0	No	No	No	No	No	No	No	No	No	No
23	3	4	1	0	No	No	No	No	No	No	No	No	No	No
24	3	4	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	E
Total Stopped Delay Per Vehicle on Minor Approach (s)	7.9
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	3
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	432
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 25: New Intersection

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	550	740	0
2	534	718	0
3	523	703	0
4	490	659	0
5	435	585	0
6	429	577	0
7	424	570	0
8	385	518	0
9	379	511	0
10	374	503	0
11	325	437	0
12	303	407	0
13	297	400	0
14	220	296	0
15	220	296	0
16	154	207	0
17	88	118	0
18	88	118	0
19	50	67	0
20	28	37	0
21	17	22	0
22	6	7	0
23	6	7	0
24	6	7	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1290	1	0	No	No	No	No	No	No	No	No	No	No
2	1	1252	1	0	No	No	No	No	No	No	No	No	No	No
3	1	1226	1	0	No	No	No	No	No	No	No	No	No	No
4	1	1149	1	0	No	No	No	No	No	No	No	No	No	No
5	1	1020	1	0	No	No	No	No	No	No	No	No	No	No
6	1	1006	1	0	No	No	No	No	No	No	No	No	No	No
7	1	994	1	0	No	No	No	No	No	No	No	No	No	No
8	1	903	1	0	No	No	No	No	No	No	No	No	No	No
9	1	890	1	0	No	No	No	No	No	No	No	No	No	No
10	1	877	1	0	No	No	No	No	No	No	No	No	No	No
11	1	762	1	0	No	No	No	No	No	No	No	No	No	No
12	1	710	1	0	No	No	No	No	No	No	No	No	No	No
13	1	697	1	0	No	No	No	No	No	No	No	No	No	No
14	1	516	1	0	No	No	No	No	No	No	No	No	No	No
15	1	516	1	0	No	No	No	No	No	No	No	No	No	No
16	1	361	1	0	No	No	No	No	No	No	No	No	No	No
17	1	206	1	0	No	No	No	No	No	No	No	No	No	No
18	1	206	1	0	No	No	No	No	No	No	No	No	No	No
19	1	117	1	0	No	No	No	No	No	No	No	No	No	No
20	1	65	1	0	No	No	No	No	No	No	No	No	No	No
21	1	39	1	0	No	No	No	No	No	No	No	No	No	No
22	1	13	1	0	No	No	No	No	No	No	No	No	No	No
23	1	13	1	0	No	No	No	No	No	No	No	No	No	No
24	1	13	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	13.6
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1290
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 26: Latrobe/Wetsl-Oviatt

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	334	497	34
2	324	482	33
3	317	472	32
4	297	442	30
5	264	393	27
6	261	388	27
7	257	383	26
8	234	348	24
9	230	343	23
10	227	338	23
11	197	293	20
12	184	273	19
13	180	268	18
14	134	199	14
15	134	199	14
16	94	139	10
17	53	80	5
18	53	80	5
19	30	45	3
20	17	25	2
21	10	15	1
22	3	5	0
23	3	5	0
24	3	5	0

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Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	831	1	34	No	No	No	No	No	No	No	No	No	No
2	1	806	1	33	No	No	No	No	No	No	No	No	No	No
3	1	789	1	32	No	No	No	No	No	No	No	No	No	No
4	1	739	1	30	No	No	No	No	No	No	No	No	No	No
5	1	657	1	27	No	No	No	No	No	No	No	No	No	No
6	1	649	1	27	No	No	No	No	No	No	No	No	No	No
7	1	640	1	26	No	No	No	No	No	No	No	No	No	No
8	1	582	1	24	No	No	No	No	No	No	No	No	No	No
9	1	573	1	23	No	No	No	No	No	No	No	No	No	No
10	1	565	1	23	No	No	No	No	No	No	No	No	No	No
11	1	490	1	20	No	No	No	No	No	No	No	No	No	No
12	1	457	1	19	No	No	No	No	No	No	No	No	No	No
13	1	448	1	18	No	No	No	No	No	No	No	No	No	No
14	1	333	1	14	No	No	No	No	No	No	No	No	No	No
15	1	333	1	14	No	No	No	No	No	No	No	No	No	No
16	1	233	1	10	No	No	No	No	No	No	No	No	No	No
17	1	133	1	5	No	No	No	No	No	No	No	No	No	No
18	1	133	1	5	No	No	No	No	No	No	No	No	No	No
19	1	75	1	3	No	No	No	No	No	No	No	No	No	No
20	1	42	1	2	No	No	No	No	No	No	No	No	No	No
21	1	25	1	1	No	No	No	No	No	No	No	No	No	No
22	1	8	1	0	No	No	No	No	No	No	No	No	No	No
23	1	8	1	0	No	No	No	No	No	No	No	No	No	No
24	1	8	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.4
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:09
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	34
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	865
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 27: Latrobe/S. Shingle

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	240	365	170	62
2	233	354	165	60
3	228	347	162	59
4	214	325	151	55
5	190	288	134	49
6	187	285	133	48
7	185	281	131	48
8	168	255	119	43
9	166	252	117	43
10	163	248	116	42
11	142	215	100	37
12	132	201	94	34
13	130	197	92	33
14	96	146	68	25
15	96	146	68	25
16	67	102	48	17
17	38	58	27	10
18	38	58	27	10
19	22	33	15	6
20	12	18	9	3
21	7	11	5	2
22	2	4	2	1
23	2	4	2	1
24	2	4	2	1

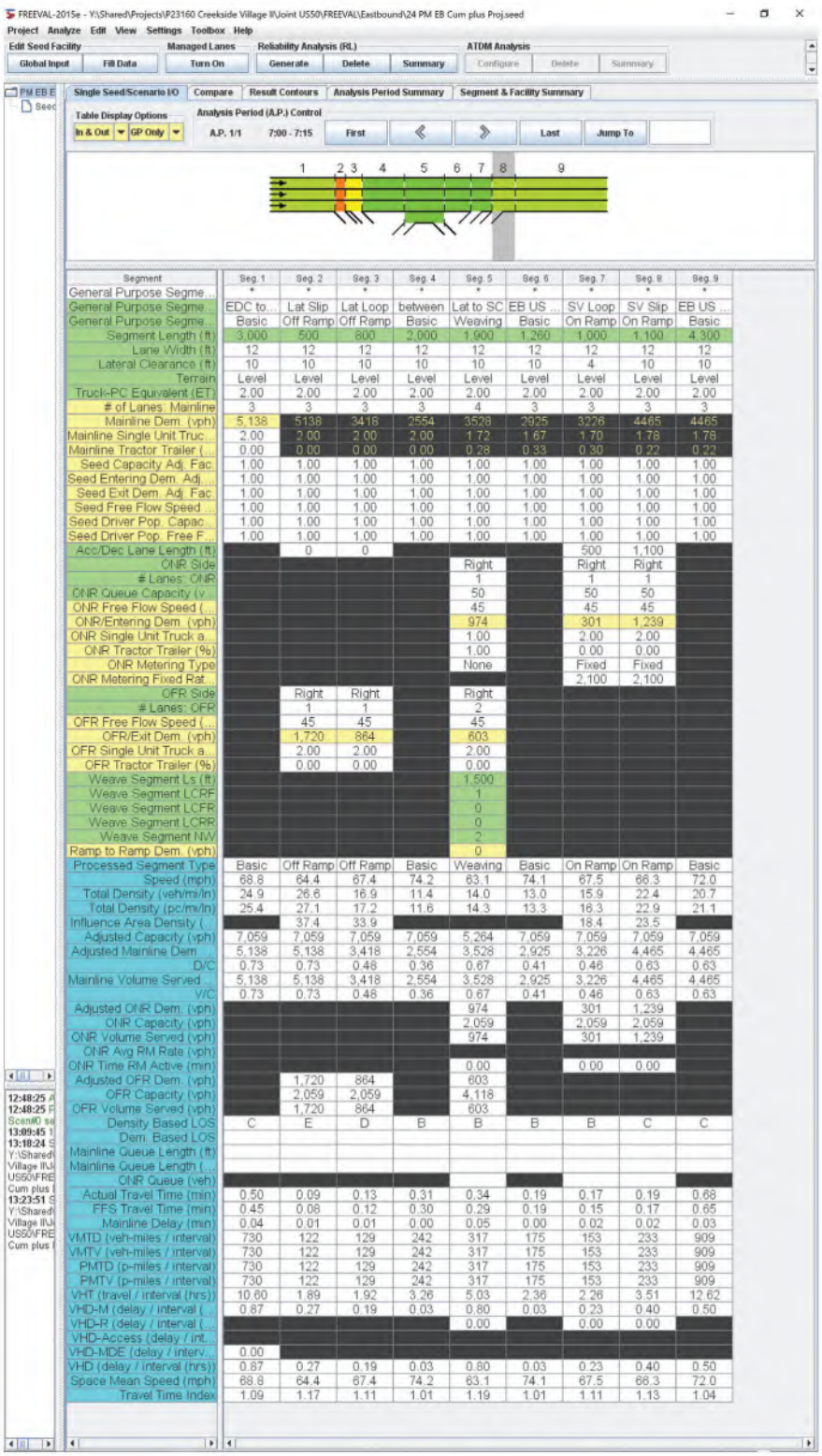
Generated with PTV VISTRO Report File: C:\...\16 2040 PM plus Proj.pdf
Version 2024 (SP 0-5)

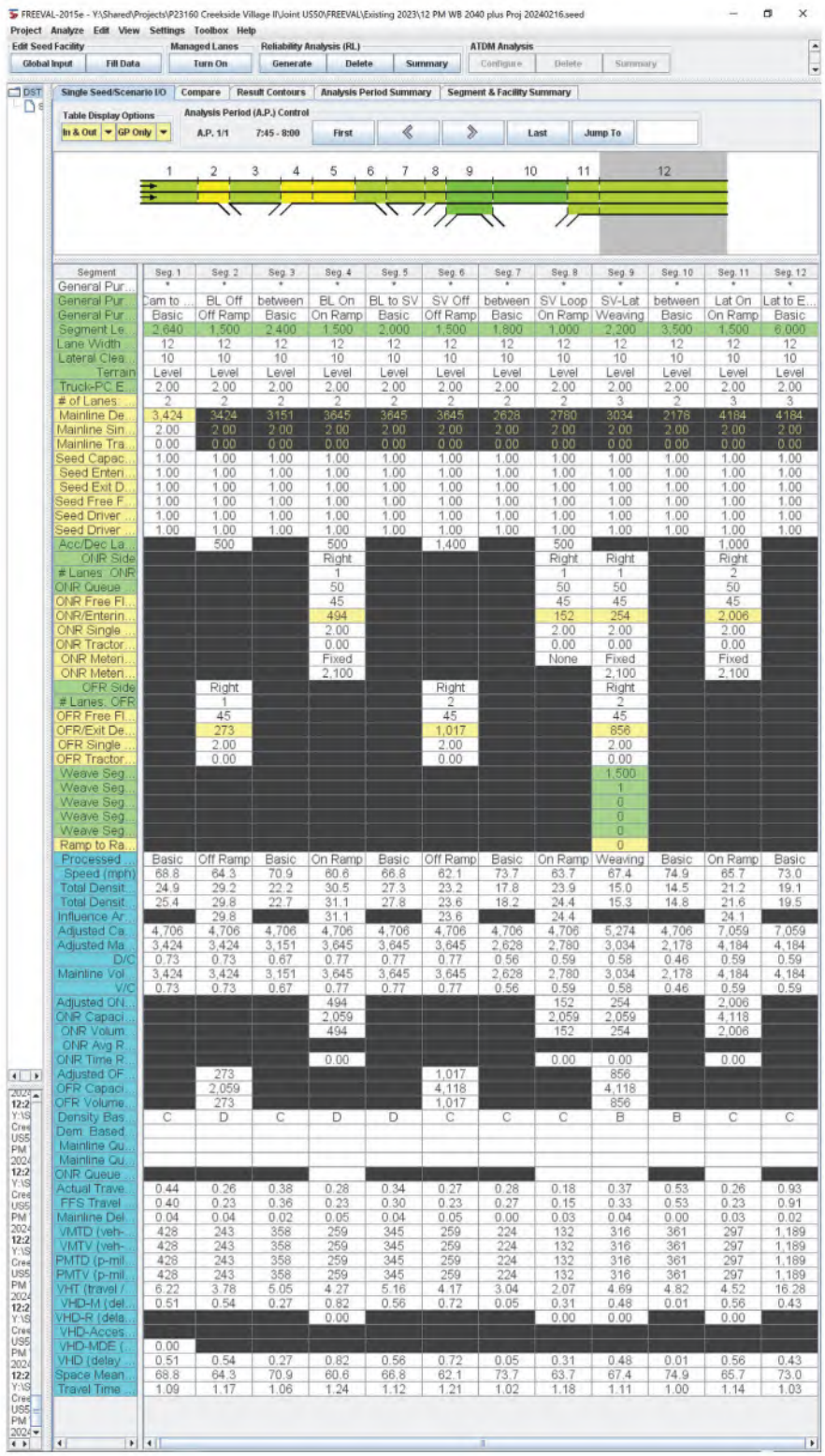
Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	605	1	170	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
2	1	587	1	165	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
3	1	575	1	162	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
4	1	539	1	151	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
5	1	478	1	134	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
6	1	472	1	133	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No
7	1	466	1	131	No	Yes	Yes	Yes	No	No	No	Yes	No	No
8	1	423	1	119	No	No	Yes	Yes	No	No	No	Yes	No	No
9	1	418	1	117	No	No	Yes	Yes	No	No	No	No	No	No
10	1	411	1	116	No	No	Yes	Yes	No	No	No	No	No	No
11	1	357	1	100	No	No	No	Yes	No	No	No	No	No	No
12	1	333	1	94	No	No	No	Yes	No	No	No	No	No	No
13	1	327	1	92	No	No	No	Yes	No	No	No	No	No	No
14	1	242	1	68	No	No	No	No	No	No	No	No	No	No
15	1	242	1	68	No	No	No	No	No	No	No	No	No	No
16	1	169	1	48	No	No	No	No	No	No	No	No	No	No
17	1	96	1	27	No	No	No	No	No	No	No	No	No	No
18	1	96	1	27	No	No	No	No	No	No	No	No	No	No
19	1	55	1	15	No	No	No	No	No	No	No	No	No	No
20	1	30	1	9	No	No	No	No	No	No	No	No	No	No
21	1	18	1	5	No	No	No	No	No	No	No	No	No	No
22	1	6	1	2	No	No	No	No	No	No	No	No	No	No
23	1	6	1	2	No	No	No	No	No	No	No	No	No	No
24	1	6	1	2	No	No	No	No	No	No	No	No	No	No
Hours Met					4	7	10	13	0	1	4	8	6	0

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	15.7	17.9
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:44	0:18
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	170	62
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	837	837
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	


FREEVAL-2015e - Y:\Shared\Projects\P23160 Creekside Village II\Joint US50\FREEVAL\Eastbound\24 PM EB Cum plus Proj.seed
Project Analyze Edit View Settings Toolbox Help
Edit Seed Facility
Global Input
Fill Data
Managed Lanes
Turn On
Reliability Analysis (RL)
Generate
Delete
Summary
ATDM Analysis
Configure
Delete
Summary
Single Seed/Scenario I/O
Compare
Result Contours
Analysis Period Summary
Segment & Facility Summary
Table Display Options
In & Out
GP Only
Analysis Period (A.P.) Control
A.P. 1/1
7:00 - 7:15
First
Last
Jump To
1 2 3 4 5 6 7 8 9
Segment
Seg. 1 Seg. 2 Seg. 3 Seg. 4 Seg. 5 Seg. 6 Seg. 7 Seg. 8 Seg. 9
EDC to... Lat Slip Lat Loop between Lat to SC EB US ... SV Loop SV Slip EB US ...
Basic Off Ramp Off Ramp Basic Weaving Basic On Ramp On Ramp Basic
Segment Length (ft) 3,000 500 800 2,000 1,900 1,260 1,000 1,100 4,300
Lane Width (ft) 12 12 12 12 12 12 12 12 12
Lateral Clearance (ft) 10 10 10 10 10 10 4 10 10
Terrain Level Level Level Level Level Level Level Level Level
Truck-PC Equivalent (ET) 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00
of Lanes: Mainline 3 3 3 3 4 3 3 3 3
Mainline Dem. (vph) 5,138 5138 3416 2554 3528 2925 3226 4465 4465
Mainline Single Unit Truc... 2.00 2.00 2.00 2.00 1.72 1.67 1.70 1.78 1.78
Mainline Tractor Trailer (... 0.00 0.00 0.00 0.00 0.28 0.33 0.30 0.22 0.22
Seed Capacity Adj. Fac. 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Entering Dem. Adj.... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Exit Dem. Adj. Fac. 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Free Flow Speed ... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Driver Pop. Capac... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Driver Pop. Free F... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Acc/Dec Lane Length (ft) 0 0 500 1,100
ONR Side Right Right Right
Lanes: ONR 1 1 1
ONR Queue Capacity (v... 50 50 50
ONR Free Flow Speed (... 45 45 45
ONR/Entering Dem. (vph) 974 301 1,239
ONR Single Unit Truck a... 1.00 2.00 2.00
ONR Tractor Trailer (%) 1.00 0.00 0.00
ONR Metering Type None Fixed Fixed
ONR Metering Fixed Rat... 2,100 2,100
OFR Side Right Right Right
Lanes: OFR 1 1 2
OFR Free Flow Speed (... 45 45 45
OFR/Exit Dem. (vph) 1,720 864 603
OFR Single Unit Truck a... 2.00 2.00 2.00
OFR Tractor Trailer (%) 0.00 0.00 0.00
Weave Segment Ls (ft) 1,500
Weave Segment LCRF 1
Weave Segment LCFR 0
Weave Segment LCRR 0
Weave Segment NW 2
Ramp to Ramp Dem. (vph) 0
Processed Segment Type Basic Off Ramp Off Ramp Basic Weaving Basic On Ramp On Ramp Basic
Speed (mph) 68.8 64.4 67.4 74.2 63.1 74.1 67.5 66.3 72.0
Total Density (veh/mi/ln) 24.9 26.6 16.9 11.4 14.0 13.0 15.9 22.4 20.7
Total Density (pc/mi/ln) 25.4 27.1 17.2 11.6 14.3 13.3 16.3 22.9 21.1
Influence Area Density (... 37.4 33.9 18.4 23.5
Adjusted Capacity (vph) 7,059 7,059 7,059 7,059 5,264 7,059 7,059 7,059 7,059
Adjusted Mainline Dem... 5,138 5,138 3,418 2,554 3,528 2,925 3,226 4,465 4,465
D/C 0.73 0.73 0.48 0.36 0.67 0.41 0.46 0.63 0.63
Mainline Volume Served ... 5,138 5,138 3,418 2,554 3,528 2,925 3,226 4,465 4,465
V/C 0.73 0.73 0.48 0.36 0.67 0.41 0.46 0.63 0.63
Adjusted ONR Dem. (vph) 974 301 1,239
ONR Capacity (vph) 2,059 2,059 2,059
ONR Volume Served (vph) 974 301 1,239
ONR Avg RM Rate (vph)
ONR Time RM Active (min) 0.00 0.00 0.00
Adjusted OFR Dem. (vph) 1,720 864 603
OFR Capacity (vph) 2,059 2,059 4,118
OFR Volume Served (vph) 1,720 864 603
Density Based LOS C E D B B B B C C
Dem. Based LOS
Mainline Queue Length (ft)
Mainline Queue Length (... 0
ONR Queue (veh)
Actual Travel Time (min) 0.50 0.09 0.13 0.31 0.34 0.19 0.17 0.19 0.68
FFS Travel Time (min) 0.45 0.08 0.12 0.30 0.29 0.19 0.15 0.17 0.65
Mainline Delay (min) 0.04 0.01 0.01 0.00 0.05 0.00 0.02 0.02 0.03
VMTD (veh-miles / interval) 730 122 129 242 317 175 153 233 909
VMTV (veh-miles / interval) 730 122 129 242 317 175 153 233 909
PMTD (p-miles / interval) 730 122 129 242 317 175 153 233 909
PMTV (p-miles / interval) 730 122 129 242 317 175 153 233 909
VHT (travel / interval (hrs)) 10.60 1.89 1.92 3.26 5.03 2.36 2.26 3.51 12.62
VHD-M (delay / interval (... 0.87 0.27 0.19 0.03 0.80 0.03 0.23 0.40 0.50
VHD-R (delay / interval (... 0.00
VHD-Access (delay / int...
VHD-MDE (delay / interv... 0.00
VHD (delay / interval (hrs)) 0.87 0.27 0.19 0.03 0.80 0.03 0.23 0.40 0.50
Space Mean Speed (mph) 68.8 64.4 67.4 74.2 63.1 74.1 67.5 66.3 72.0
Travel Time Index 1.09 1.17 1.11 1.01 1.19 1.01 1.11 1.13 1.04


FREEVAL-2015e - Y:\Shared\Projects\P23160 Creekside Village II\Joint US50\FREEVAL\Existing 2023\12 PM WB 2040 plus Proj 20240216.seed
Project Analyze Edit View Settings Toolbox Help
Edit Seed Facility
Global Input
Fill Data
Managed Lanes
Turn On
Reliability Analysis (RL)
Generate
Delete
Summary
ATDM Analysis
Configure
Delete
Summary
Single Seed/Scenario I/O
Compare
Result Contours
Analysis Period Summary
Segment & Facility Summary
Table Display Options
In & Out
GP Only
Analysis Period (A.P.) Control
A.P. 1/1
7:45 - 8:00
First
Last
Jump To
1 2 3 4 5 6 7 8 9 10 11 12
Segment
Seg. 1 Seg. 2 Seg. 3 Seg. 4 Seg. 5 Seg. 6 Seg. 7 Seg. 8 Seg. 9 Seg. 10 Seg. 11 Seg. 12
Cam to ... BL Off between BL On BL to SV SV Off between SV Loop SV-Lat between Lat On Lat to E...
Basic Off Ramp Basic On Ramp Basic Off Ramp Basic On Ramp Weaving Basic On Ramp Basic
Segment Le... 2,640 1,500 2,400 1,500 2,000 1,500 1,800 1,000 2,200 3,500 1,500 6,000
Lane Width ... 12 12 12 12 12 12 12 12 12 12 12 12
Lateral Clea... 10 10 10 10 10 10 10 10 10 10 10 10
Terrain Level Level Level Level Level Level Level Level Level Level Level Level
Truck-PC E... 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00
of Lanes: ... 2 2 2 2 2 2 2 2 3 2 3 3
Mainline De... 3,424 3424 3151 3645 3645 3645 2628 2780 3034 2178 4184 4184
Mainline Sin... 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00
Mainline Tra... 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
Seed Capac... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Enteri... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Exit D... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Free F... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Driver ... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Seed Driver ... 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Acc/Dec La... 500 500 1,400 500 1,000
ONR Side Right Right Right Right
Lanes: ONR 1 1 2
ONR Queue ... 50 50 50 50
ONR Free Fl... 45 45 45 45
ONR/Enterin... 494 152 254 2,006
ONR Single ... 2.00 2.00 2.00 2.00
ONR Tractor... 0.00 0.00 0.00 0.00
ONR Meteri... Fixed None Fixed Fixed
ONR Meteri... 2,100 2,100 2,100
OFR Side Right Right Right
Lanes: OFR 1 2 2
OFR Free Fl... 45 45 45
OFR/Exit De... 273 1,017 856
OFR Single ... 2.00 2.00 2.00
OFR Tractor... 0.00 0.00 0.00
Weave Seg... 1,500
Weave Seg... 1
Weave Seg... 0
Weave Seg... 0
Weave Seg... 0
Ramp to Ra... 0
Processed ... Basic Off Ramp Basic On Ramp Basic Off Ramp Basic On Ramp Weaving Basic On Ramp Basic
Speed (mph) 68.8 64.3 70.9 60.6 66.8 62.1 73.7 63.7 67.4 74.9 65.7 73.0
Total Densit... 24.9 29.2 22.2 30.5 27.3 23.2 17.8 23.9 15.0 14.5 21.2 19.1
Total Densit... 25.4 29.8 22.7 31.1 27.8 23.6 18.2 24.4 15.3 14.8 21.6 19.5
Influence Ar... 29.8 23.6 24.4 24.1
Adjusted Ca... 4,706 4,706 4,706 4,706 4,706 4,706 4,706 4,706 5,274 4,706 7,059 7,059
Adjusted Ma... 3,424 3,424 3,151 3,645 3,645 3,645 2,628 2,780 3,034 2,178 4,184 4,184
D/C 0.73 0.73 0.67 0.77 0.77 0.77 0.56 0.59 0.58 0.46 0.59 0.59
Mainline Vol... 3,424 3,424 3,151 3,645 3,645 3,645 2,628 2,780 3,034 2,178 4,184 4,184
V/C 0.73 0.73 0.67 0.77 0.77 0.77 0.56 0.59 0.58 0.46 0.59 0.59
Adjusted ON... 494 152 254 2,006
ONR Capaci... 2,059 2,059 2,059 4,118
ONR Volum... 494 152 254 2,006
ONR Avg R...
ONR Time R... 0.00 0.00 0.00
Adjusted OF... 273 1,017 856
OFR Capaci... 2,059 4,118 4,118
OFR Volume... 273 1,017 856
Density Bas... C D C D D C C C B C C
Dem. Based...
Mainline Qu...
Mainline Qu... 0
ONR Queue ...
Actual Trave... 0.44 0.26 0.38 0.28 0.34 0.27 0.28 0.18 0.37 0.53 0.26 0.93
FFS Travel ... 0.40 0.23 0.36 0.23 0.30 0.23 0.27 0.15 0.33 0.53 0.23 0.91
Mainline Del... 0.04 0.04 0.02 0.05 0.04 0.05 0.00 0.03 0.04 0.00 0.03 0.02
VMTD (veh-... 428 243 358 259 345 259 224 132 316 361 297 1,189
VMTV (veh-... 428 243 358 259 345 259 224 132 316 361 297 1,189
PMTD (p-mil... 428 243 358 259 345 259 224 132 316 361 297 1,189
PMTV (p-mil... 428 243 358 259 345 259 224 132 316 361 297 1,189
VHT (travel /... 6.22 3.78 5.05 4.27 5.16 4.17 3.04 2.07 4.69 4.82 4.52 16.28
VHD-M (del... 0.51 0.54 0.27 0.82 0.56 0.72 0.05 0.31 0.48 0.01 0.56 0.43
VHD-R (dela... 0.00 0.00 0.00
VHD-Acces...
VHD-MDE (... 0.00
VHD (delay ... 0.51 0.54 0.27 0.82 0.56 0.72 0.05 0.31 0.48 0.01 0.56 0.43
Space Mean... 68.8 64.3 70.9 60.6 66.8 62.1 73.7 63.7 67.4 74.9 65.7 73.0
Travel Time ... 1.09 1.17 1.06 1.24 1.12 1.21 1.02 1.18 1.11 1.00 1.14 1.03

Cumulative AM plus abated Project

Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	11.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.815

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	160.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	122	582	265	358	277	109
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	44	0	0	155	21	0
Site-Generated Trips [veh/h]	-40	171	104	-240	-72	-12
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	82	0	29
Total Hourly Volume [veh/h]	126	753	369	191	226	68
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	209	103	53	63	19
Total Analysis Volume [veh/h]	140	837	410	212	251	76
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Version 2024 (SP 0-5)

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	86
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	12	56	40	0	20	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	62	46	0	24	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C
C, Calculated Cycle Length [s]	36	36	36	36	36	36
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	4	20	12	12	6	6
g / C, Green / Cycle	0.11	0.56	0.34	0.34	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.08	0.45	0.22	0.13	0.09	0.09
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1684
c, Capacity [veh/h]	188	1049	643	547	286	271
d1, Uniform Delay [s]	15.60	6.27	9.91	8.92	13.98	13.99
k, delay calibration	0.04	0.15	0.15	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.18	2.04	1.50	0.64	1.90	2.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.80	0.64	0.39	0.59	0.59
d, Delay for Lane Group [s/veh]	17.78	8.30	11.40	9.56	15.88	16.02
Lane Group LOS	B	A	B	A	B	B
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.86	1.13	1.59	0.71	1.16	1.12
50th-Percentile Queue Length [ft/ln]	21.41	28.24	39.73	17.82	29.11	27.93
95th-Percentile Queue Length [veh/ln]	1.54	2.03	2.86	1.28	2.10	2.01
95th-Percentile Queue Length [ft/ln]	38.53	50.83	71.51	32.07	52.39	50.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	17.78	8.30	11.40	9.56	15.93	16.02
Movement LOS	B	A	B	A	B	B
d_A, Approach Delay [s/veh]	9.66		10.78		15.95	
Approach LOS	A		B		B	
d_I, Intersection Delay [s/veh]	11.09					
Intersection LOS	B					
Intersection V/C	0.815					

Emissions

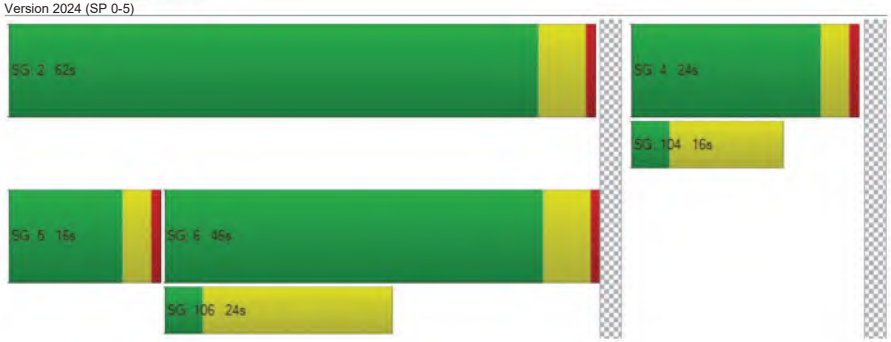
Vehicle Miles Traveled [mph]	17.27	103.27	236.78	122.44	39.37	37.44
Stops [stops/h]	86.00	113.44	159.59	71.57	116.93	112.20
Fuel consumption [US gal/h]	2.68	6.98	11.84	5.84	2.81	2.68
CO [g/h]	187.46	487.62	827.38	408.06	196.29	187.39
NOx [g/h]	36.47	94.87	160.98	79.39	38.19	36.46
VOC [g/h]	43.44	113.01	191.75	94.57	45.49	43.43

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	10.82	0.00	10.82
I_p,int, Pedestrian LOS Score for Intersectio	2.782	0.000	2.191
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	3125	2232	1116
d_b, Bicycle Delay [s]	5.67	0.24	3.50
I_b,int, Bicycle LOS Score for Intersection	3.172	2.721	2.147
Bicycle LOS	C	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Signalized	Delay (sec / veh):	28.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.815

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	422	48	74	286	0	0	0	0	12	0	250
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	-25	0	0	-4	64	153	2	17	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	31	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	14	0	0	0	0	0	0	0	14
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	397	48	88	282	95	153	2	17	12	1	264
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	107	13	24	76	26	41	1	5	3	0	71
Total Analysis Volume [veh/h]	12	427	52	95	303	102	165	2	18	13	1	284
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	11	0	0	18	0	0	14	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	9	9	0	9	9	0	0	9	0	0	9	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Calculated Cycle Length [s]	69	69	69	69	69	69
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	22	5	26	10	16
g / C, Green / Cycle	0.01	0.32	0.07	0.38	0.14	0.24
(v / s)_i Volume / Saturation Flow Rate	0.01	0.29	0.06	0.25	0.12	0.21
s, saturation flow rate [veh/h]	1603	1651	1603	1611	1585	1438
c, Capacity [veh/h]	24	523	120	606	225	339
d1, Uniform Delay [s]	33.87	22.80	31.52	18.00	28.86	25.54
k, delay calibration	0.04	0.16	0.04	0.08	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.83	9.52	4.38	0.96	2.83	2.96
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.92	0.79	0.67	0.82	0.88
d, Delay for Lane Group [s/veh]	39.70	32.32	35.90	18.96	31.69	28.50
Lane Group LOS	D	C	D	B	C	C
Critical Lane Group	No	Yes	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.22	7.52	1.53	4.47	3.02	4.71
50th-Percentile Queue Length [ft/ln]	5.47	188.10	38.33	111.63	75.56	117.78
95th-Percentile Queue Length [veh/ln]	0.39	12.02	2.76	7.93	5.44	8.27
95th-Percentile Queue Length [ft/ln]	9.85	300.56	69.00	198.26	136.00	206.77

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.70	32.32	32.32	35.90	18.96	18.96	31.69	31.69	31.69	28.50	28.50	28.50
Movement LOS	D	C	C	D	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	32.50			22.18			31.69			28.50		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	28.09											
Intersection LOS	C											
Intersection V/C	0.815											

Emissions

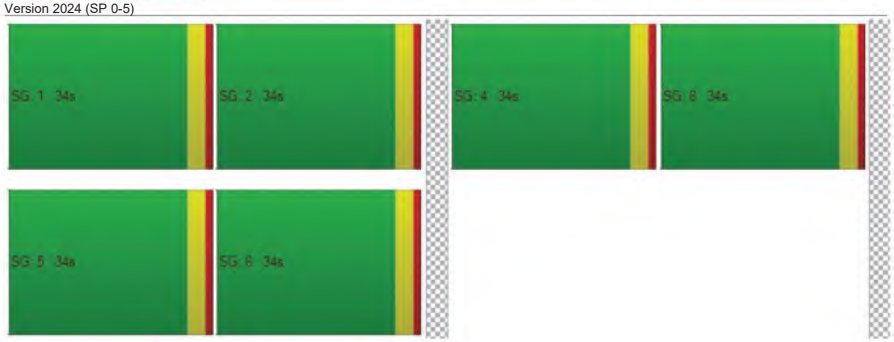
Vehicle Miles Traveled [mph]	4.07	162.50	9.63	41.06	10.06	251.57
Stops [stops/h]	11.41	392.00	79.89	232.63	157.46	245.45
Fuel consumption [US gal/h]	0.45	15.87	2.50	7.26	2.48	13.44
CO [g/h]	31.11	1109.15	174.75	507.26	173.17	939.50
NOx [g/h]	6.05	215.80	34.00	98.69	33.69	182.79
VOC [g/h]	7.21	257.06	40.50	117.56	40.13	217.74

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	868	868	868	868
d_b, Bicycle Delay [s]	11.06	11.06	11.06	11.06
I_b,int, Bicycle LOS Score for Intersection	2.370	2.385	1.865	2.051
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Cumulative PM plus abated Project

Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	19.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.797

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	160.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	300.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

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Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	171	325	456	129	410	157
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	47	209	0
Site-Generated Trips [veh/h]	-19	136	195	-125	-239	-37
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	15	0	36
Total Hourly Volume [veh/h]	152	461	651	36	380	84
Peak Hour Factor	0.9000	0.9000	0.9000	0.7900	0.7900	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	128	181	11	120	23
Total Analysis Volume [veh/h]	169	512	723	46	481	93
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	164
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	46	94	44	0	60	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0	0	4	0	4	0
Pedestrian Clearance [s]	0	0	20	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	50	100	50	0	64	0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	R	L	C
C, Calculated Cycle Length [s]	63	63	63	63	63	63
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	8	40	28	28	14	14
g / C, Green / Cycle	0.12	0.63	0.44	0.44	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.09	0.27	0.39	0.03	0.16	0.16
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1713
c, Capacity [veh/h]	215	1175	832	707	381	366
d1, Uniform Delay [s]	27.12	6.03	15.96	10.08	23.47	23.48
k, delay calibration	0.04	0.15	0.16	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.40	0.36	4.34	0.05	3.26	3.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.44	0.87	0.07	0.77	0.77
d, Delay for Lane Group [s/veh]	29.53	6.40	20.29	10.13	26.74	26.89
Lane Group LOS	C	A	C	B	C	C
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.28	1.90	7.79	0.28	4.18	4.04
50th-Percentile Queue Length [ft/ln]	57.12	47.45	194.78	7.09	104.52	101.01
95th-Percentile Queue Length [veh/ln]	4.11	3.42	12.37	0.51	7.53	7.27
95th-Percentile Queue Length [ft/ln]	102.81	85.41	309.22	12.76	188.13	181.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.53	6.40	20.29	10.13	26.80	26.89
Movement LOS	C	A	C	B	C	C
d_A, Approach Delay [s/veh]	12.14		19.69		26.81	
Approach LOS	B		B		C	
d_I, Intersection Delay [s/veh]	19.17					
Intersection LOS	B					
Intersection V/C	0.797					

Emissions

Vehicle Miles Traveled [mph]	20.85	63.17	417.55	26.57	68.68	66.13
Stops [stops/h]	129.72	107.77	442.37	16.10	237.37	229.41
Fuel consumption [US gal/h]	4.12	4.78	25.17	1.28	5.73	5.53
CO [g/h]	288.17	334.22	1759.42	89.65	400.54	386.59
NOx [g/h]	56.07	65.03	342.32	17.44	77.93	75.22
VOC [g/h]	66.79	77.46	407.76	20.78	92.83	89.60

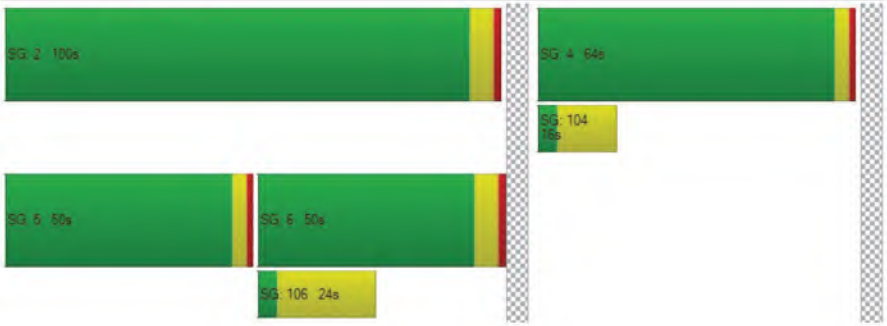
Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.21	0.00	24.21
l_p,int, Pedestrian LOS Score for Intersectio	2.839	0.000	2.250
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	2965	1388	1893
d_b, Bicycle Delay [s]	7.38	2.97	0.09
l_b,int, Bicycle LOS Score for Intersection	2.683	2.853	2.566
Bicycle LOS	B	C	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 12: Latrobe Rd/Royal Oaks Dr

Control Type:	Signalized	Delay (sec / veh):	24.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.793

Intersection Setup

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	320.00	100.00	100.00	320.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00			55.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

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Volumes

Name	Latrobe Rd			Latrobe Rd						Royal Oaks Dr		
Base Volume Input [veh/h]	0	334	21	144	446	0	0	0	0	59	0	104
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	20	-9	0	0	-21	161	121	0	14	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	10	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	325	21	144	425	171	121	0	14	59	2	104
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	87	6	39	114	46	33	0	4	16	1	28
Total Analysis Volume [veh/h]	22	349	23	155	457	184	130	0	15	63	2	112
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Free Running (No Pattern)
Coordination Type	*Free Running*
Actuation Type	*Fully actuated*
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	11	0	0	18	0	0	14	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0
Advanced Detector Location [ft]	245.0	245.0	0.0	245.0	245.0	0.0	0.0	245.0	0.0	0.0	245.0	0.0
Advanced Detector Length [ft]	6.0	6.0	0.0	6.0	6.0	0.0	0.0	6.0	0.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	9	9	0	9	9	0	0	9	0	0	9	0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Calculated Cycle Length [s]	56	56	56	56	56	56
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	19	7	24	7	8
g / C, Green / Cycle	0.03	0.33	0.12	0.43	0.12	0.15
(v / s)_i Volume / Saturation Flow Rate	0.01	0.22	0.10	0.40	0.09	0.12
s, saturation flow rate [veh/h]	1603	1665	1603	1602	1583	1490
c, Capacity [veh/h]	42	556	195	688	183	218
d1, Uniform Delay [s]	27.20	16.16	24.16	15.35	24.36	23.40
k, delay calibration	0.04	0.04	0.04	0.23	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.78	0.52	2.79	11.90	2.94	2.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.53	0.67	0.80	0.93	0.79	0.81
d, Delay for Lane Group [s/veh]	30.99	16.69	26.95	27.25	27.30	26.18
Lane Group LOS	C	B	C	C	C	C
Critical Lane Group	Yes	No	No	Yes	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.29	3.16	1.82	7.54	1.90	2.28
50th-Percentile Queue Length [ft/ln]	7.37	78.90	45.59	188.41	47.55	56.92
95th-Percentile Queue Length [veh/ln]	0.53	5.68	3.28	12.04	3.42	4.10
95th-Percentile Queue Length [ft/ln]	13.26	142.03	82.07	300.97	85.59	102.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.99	16.69	16.69	26.95	27.25	27.25	27.30	27.30	27.30	26.18	26.18	26.18
Movement LOS	C	B	B	C	C	C	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	17.48			27.19			27.30			26.18		
Approach LOS	B			C			C			C		
d_I, Intersection Delay [s/veh]	24.55											
Intersection LOS	C											
Intersection V/C	0.793											

Emissions

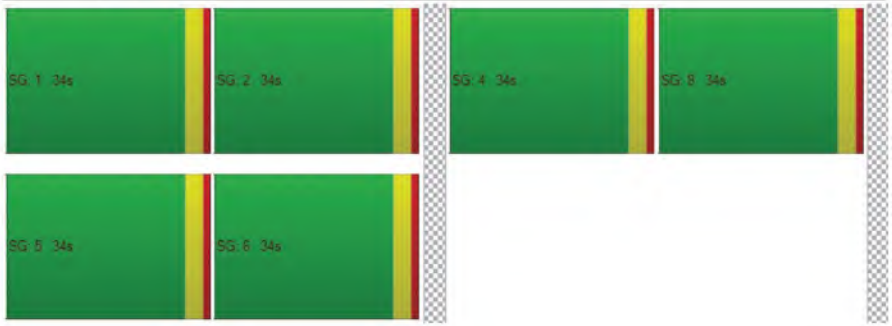
Vehicle Miles Traveled [mph]	7.46	126.15	15.73	65.03	7.89	149.43
Stops [stops/h]	18.80	201.41	116.38	480.93	121.37	145.31
Fuel consumption [US gal/h]	0.74	9.22	3.54	14.66	1.80	7.90
CO [g/h]	51.55	644.77	247.30	1024.94	125.89	552.01
NOx [g/h]	10.03	125.45	48.11	199.42	24.49	107.40
VOC [g/h]	11.95	149.43	57.31	237.54	29.18	127.93

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00		0.00		0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00		0.00		0.00	0.00
d_p, Pedestrian Delay [s]	0.00		0.00		0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000		0.000		0.000	0.000
Crosswalk LOS	F		F		F	F
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1064		1064		1064	1064
d_b, Bicycle Delay [s]	6.18		6.18		6.18	6.18
l_b,int, Bicycle LOS Score for Intersection	2.210		2.873		1.799	1.852
Bicycle LOS	B		C		A	A

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



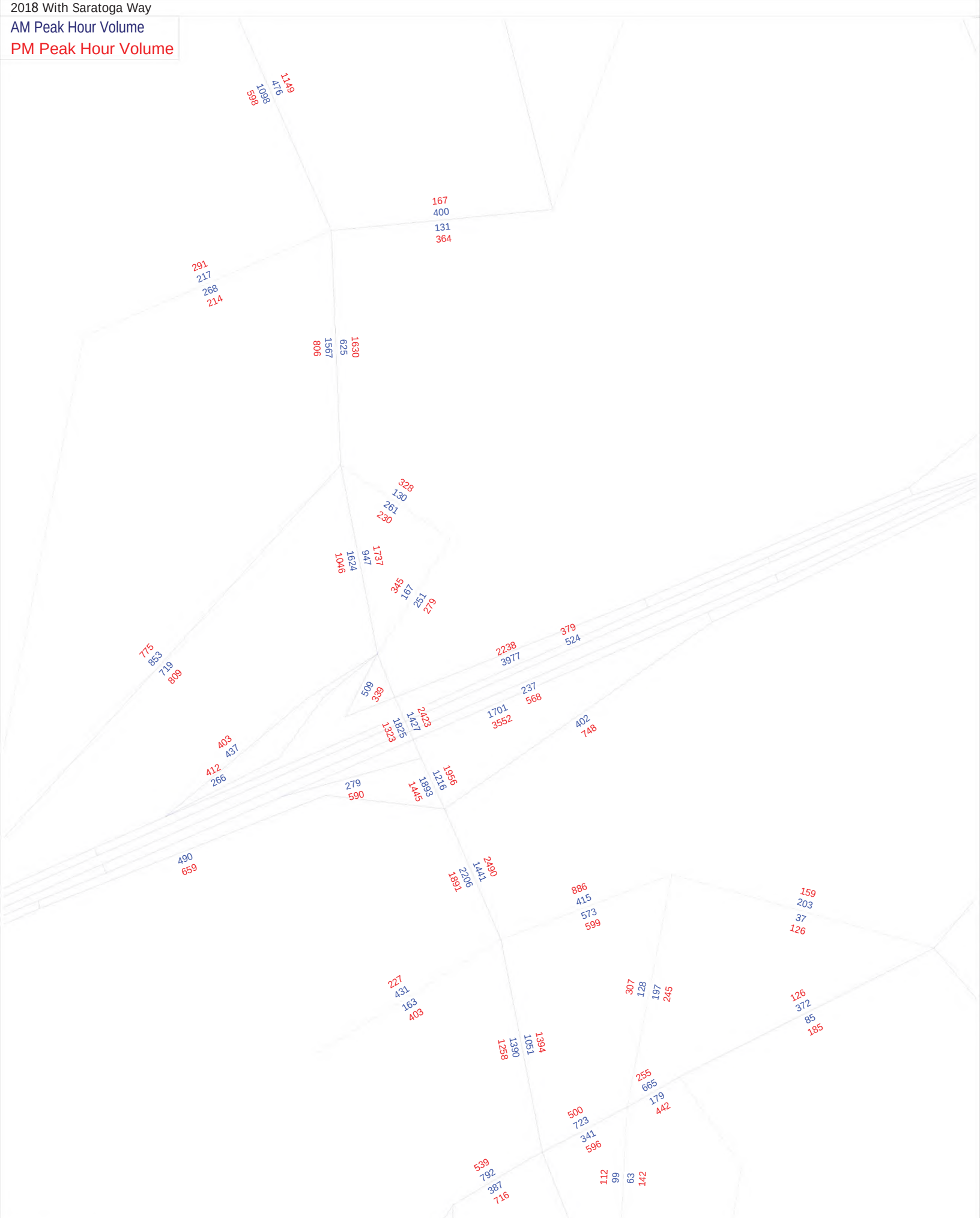
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Appendix C: Travel Demand Model Plots

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AM Peak Hour Volume

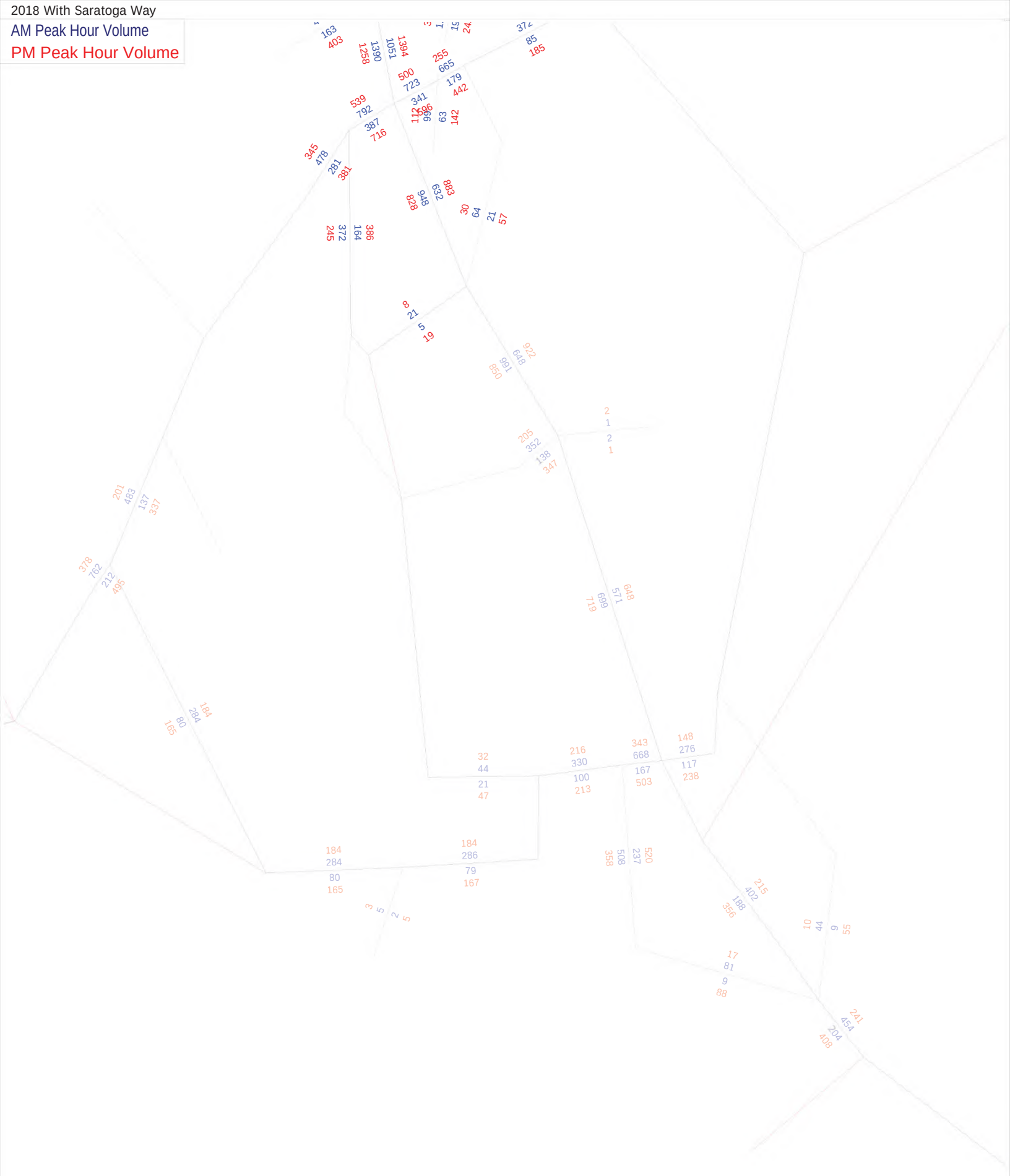
PM Peak Hour Volume



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AM Peak Hour Volume

PM Peak Hour Volume



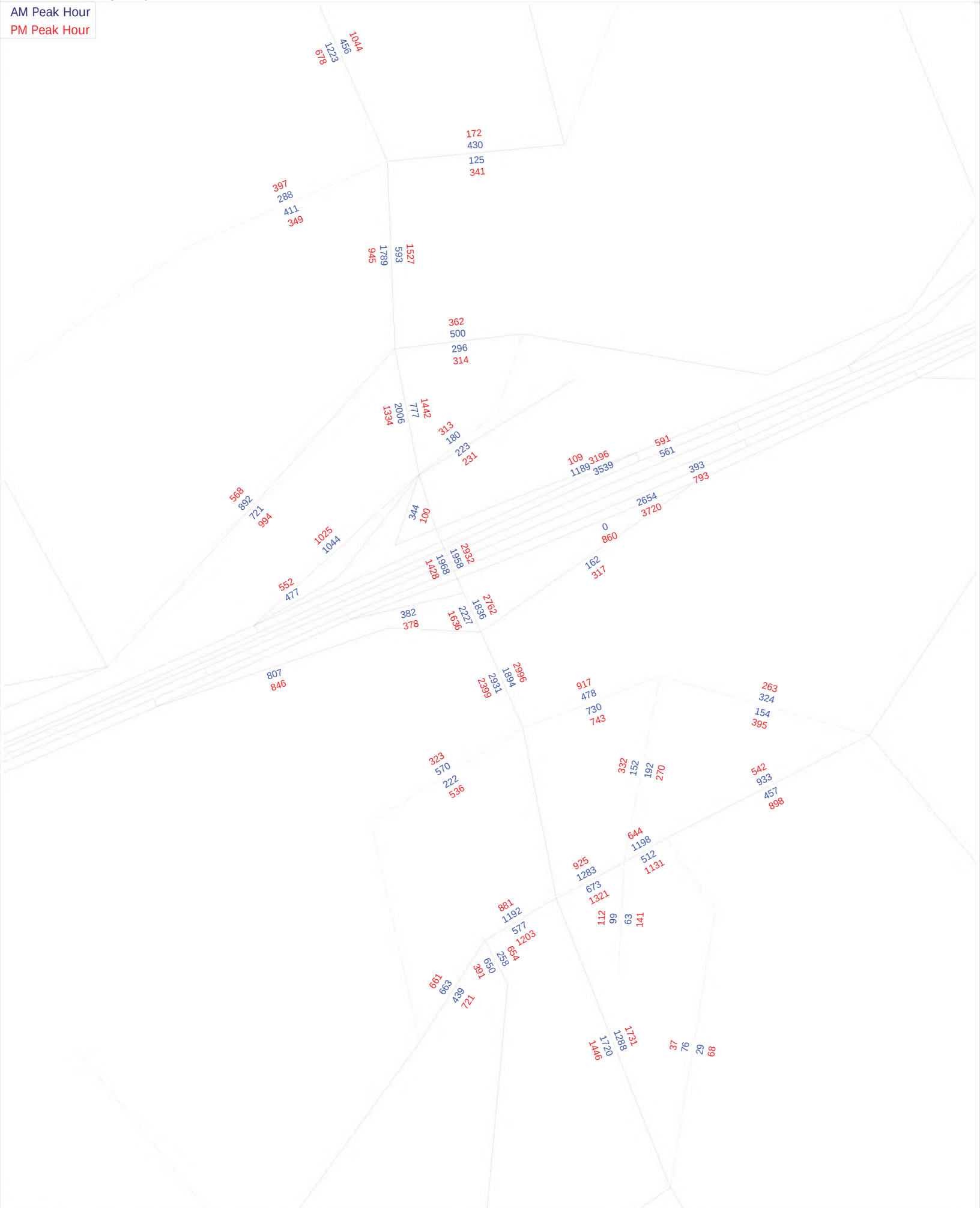
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AM Peak Hour Volume
PM Peak Hour Volume



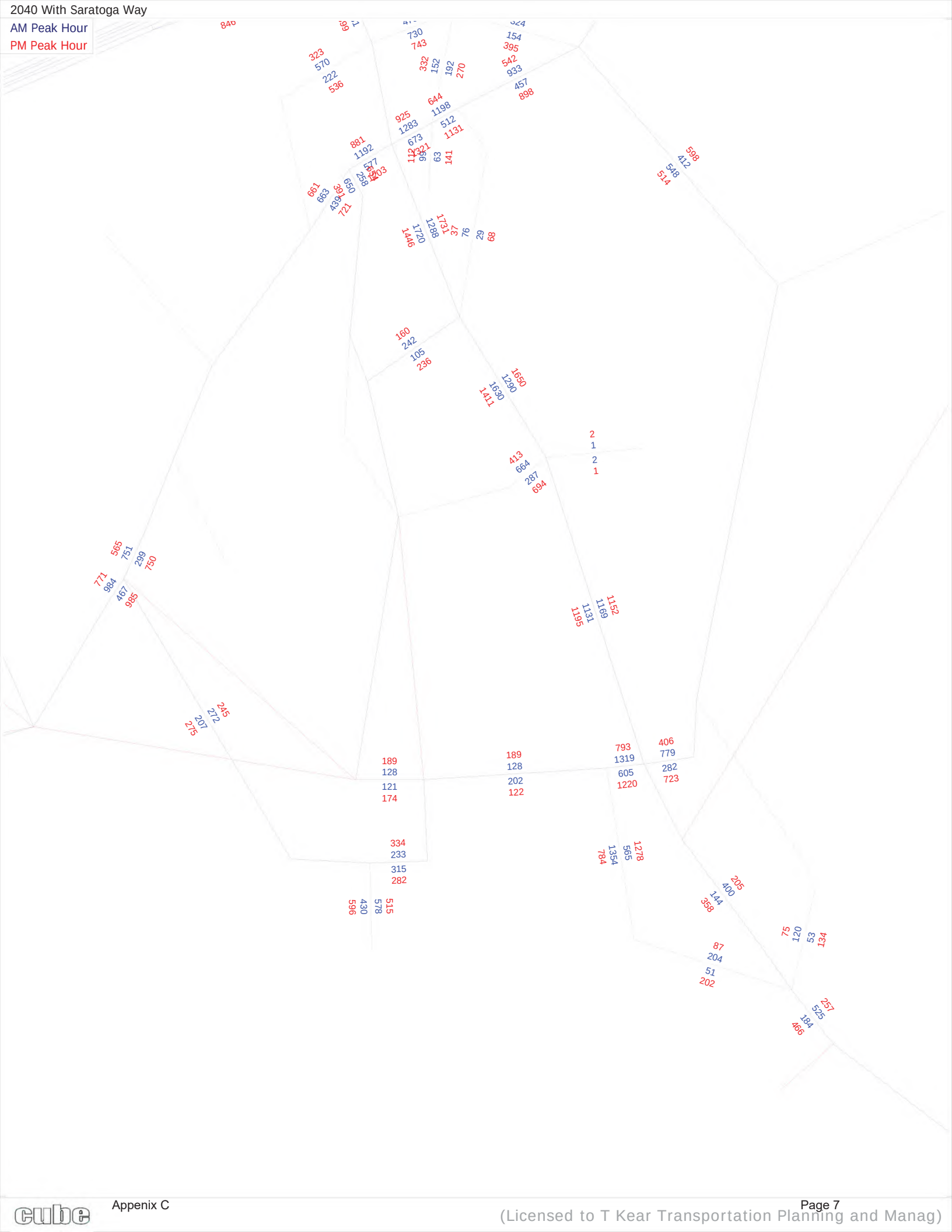
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AM Peak Hour
PM Peak Hour



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AM Peak Hour
PM Peak Hour



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AM Peak Hour
PM Peak Hour



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Appendix D: NCHRP 255 Calculations

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INTERSECTIONNUMBER	NLA	NLD	ELA	ELD	SLA	SLD	WLA	WLD
1	1723	918	511	270	1200	2146	214	314
2	2145	1199	106	305	1483	2301	875	804
3	2302	1484	293	299	2492	2247	1164	2221
4	2247	2492	528	980	2424	2782	1055	0
5	2782	2424	635	733	2104	2060	109	413
6	2060	2104	757	588	1774	1919	738	718
7	1919	1774	24	24	1577	1452	237	507
8	1452	1577	0	0	1542	1157	100	360
9	1157	1542	565	256	821	527	480	698
10	527	821	0	0	587	309	317	301
11	309	587	39	14	548	295	0	0
12	295	548	171	73	419	264	0	0
13	0	0	698	480	328	561	210	195
14	486	87	297	102	104	668	11	41
15	0	0	195	190	139	80	95	159
16	0	0	116	121	88	96	109	96
17	124	85	36	20	77	132	0	0
18	491	311	83	124	317	512	75	19
19	718	738	242	447	664	439	0	0
20	317	356	765	565	84	76	588	757
21	237	528	1077	605	401	382	565	765
22	730	610	4	4	605	1077	358	6
23	917	471	0	0	610	730	189	515
24	813	562	863	0	471	917	0	668
25	295	548	0	0	548	295	0	0
26	264	419	0	0	415	226	4	38
27	188	320	147	165	285	164	116	87
501	1188	1824	356	453	2258	1434	107	198
502	1430	2254	437	280	2133	1652	933	747
503	1657	2138	469	486	2978	1718	726	1488
504	1718	2978	854	926	2733	2884	1483	0
505	2884	2733	701	780	2058	1961	399	568
506	1961	2058	751	941	1950	1805	771	629
507	1805	1950	24	62	1327	1387	653	410
508	1387	1327	0	0	1179	1320	257	176
509	1320	1179	258	369	694	485	638	877
510	485	694	0	0	429	524	457	153
511	524	429	51	25	380	501	0	0
512	501	380	95	110	327	433	0	0
513	0	0	877	638	584	747	223	299
514	366	256	272	107	284	549	58	68
515	0	0	299	223	130	211	245	240
516	0	0	211	130	55	75	125	186
517	152	177	3	39	186	125	0	0
518	474	442	177	152	498	568	29	16
519	629	771	477	249	603	689	0	0
520	429	399	720	899	112	153	941	751
521	388	285	975	1151	408	517	902	720

522 643 1146 1 0 1151 975 336 10
523 787 1033 0 0 1146 643 566 823
524 589 1079 604 0 1033 787 0 360
525 501 380 0 0 380 501 0 0
526 461 327 0 0 300 441 27 20
527 362 274 136 140 250 334 44 44

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| Turning Movement Volumes Report   01:34p Aug 31, 2023 |
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Counts Data

	Southbound			Westbound			Northbound			Eastbound	
Node	R	T	L	R	T	L	R	T	L	R	T	L
1	40	1615	68	108	57	346	191	792	217	185	11	18
2	391	1608	146	82	13	11	98	985	400	682	61	132
3	948	1285	69	55	92	146	138	1173	1181	816	92	256
4	0	1727	520	528	0	0	460	1964	0	1055	0	0
5	322	1970	490	535	30	70	235	1808	61	20	8	81
6	407	1561	92	232	227	298	173	1517	84	60	323	355
7	462	1439	18	14	7	3	2	1537	38	10	4	223
8	300	1152	0	0	0	0	0	1482	60	5	0	95
9	563	386	208	395	94	76	7	773	41	65	41	374
10	273	254	0	0	0	0	0	559	28	55	0	262
11	0	295	14	39	0	0	0	548	0	0	0	0
12	0	254	41	161	0	10	32	387	0	0	0	0
13	0	0	0	0	182	516	315	0	13	45	165	0
14	13	443	30	46	26	225	63	39	2	0	9	2
15	0	0	0	0	128	67	108	0	31	13	82	0
16	0	0	0	0	51	65	43	0	45	31	78	0
17	0	114	10	18	0	18	10	67	0	0	0	0
18	15	439	37	18	0	65	86	227	4	8	1	66
19	0	386	332		189	53	115	549	0	0	0	0
20	192	11	114	204	508	53	20	7	57	12	431	145
21	46	36	155	262	624	191	256	50	95	155	194	216
22	3	723	4	4	0	0	0	602	3	354	0	4
23	220	697	0	0	0	0	0	315	295	33	0	156
24	590	223	0	169	0	694	0	393	78	0	0	0
25	0	295	0	0	0	0	0	548	0	0	0	0
26	38	226	0	0	0	0	0	415	0	0	0	4
27	9	127	52	38	72	37	41	238	6	0	72	44
501	55	1098	35	22	52	282	401	1766	91	54	17	36
502	198	1068	164	273	107	57	75	1616	442	527	41	365
503	428	1192	37	153	80	236	319	1679	980	290	130	306
504	0	1401	317	854	0	0	609	2124	0	1483	0	0
505	549	1803	532	604	6	91	215	1830	13	67	33	299
506	392	1326	243	194	164	393	362	1515	73	86	336	349

507	400	1371	34	19	4	1	21	1300	6	15	7	631
508	128	1259	0	0	0	0	0	1131	48	61	0	196
509	686	385	249	110	93	55	21	575	98	45	99	494
510	38	447	0	0	0	0	0	314	115	77	0	380
511	0	499	25	49	0	2	0	380	0	0	0	0
512	0	407	94	69	0	26	16	311	0	0	0	0
513	0	0	0	0	185	692	470	0	114	55	168	0
514	22	319	25	45	16	211	59	195	30	19	23	16
515	0	0	0	0	190	109	80	0	50	102	143	0
516	0	0	0	0	174	37	43	0	12	38	87	0
517	0	125	27	3	0	0	12	174	0	0	0	0
518	11	397	66	27	0	150	85	408	5	21	1	7
519	0	451	178	239	0	238	71	532	0	0	0	0
520	228	15	186	178	456	86	29	16	67	52	684	205
521	58	100	230	158	583	234	268	61	79	183	653	66
522	2	641	0	1	0	0	0	1143	8	334	0	2
523	200	587	0	0	0	0	0	523	623	56	0	510
524	207	382	0	198	1	405	0	881	152	0	0	0
525	0	501	0	0	0	0	0	380	0	0	0	0
526	20	441	0	0	0	0	0	300	0	0	0	27
527	31	288	43	79	13	44	65	185	0	2	32	10

Furness Adjusted Turning Volumes 01:34p Aug 31, 2023

	Southbound			Westbound			Northbound			Eastbound		
Node	R	T	L	R	T	L	R	T	L	R	T	L
1	46	1655	70	111	64	346	183	774	232	234	14	23
2	372	1718	150	191	34	33	109	886	413	708	60	106
3	1044	1353	64	48	99	151	141	1150	1417	801	80	214
4	0	1821	477	493	0	0	403	2219	0	1263	0	0
5	369	2174	537	557	32	72	251	1957	68	24	9	99
6	444	1737	95	248	318	425	238	1681	121	78	391	346
7	532	1699	18	15	9	4	2	1777	57	15	5	257
8	397	1327	0	0	0	0	0	1693	92	9	0	153
9	750	341	249	520	164	88	8	757	53	78	67	514
10	291	220	0	0	0	0	0	575	61	88	0	245
11	0	295	14	39	0	0	0	599	0	0	0	0
12	0	244	49	190	0	11	41	408	0	0	0	0
13	0	0	0	0	104	862	460	0	6	51	201	0
14	37	779	22	62	45	240	80	149	9	0	17	11
15	0	0	0	0	83	26	126	0	110	30	106	0
16	0	0	0	0	95	121	80	0	83	57	145	0
17	0	165	11	16	0	19	8	63	0	0	0	0
18	14	536	50	16	0	61	125	296	4	8	1	66
19	0	442	378	185	0	72	184	632	0	0	0	0
20	203	8	114	205	728	55	19	5	59	12	569	142

21	46	45	193	307	836	320	383	53	115	224	276	218
22	3	1112	4	5	0	0	0	851	2	354	0	4
23	278	1054	0	0	0	0	0	376	481	64	0	187
24	671	388	0	298	0	941	0	514	51	0	0	0
25	0	295	0	0	0	0	0	599	0	0	0	0
26	38	218	0	0	0	0	0	445	0	0	0	4
27	7	102	50	43	73	36	39	215	4	0	81	47
501	67	1126	33	20	61	278	385	1708	113	85	25	53
502	178	1127	185	286	101	63	81	1544	380	581	48	380
503	493	1252	34	131	88	236	323	1638	1224	272	108	246
504	0	1504	251	733	0	0	495	2456	0	1591	0	0
505	587	1937	570	615	6	92	233	1987	14	76	37	340
506	436	1422	253	190	223	516	518	1668	111	124	471	376
507	454	1590	27	18	6	1	30	1582	11	27	9	703
508	190	1424	0	0	0	0	0	1321	71	93	0	309
509	809	359	352	150	147	68	28	551	108	57	191	686
510	34	452	0	0	0	0	0	303	148	118	0	386
511	0	547	25	49	0	2	0	405	0	0	0	0
512	0	424	123	90	0	32	19	314	0	0	0	0
513	0	0	0	0	174	886	790	0	113	38	146	0
514	32	476	33	66	16	218	87	466	49	32	34	39
515	0	0	0	0	195	92	67	0	109	180	117	0
516	0	0	0	0	103	170	158	0	107	152	18	0
517	0	171	27	3	0	0	11	199	0	0	0	0
518	10	536	81	29	0	172	115	578	5	21	0	6
519	0	542	225	310	0	278	84	663	0	0	0	0
520	238	11	189	177	619	85	29	12	69	55	967	218
521	60	125	315	187	731	350	453	74	102	231	903	66
522	2	937	0	2	0	0	1	1666	8	333	0	2
523	261	861	0	0	0	0	0	672	995	78	0	509
524	236	557	0	263	1	562	0	1034	145	0	0	0
525	0	549	0	0	0	0	0	405	0	0	0	0
526	20	465	0	0	0	0	0	306	0	0	0	27
527	40	261	45	84	20	47	66	162	0	2	37	9

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| Counts Data Approach & Departure Volumes   01:34p Aug 31, 2023 |
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!	North Leg		East Leg		South Leg		West Leg	
!Node	App	Dep	App	Dep	App	Dep	App	Dep
1	1723	918	511	270	1200	2146	214	314
2	2145	1199	106	305	1483	2301	875	804
3	2302	1484	293	299	2492	2247	1164	2221
4	2247	2492	528	980	2424	2782	1055	0
5	2782	2424	635	733	2104	2060	109	413
6	2060	2104	757	588	1774	1919	738	718
7	1919	1774	24	24	1577	1452	237	507

8	1452	1577	0	0	1542	1157	100	360
9	1157	1542	565	256	821	527	480	698
10	527	821	0	0	587	309	317	301
11	309	587	39	14	548	295	0	0
12	295	548	171	73	419	264	0	0
13	0	0	698	480	328	561	210	195
14	486	87	297	102	104	668	11	41
15	0	0	195	190	139	80	95	159
16	0	0	116	121	88	96	109	96
17	124	85	36	20	77	132	0	0
18	491	311	83	124	317	512	75	19
19	718	738	242	447	664	439	0	0
20	317	356	765	565	84	76	588	757
21	237	528	1077	605	401	382	565	765
22	730	610	4	4	605	1077	358	6
23	917	471	0	0	610	730	189	515
24	813	562	863	0	471	917	0	668
25	295	548	0	0	548	295	0	0
26	264	419	0	0	415	226	4	38
27	188	320	147	165	285	164	116	87
501	1188	1824	356	453	2258	1434	107	198
502	1430	2254	437	280	2133	1652	933	747
503	1657	2138	469	486	2978	1718	726	1488
504	1718	2978	854	926	2733	2884	1483	0
505	2884	2733	701	780	2058	1961	399	568
506	1961	2058	751	941	1950	1805	771	629
507	1805	1950	24	62	1327	1387	653	410
508	1387	1327	0	0	1179	1320	257	176
509	1320	1179	258	369	694	485	638	877
510	485	694	0	0	429	524	457	153
511	524	429	51	25	380	501	0	0
512	501	380	95	110	327	433	0	0
513	0	0	877	638	584	747	223	299
514	366	256	272	107	284	549	58	68
515	0	0	299	223	130	211	245	240
516	0	0	211	130	55	75	125	186
517	152	177	3	39	186	125	0	0
518	474	442	177	152	498	568	29	16
519	629	771	477	249	603	689	0	0
520	429	399	720	899	112	153	941	751
521	388	285	975	1151	408	517	902	720
522	643	1146	1	1	1152	975	336	10
523	787	1033	0	0	1146	643	566	823
524	589	1079	604	0	1033	787	0	360
525	501	380	0	0	380	501	0	0
526	461	327	0	0	300	441	27	20
527	362	274	136	140	250	334	44	44

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| Model Future Year Approach & Departure Volumes 01:34p Aug 31, 2023 |

	North Leg		East Leg		South Leg		West Leg	
Node	App	Dep	App	Dep	App	Dep	App	Dep
1	1776	910	523	268	1186	2237	273	343
2	2238	1185	260	320	1413	2460	875	821
3	2461	1414	299	286	2713	2306	1095	2562
4	2306	2713	491	880	2613	3085	1268	0
5	3083	2615	662	798	2275	2271	134	470
6	2270	2276	991	726	2048	2241	818	884
7	2241	2049	29	27	1845	1719	279	599
8	1718	1846	0	0	1792	1337	163	490
9	1338	1792	774	325	821	509	662	969
10	509	821	0	0	638	309	335	352
11	309	638	39	14	599	295	0	0
12	295	599	202	91	449	256	0	0
13	0	0	970	662	464	913	252	111
14	838	223	348	120	240	1020	29	92
15	0	0	110	233	237	57	137	194
16	0	0	93	219	329	274	162	91
17	177	80	36	20	72	185	0	0
18	603	379	78	177	424	605	75	19
19	885	818	281	563	730	515	0	0
20	326	353	988	704	84	76	726	991
21	285	579	1466	854	552	591	720	999
22	1119	860	5	4	854	1466	358	6
23	1330	564	0	0	860	1119	253	760
24	1062	813	1240	0	564	1330	0	723
25	295	599	0	0	599	295	0	0
26	256	449	0	0	445	218	4	38
27	161	306	154	171	259	139	128	86
501	1222	1782	359	444	2214	1491	164	242
502	1487	2211	451	315	2011	1772	1009	660
503	1777	2016	456	467	3190	1761	627	1806
504	1761	3190	731	747	2944	3096	1597	0
505	3096	2943	714	841	2235	2107	454	608
506	2107	2235	928	1244	2304	2063	974	771
507	2063	2304	27	67	1631	1620	743	473
508	1620	1631	0	0	1389	1518	402	262
509	1518	1389	366	572	690	485	937	1065
510	485	690	0	0	454	571	505	183
511	572	454	51	25	405	549	0	0
512	550	405	122	143	333	457	0	0
513	0	0	1065	937	900	925	185	288
514	544	572	302	155	600	727	106	98
515	0	0	288	185	177	273	298	305
516	0	0	273	177	267	323	171	211

517	198	202	3	39	211	171	0	0
518	627	615	202	198	702	731	29	16
519	771	974	589	310	745	821	0	0
520	440	409	883	1187	111	153	1243	928
521	501	328	1272	1673	630	707	1199	894
522	940	1670	2	1	1674	1271	336	10
523	1120	1182	0	0	1670	940	589	1257
524	793	1298	826	0	1182	1120	0	383
525	549	405	0	0	405	549	0	0
526	485	333	0	0	306	465	27	20
527	347	257	152	149	230	311	49	61

Computed Approach & Departure Volumes 01:34p Aug 31, 2023

Node	North Leg App	North Leg Dep	East Leg App	East Leg Dep	South Leg App	South Leg Dep	West Leg App	West Leg Dep
1	1776	910	523	268	1186	2237	273	343
2	2238	1185	260	320	1413	2460	875	821
3	2461	1414	299	286	2713	2306	1095	2562
4	2306	2713	491	880	2613	3085	1268	0
5	3083	2615	662	798	2275	2271	134	470
6	2270	2276	991	726	2048	2241	818	884
7	2241	2049	29	27	1845	1719	279	599
8	1718	1846	0	0	1792	1337	163	490
9	1338	1792	774	325	821	509	662	969
10	509	821	0	0	638	309	335	352
11	309	638	39	14	599	295	0	0
12	295	599	202	91	449	256	0	0
13	0	0	970	662	464	913	252	111
14	838	223	348	120	240	1020	29	92
15	0	0	110	233	237	57	137	194
16	0	0	217	226	164	179	203	179
17	177	80	36	20	72	185	0	0
18	603	379	78	177	424	605	75	19
19	818	818	259	563	818	515	0	0
20	326	353	988	704	84	76	726	991
21	285	579	1466	854	552	591	720	999
22	1119	860	5	4	854	1466	358	6
23	1330	564	0	0	860	1119	253	760
24	1062	813	1240	0	564	1330	0	723
25	295	599	0	0	599	295	0	0
26	256	449	0	0	445	218	4	38
27	161	306	154	171	259	139	128	86
501	1222	1782	359	444	2214	1491	164	242
502	1487	2211	451	315	2011	1772	1009	660
503	1777	2016	456	467	3190	1761	627	1806

504	1761	3190	731	747	2944	3096	1597	0
505	3096	2943	714	841	2235	2107	454	608
506	2107	2235	928	1244	2304	2063	974	771
507	2063	2304	27	67	1631	1620	743	473
508	1620	1631	0	0	1389	1518	402	262
509	1518	1389	366	572	690	485	937	1065
510	485	690	0	0	454	571	505	183
511	572	454	51	25	405	549	0	0
512	550	405	122	143	333	457	0	0
513	0	0	1065	937	900	925	185	288
514	544	572	302	155	600	727	106	98
515	0	0	288	185	177	273	298	305
516	0	0	273	177	267	323	171	211
517	198	202	3	39	211	171	0	0
518	627	615	202	198	702	731	29	16
519	771	974	589	310	745	821	0	0
520	440	409	883	1187	111	153	1243	928
521	501	328	1272	1673	630	707	1199	894
522	940	1670	2	1	1674	1271	336	10
523	1120	1182	0	0	1670	940	589	1257
524	793	1298	826	0	1182	1120	0	383
525	549	405	0	0	405	549	0	0
526	485	333	0	0	306	465	27	20
527	347	257	152	149	230	311	49	61

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| Nodes Report   01:34p Aug 31, 2023 |
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Project Nodes

Node	North Link	East Link	South Link	West Link
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File: Y:\Shared\Projects\P23160 Creekside Village II\Joint Turns W32\Turns 2023\Appendix\2040 turns.rpt 8/31/2023, 3:53:54 PM

INTERSECTIONNUMBER	NLA	NLD	ELA	ELD	SLA	SLD	WLA	WLD
1	1812	904	532	266	1177	2302	315	364
2	2302	1176	368	330	1363	2571	876	832
3	2572	1364	303	278	2868	2348	1047	2800
4	2348	2868	465	810	2745	3296	1416	0
5	3294	2745	680	844	2394	2419	151	511
6	2418	2394	1154	823	2239	2466	873	1001
7	2466	2239	32	30	2032	1905	308	664
8	1904	2032	0	0	1966	1463	206	581
9	1463	1966	921	373	820	496	790	1159
10	496	820	0	0	673	308	347	388
11	308	673	39	14	634	294	0	0
12	294	634	224	104	470	250	0	0
13	0	0	1160	790	560	1160	282	52
14	1085	319	384	132	336	1267	41	128
15	0	0	51	262	306	42	166	219
16	0	0	78	288	496	398	199	87
17	214	76	36	20	68	222	0	0
18	681	426	74	214	498	669	75	19
19	1001	873	309	644	776	569	0	0
20	333	352	1143	801	84	76	823	1154
21	319	614	1738	1029	658	738	828	1162
22	1391	1035	5	4	1029	1738	358	6
23	1620	630	0	0	1035	1391	297	931
24	1237	989	1503	0	630	1620	0	761
25	294	634	0	0	634	294	0	0
26	250	470	0	0	466	212	4	38
27	141	295	159	175	241	121	136	86
501	1245	1750	360	437	2184	1532	203	273
502	1528	2181	461	339	1924	1856	1063	600
503	1861	1929	446	453	3338	1792	557	2028
504	1792	3338	644	621	3091	3244	1676	0
505	3244	3091	723	883	2359	2209	493	636
506	2209	2359	1052	1455	2551	2243	1116	871
507	2243	2551	29	70	1843	1784	807	517
508	1784	1843	0	0	1536	1657	503	323
509	1657	1536	441	713	687	486	1146	1196
510	486	687	0	0	471	605	538	203
511	606	471	51	25	422	583	0	0
512	583	422	141	166	338	474	0	0
513	0	0	1196	1146	1121	1049	158	280
514	668	793	322	188	821	851	139	118
515	0	0	280	158	211	317	335	351
516	0	0	317	211	416	496	203	229
517	230	220	3	39	229	203	0	0
518	733	735	220	230	845	846	29	16
519	871	1116	667	353	844	913	0	0
520	447	416	996	1387	111	153	1454	1052
521	579	358	1479	2039	786	839	1407	1015

522 1148 2036 2 1 2040 1479 336 10
523 1354 1286 0 0 2036 1148 605 1561
524 936 1452 982 0 1286 1354 0 398
525 583 422 0 0 422 583 0 0
526 502 338 0 0 311 482 27 20
527 336 245 163 156 215 294 53 72

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| Turning Movement Volumes Report   03:38p Aug 31, 2023 |
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Counts Data

	Southbound			Westbound			Northbound			Eastbound	
Node	R	T	L	R	T	L	R	T	L	R	T	L
1	40	1615	68	108	57	346	191	792	217	185	11	18
2	391	1608	146	82	13	11	98	985	400	682	61	132
3	948	1285	69	55	92	146	138	1173	1181	816	92	256
4	0	1727	520	528	0	0	460	1964	0	1055	0	0
5	322	1970	490	535	30	70	235	1808	61	20	8	81
6	407	1561	92	232	227	298	173	1517	84	60	323	355
7	462	1439	18	14	7	3	2	1537	38	10	4	223
8	300	1152	0	0	0	0	0	1482	60	5	0	95
9	563	386	208	395	94	76	7	773	41	65	41	374
10	273	254	0	0	0	0	0	559	28	55	0	262
11	0	295	14	39	0	0	0	548	0	0	0	0
12	0	254	41	161	0	10	32	387	0	0	0	0
13	0	0	0	0	182	516	315	0	13	45	165	0
14	13	443	30	46	26	225	63	39	2	0	9	2
15	0	0	0	0	128	67	108	0	31	13	82	0
16	0	0	0	0	51	65	43	0	45	31	78	0
17	0	114	10	18	0	18	10	67	0	0	0	0
18	15	439	37	18	0	65	86	227	4	8	1	66
19	0	386	332		189	53	115	549	0	0	0	0
20	192	11	114	204	508	53	20	7	57	12	431	145
21	46	36	155	262	624	191	256	50	95	155	194	216
22	3	723	4	4	0	0	0	602	3	354	0	4
23	220	697	0	0	0	0	0	315	295	33	0	156
24	590	223	0	169	0	694	0	393	78	0	0	0
25	0	295	0	0	0	0	0	548	0	0	0	0
26	38	226	0	0	0	0	0	415	0	0	0	4
27	9	127	52	38	72	37	41	238	6	0	72	44
501	55	1098	35	22	52	282	401	1766	91	54	17	36
502	198	1068	164	273	107	57	75	1616	442	527	41	365
503	428	1192	37	153	80	236	319	1679	980	290	130	306
504	0	1401	317	854	0	0	609	2124	0	1483	0	0
505	549	1803	532	604	6	91	215	1830	13	67	33	299
506	392	1326	243	194	164	393	362	1515	73	86	336	349

507	400	1371	34	19	4	1	21	1300	6	15	7	631
508	128	1259	0	0	0	0	0	1131	48	61	0	196
509	686	385	249	110	93	55	21	575	98	45	99	494
510	38	447	0	0	0	0	0	314	115	77	0	380
511	0	499	25	49	0	2	0	380	0	0	0	0
512	0	407	94	69	0	26	16	311	0	0	0	0
513	0	0	0	0	185	692	470	0	114	55	168	0
514	22	319	25	45	16	211	59	195	30	19	23	16
515	0	0	0	0	190	109	80	0	50	102	143	0
516	0	0	0	0	174	37	43	0	12	38	87	0
517	0	125	27	3	0	0	12	174	0	0	0	0
518	11	397	66	27	0	150	85	408	5	21	1	7
519	0	451	178	239	0	238	71	532	0	0	0	0
520	228	15	186	178	456	86	29	16	67	52	684	205
521	58	100	230	158	583	234	268	61	79	183	653	66
522	2	641	0	1	0	0	0	1143	8	334	0	2
523	200	587	0	0	0	0	0	523	623	56	0	510
524	207	382	0	198	1	405	0	881	152	0	0	0
525	0	501	0	0	0	0	0	380	0	0	0	0
526	20	441	0	0	0	0	0	300	0	0	0	27
527	31	288	43	79	13	44	65	185	0	2	32	10

Furness Adjusted Turning Volumes 03:38p Aug 31, 2023

	Southbound			Westbound			Northbound			Eastbound		
Node	R	T	L	R	T	L	R	T	L	R	T	L
1	51	1684	72	114	70	347	177	761	242	270	16	27
2	359	1793	152	261	52	53	116	822	420	724	60	92
3	1107	1406	62	44	104	154	142	1130	1588	787	73	189
4	0	1886	454	467	0	0	356	2400	0	1410	0	0
5	403	2317	570	572	33	74	262	2060	73	27	10	112
6	469	1858	98	257	381	517	287	1794	150	90	437	342
7	577	1879	19	15	11	5	3	1944	74	20	6	279
8	462	1449	0	0	0	0	0	1839	118	13	0	192
9	877	315	276	604	221	93	8	747	60	86	88	613
10	298	198	0	0	0	0	0	582	89	109	0	237
11	0	294	14	39	0	0	0	634	0	0	0	0
12	0	237	55	211	0	12	48	422	0	0	0	0
13	0	0	0	0	49	1106	560	0	2	53	229	0
14	55	1009	21	70	55	258	88	229	16	0	21	19
15	0	0	0	0	43	7	130	0	175	34	131	0
16	0	0	0	0	152	194	128	0	134	92	233	0
17	0	202	12	16	0	20	7	60	0	0	0	0
18	14	603	60	16	0	57	152	343	4	7	1	66
19	0	504	499	243	0	65	144	629	0	0	0	0
20	210	7	115	206	883	56	19	4	60	12	666	141

21	48	51	219	335	984	414	474	55	129	271	334	223
22	3	1384	4	5	0	0	0	1026	2	354	0	4
23	320	1303	0	0	0	0	0	421	610	87	0	208
24	719	514	0	398	0	1105	0	590	41	0	0	0
25	0	294	0	0	0	0	0	634	0	0	0	0
26	38	212	0	0	0	0	0	466	0	0	0	4
27	6	85	49	47	75	36	38	199	4	0	87	48
501	74	1144	30	18	66	276	376	1668	131	110	29	62
502	163	1168	200	295	96	67	85	1494	339	619	53	390
503	534	1298	33	117	92	237	325	1604	1401	256	94	207
504	0	1576	208	646	0	0	412	2691	0	1667	0	0
505	615	2032	596	623	6	94	245	2098	14	82	40	369
506	465	1490	259	189	264	600	629	1774	141	152	566	395
507	490	1740	23	18	8	2	36	1780	18	41	10	751
508	235	1541	0	0	0	0	0	1454	88	115	0	388
509	895	346	419	178	186	76	31	539	114	63	262	817
510	32	456	0	0	0	0	0	298	171	148	0	388
511	0	581	25	49	0	2	0	422	0	0	0	0
512	0	437	144	104	0	36	21	317	0	0	0	0
513	0	0	0	0	171	1019	1017	0	108	29	129	0
514	40	585	40	79	17	225	105	657	60	40	42	56
515	0	0	0	0	196	83	56	0	154	233	101	0
516	0	0	0	0	23	294	208	0	205	201	2	0
517	0	203	28	3	0	0	11	217	0	0	0	0
518	10	634	90	30	0	189	138	697	5	21	0	6
519	0	607	260	361	0	305	92	754	0	0	0	0
520	246	10	191	177	734	85	29	10	71	57	1166	227
521	63	142	373	207	834	432	587	83	117	264	1078	67
522	2	1145	0	2	0	0	1	2032	8	333	0	2
523	301	1056	0	0	0	0	0	773	1259	91	0	512
524	254	682	0	310	1	671	0	1141	142	0	0	0
525	0	583	0	0	0	0	0	422	0	0	0	0
526	20	482	0	0	0	0	0	311	0	0	0	27
527	46	242	47	87	25	49	67	147	0	2	41	9

+--+
| Counts Data Approach & Departure Volumes   03:38p Aug 31, 2023 |
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!	North Leg		East Leg		South Leg		West Leg	
!Node	App	Dep	App	Dep	App	Dep	App	Dep
1	1723	918	511	270	1200	2146	214	314
2	2145	1199	106	305	1483	2301	875	804
3	2302	1484	293	299	2492	2247	1164	2221
4	2247	2492	528	980	2424	2782	1055	0
5	2782	2424	635	733	2104	2060	109	413
6	2060	2104	757	588	1774	1919	738	718
7	1919	1774	24	24	1577	1452	237	507

8	1452	1577	0	0	1542	1157	100	360
9	1157	1542	565	256	821	527	480	698
10	527	821	0	0	587	309	317	301
11	309	587	39	14	548	295	0	0
12	295	548	171	73	419	264	0	0
13	0	0	698	480	328	561	210	195
14	486	87	297	102	104	668	11	41
15	0	0	195	190	139	80	95	159
16	0	0	116	121	88	96	109	96
17	124	85	36	20	77	132	0	0
18	491	311	83	124	317	512	75	19
19	718	738	242	447	664	439	0	0
20	317	356	765	565	84	76	588	757
21	237	528	1077	605	401	382	565	765
22	730	610	4	4	605	1077	358	6
23	917	471	0	0	610	730	189	515
24	813	562	863	0	471	917	0	668
25	295	548	0	0	548	295	0	0
26	264	419	0	0	415	226	4	38
27	188	320	147	165	285	164	116	87
501	1188	1824	356	453	2258	1434	107	198
502	1430	2254	437	280	2133	1652	933	747
503	1657	2138	469	486	2978	1718	726	1488
504	1718	2978	854	926	2733	2884	1483	0
505	2884	2733	701	780	2058	1961	399	568
506	1961	2058	751	941	1950	1805	771	629
507	1805	1950	24	62	1327	1387	653	410
508	1387	1327	0	0	1179	1320	257	176
509	1320	1179	258	369	694	485	638	877
510	485	694	0	0	429	524	457	153
511	524	429	51	25	380	501	0	0
512	501	380	95	110	327	433	0	0
513	0	0	877	638	584	747	223	299
514	366	256	272	107	284	549	58	68
515	0	0	299	223	130	211	245	240
516	0	0	211	130	55	75	125	186
517	152	177	3	39	186	125	0	0
518	474	442	177	152	498	568	29	16
519	629	771	477	249	603	689	0	0
520	429	399	720	899	112	153	941	751
521	388	285	975	1151	408	517	902	720
522	643	1146	1	1	1152	975	336	10
523	787	1033	0	0	1146	643	566	823
524	589	1079	604	0	1033	787	0	360
525	501	380	0	0	380	501	0	0
526	461	327	0	0	300	441	27	20
527	362	274	136	140	250	334	44	44

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| Model Future Year Approach & Departure Volumes 03:38p Aug 31, 2023 |

Node	North Leg App	North Leg Dep	East Leg App	East Leg Dep	South Leg App	South Leg Dep	West Leg App	West Leg Dep
1	1812	904	532	266	1177	2302	315	364
2	2302	1176	368	330	1363	2571	876	832
3	2572	1364	303	278	2868	2348	1047	2800
4	2348	2868	465	810	2745	3296	1416	0
5	3294	2745	680	844	2394	2419	151	511
6	2418	2394	1154	823	2239	2466	873	1001
7	2466	2239	32	30	2032	1905	308	664
8	1904	2032	0	0	1966	1463	206	581
9	1463	1966	921	373	820	496	790	1159
10	496	820	0	0	673	308	347	388
11	308	673	39	14	634	294	0	0
12	294	634	224	104	470	250	0	0
13	0	0	1160	790	560	1160	282	52
14	1085	319	384	132	336	1267	41	128
15	0	0	51	262	306	42	166	219
16	0	0	78	288	496	398	199	87
17	214	76	36	20	68	222	0	0
18	681	426	74	214	498	669	75	19
19	1001	873	309	644	776	569	0	0
20	333	352	1143	801	84	76	823	1154
21	319	614	1738	1029	658	738	828	1162
22	1391	1035	5	4	1029	1738	358	6
23	1620	630	0	0	1035	1391	297	931
24	1237	989	1503	0	630	1620	0	761
25	294	634	0	0	634	294	0	0
26	250	470	0	0	466	212	4	38
27	141	295	159	175	241	121	136	86
501	1245	1750	360	437	2184	1532	203	273
502	1528	2181	461	339	1924	1856	1063	600
503	1861	1929	446	453	3338	1792	557	2028
504	1792	3338	644	621	3091	3244	1676	0
505	3244	3091	723	883	2359	2209	493	636
506	2209	2359	1052	1455	2551	2243	1116	871
507	2243	2551	29	70	1843	1784	807	517
508	1784	1843	0	0	1536	1657	503	323
509	1657	1536	441	713	687	486	1146	1196
510	486	687	0	0	471	605	538	203
511	606	471	51	25	422	583	0	0
512	583	422	141	166	338	474	0	0
513	0	0	1196	1146	1121	1049	158	280
514	668	793	322	188	821	851	139	118
515	0	0	280	158	211	317	335	351
516	0	0	317	211	416	496	203	229

517	230	220	3	39	229	203	0	0
518	733	735	220	230	845	846	29	16
519	871	1116	667	353	844	913	0	0
520	447	416	996	1387	111	153	1454	1052
521	579	358	1479	2039	786	839	1407	1015
522	1148	2036	2	1	2040	1479	336	10
523	1354	1286	0	0	2036	1148	605	1561
524	936	1452	982	0	1286	1354	0	398
525	583	422	0	0	422	583	0	0
526	502	338	0	0	311	482	27	20
527	336	245	163	156	215	294	53	72

Computed Approach & Departure Volumes 03:38p Aug 31, 2023

Node	North Leg App	North Leg Dep	East Leg App	East Leg Dep	South Leg App	South Leg Dep	West Leg App	West Leg Dep
1	1812	904	532	266	1177	2302	315	364
2	2302	1176	368	330	1363	2571	876	832
3	2572	1364	303	278	2868	2348	1047	2800
4	2348	2868	465	810	2745	3296	1416	0
5	3294	2745	680	844	2394	2419	151	511
6	2418	2394	1154	823	2239	2466	873	1001
7	2466	2239	32	30	2032	1905	308	664
8	1904	2032	0	0	1966	1463	206	581
9	1463	1966	921	373	820	496	790	1159
10	496	820	0	0	673	308	347	388
11	308	673	39	14	634	294	0	0
12	294	634	224	104	470	250	0	0
13	0	0	1160	790	560	1160	282	52
14	1085	319	384	132	336	1267	41	128
15	0	0	51	262	306	42	166	219
16	0	0	347	362	263	287	326	287
17	214	76	36	20	68	222	0	0
18	681	426	74	214	498	669	75	19
19	1001	873	309	644	776	569	0	0
20	333	352	1143	801	84	76	823	1154
21	319	614	1738	1029	658	738	828	1162
22	1391	1035	5	4	1029	1738	358	6
23	1620	630	0	0	1035	1391	297	931
24	1237	989	1503	0	630	1620	0	761
25	294	634	0	0	634	294	0	0
26	250	470	0	0	466	212	4	38
27	141	295	159	175	241	121	136	86
501	1245	1750	360	437	2184	1532	203	273
502	1528	2181	461	339	1924	1856	1063	600
503	1861	1929	446	453	3338	1792	557	2028

504	1792	3338	644	621	3091	3244	1676	0
505	3244	3091	723	883	2359	2209	493	636
506	2209	2359	1052	1455	2551	2243	1116	871
507	2243	2551	29	70	1843	1784	807	517
508	1784	1843	0	0	1536	1657	503	323
509	1657	1536	441	713	687	486	1146	1196
510	486	687	0	0	471	605	538	203
511	606	471	51	25	422	583	0	0
512	583	422	141	166	338	474	0	0
513	0	0	1196	1146	1121	1049	158	280
514	668	793	322	188	821	851	139	118
515	0	0	280	158	211	317	335	351
516	0	0	317	211	416	496	203	229
517	230	220	3	39	229	203	0	0
518	733	735	220	230	845	846	29	16
519	871	1116	667	353	844	913	0	0
520	447	416	996	1387	111	153	1454	1052
521	579	358	1479	2039	786	839	1407	1015
522	1148	2036	2	1	2040	1479	336	10
523	1354	1286	0	0	2036	1148	605	1561
524	936	1452	982	0	1286	1354	0	398
525	583	422	0	0	422	583	0	0
526	502	338	0	0	311	482	27	20
527	336	245	163	156	215	294	53	72

+--+
| Nodes Report 03:38p Aug 31, 2023 |
+--+

Project Nodes

Node	North Link	East Link	South Link	West Link
1				
2				
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Appendix E: VMT Estimation Scripts

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```
;-------------------------------------------------------------------------------
;
; Step 1: Skim the loaded networks for each period to get TAZ-to-TAZ
;         distances. Use half of the shortest centroid connector
;         length for the intrazonal distance. Adjust gateway trip lengths.
;
;         Inputs: loaded networks and final OD tables for each period.
;         Outputs: total TAZ-to-TAZ VMT by DA, SR, C2 and C3 for each period.
;
;-------------------------------------------------------------------------------
; Input networks
;-------------------------------------------------------------------------------
AMNET='.\Loaded_Networks\2040A3VS.NET'
MIDDAYNET='.\Loaded_Networks\2040MDVS.NET'
PMNET='.\Loaded_Networks\2040P3V.NET'
EVVNET='.\Loaded_Networks\2040EVV.NET'
;-------------------------------------------------------------------------------
; Input OD
;-------------------------------------------------------------------------------
AMOD='.\OD_Tables\2040A3VS.MAT'
MDOD='.\OD_Tables\2040MDVS.MAT'
PMOD='.\OD_Tables\2040P3V.MAT'
EVVOD='.\OD_Tables\2040EVV.MAT'
;-------------------------------------------------------------------------------
; Output distance skims
;-------------------------------------------------------------------------------
AMDIST='.\Temp_Files\2040A3VS_Distance.MAT'
MDDIST='.\Temp_Files\2040MDVS_Distance.MAT'
PMDIST='.\Temp_Files\2040P3V_Distance.MAT'
EVVDIST='.\Temp_Files\2040EVV_Distance.MAT'
;-------------------------------------------------------------------------------
; Output VMT matrices
;-------------------------------------------------------------------------------
AMVMT='2040A3VS_vmt_6_Class.MAT'
MDVMT='2040MDVS_VMT_6_Class.MAT'
PMVMT='2040P3V_VMT_6_Class.MAT'
EVVVMT='2040EVV_VMT_6_Class.MAT'
;
AMVMTSIMP='2040A3VS_vmt_4_Class.MAT'
MDVMTSIMP='2040MDVS_VMT_4_Class.MAT'
PMVMTSIMP='2040P3V_VMT_4_Class.MAT'
EVVVMTSIMP='2040EVV_VMT_4_Class.MAT'
;-------------------------------------------------------------------------------
; Temp Output VMT matrices files
;-------------------------------------------------------------------------------
TEMP='.\Temp_Files\TEMP.MAT'
TEMP2='.\Temp_Files\TEMP2.MAT'
;
;
;
;-------------------------------------------------------------------------------
; Run a distance skim for each time period
;-------------------------------------------------------------------------------
; AM peak period enterzonal distance skim
RUN PGM=HWYLOAD
FILEI NETI = "@AMNET@"
FILEO MATO[1] = "@TEMP@",
 MO=1 FORMAT=tpp                                  ; output skim matrix
 PHASE=LINKREAD                                   ; define link groups
  IF (LI.HOVLINK=0) ADDTOGROUP=1                  ; no restriction
  IF (LI.HOVLINK=1) ADDTOGROUP=2                  ; walk
```

```
   IF (LI.HOVLINK=2) ADDTOGROUP=3                    ; HOV lanes
   IF (LI.HOVLINK=3) ADDTOGROUP=4                    ; HOV bypassses
   IF (LI.CAPCLASS=99) ADDTOGROUP=5                  ; switched off links
  endphase
  PHASE=ILOOP                                        ; skim path building
     PATHLOAD PATH=li.TIME_1,EXCLUDEGRP=2,5,         ; pathload without HOV links
        MW[1]=PATHTRACE(LI.DISTANCE),SELECTGROUP=1   ; select links used by all
veh
  endphase
ENDRUN
; intrazonals - fill the diagonal element with half of the rowmin value
RUN PGM=MATRIX
FILEI MATI[1] = "@TEMP@"
FILEO MATO[1] = "@TEMP2@",
 MO=1
 MW[1]=MI.1.1
 iz1 = lowest(1,1,0.5,32700)*0.5
 jloop j=i
    mw[1] = iz1
 endjloop
ENDRUN
;
; Adjust gateway distnaces
;(Note: these values come from the 1/5/2021 Central El Dorado Hills Specific
Plan VMT Analysis memorandom)
RUN PGM=MATRIX
FILEI MATI[1] = "@TEMP2@"
FILEO MATO[1] = "@AMDIST@",
 MO=1
 MW[1]=MI.1.1
;
;Adjust external to internal (XI) gateway distance
 IF (I=650) mw[1]=mw[1]+13.08
 IF (I=651) mw[1]=mw[1]+3.96
 IF (I=652) mw[1]=mw[1]+0
 IF (I=653) mw[1]=mw[1]+20.39
 IF (I=654) mw[1]=mw[1]+10.38
 IF (I=655) mw[1]=mw[1]+8.80
 IF (I=656) mw[1]=mw[1]+0
 IF (I=657) mw[1]=mw[1]+6.4
 IF (I=658) mw[1]=mw[1]+0
 IF (I=659) mw[1]=mw[1]+0
 IF (I=660) mw[1]=mw[1]+7.19
 IF (I=661) mw[1]=mw[1]+8.54
 IF (I=662) mw[1]=mw[1]+6.14
 IF (I=663) mw[1]=mw[1]+5.41
 IF (I=664) mw[1]=mw[1]+12.66
 IF (I=665) mw[1]=mw[1]+5.17
 IF (I=666) mw[1]=mw[1]+7.44
 IF (I=667) mw[1]=mw[1]+0
 IF (I=668) mw[1]=mw[1]+14.21
 IF (I=669) mw[1]=mw[1]+0
 IF (I=670) mw[1]=mw[1]+0
 IF (I=671) mw[1]=mw[1]+16.28
 IF (I=672) mw[1]=mw[1]+0
 IF (I=673) mw[1]=mw[1]+3.82
 IF (I=674) mw[1]=mw[1]+18.38
;
;Adjust internal to external (IX) gateway distance
 jloop j=650
    mw[1] = mw[1]+12.41
```

```
 121    endjloop
 122   ;
 123    jloop j=651
 124       mw[1] = mw[1]+4.11
 125    endjloop
 126   ;
 127    jloop j=652
 128       mw[1] = mw[1]+0
 129    endjloop
 130   ;
 131    jloop j=653
 132       mw[1] = mw[1]+31.33
 133    endjloop
 134   ;
 135    jloop j=654
 136       mw[1] = mw[1]+11.07
 137    endjloop
 138   ;
 139    jloop j=655
 140       mw[1] = mw[1]+11.32
 141    endjloop
 142   ;
 143    jloop j=656
 144       mw[1] = mw[1]+0
 145    endjloop
 146   ;
 147    jloop j=657
 148       mw[1] = mw[1]+6.91
 149    endjloop
 150   ;
 151    jloop j=658
 152       mw[1] = mw[1]+0
 153    endjloop
 154   ;
 155    jloop j=659
 156       mw[1] = mw[1]+0
 157    endjloop
 158   ;
 159    jloop j=660
 160       mw[1] = mw[1]+7.73
 161    endjloop
 162   ;
 163    jloop j=661
 164       mw[1] = mw[1]+8.88
 165    endjloop
 166   ;
 167    jloop j=662
 168       mw[1] = mw[1]+5.47
 169    endjloop
 170   ;
 171    jloop j=663
 172       mw[1] = mw[1]+8.16
 173    endjloop
 174   ;
 175    jloop j=664
 176       mw[1] = mw[1]+10.17
 177    endjloop
 178   ;
 179    jloop j=665
 180       mw[1] = mw[1]+5.43
 181    endjloop
```

```
;
 jloop j=666
    mw[1] = mw[1]+6.97
 endjloop
;
 jloop j=667
    mw[1] = mw[1]+0
 endjloop
;
 jloop j=668
    mw[1] = mw[1]+15.96
 endjloop
;
 jloop j=669
    mw[1] = mw[1]+0
 endjloop
;
 jloop j=670
    mw[1] = mw[1]+0
 endjloop
;
 jloop j=671
    mw[1] = mw[1]+18.61
 endjloop
;
 jloop j=672
    mw[1] = mw[1]+0
 endjloop
;
 jloop j=673
    mw[1] = mw[1]+3.73
 endjloop
;
 jloop j=674
    mw[1] = mw[1]+19.21
 endjloop
;
ENDRUN
;
;
; mid day enterzonal distance skim
RUN PGM=HWYLOAD
FILEI NETI = "@MIDDAYNET@"
FILEO MATO[1] = "@TEMP@",
 MO=1 FORMAT=tpp                                  ; output skim matrix
 PHASE=LINKREAD                                   ; define link groups
  IF (LI.HOVLINK=0) ADDTOGROUP=1                  ; no restriction
  IF (LI.HOVLINK=1) ADDTOGROUP=2                  ; walk
  IF (LI.HOVLINK=2) ADDTOGROUP=3                  ; HOV lanes
  IF (LI.HOVLINK=3) ADDTOGROUP=4                  ; HOV bypassses
  IF (LI.CAPCLASS=99) ADDTOGROUP=5                ; switched off links
 endphase
 PHASE=ILOOP                                      ; skim path building
    PATHLOAD PATH=li.TIME_1,EXCLUDEGRP=2,5,       ; pathload without HOV links
       MW[1]=PATHTRACE(LI.DISTANCE),SELECTGROUP=1 ; select links used by all
veh
 endphase
ENDRUN
; intrazonals - fill the diagonal element with half of the rowmin value
RUN PGM=MATRIX
FILEI MATI[1] = "@TEMP@"
```

```
242   FILEO MATO[1] = "@TEMP2@",
243    MO=1
244    MW[1]=MI.1.1
245    iz1 = lowest(1,1,0.5,32700)*0.5
246    jloop j=i
247       mw[1] = iz1
248    endjloop
249   ENDRUN
250   ;
251   ; Adjust gateway distnaces
252   ;(Note: these values come from the 1/5/2021 Central El Dorado Hills Specific
      Plan VMT Analysis memorandom)
253   RUN PGM=MATRIX
254   FILEI MATI[1] = "@TEMP2@"
255   FILEO MATO[1] = "@MDDIST@",
256    MO=1
257    MW[1]=MI.1.1
258   ;
259   ;Adjust external to internal (XI) gateway distance
260    IF (I=650) mw[1]=mw[1]+13.08
261    IF (I=651) mw[1]=mw[1]+3.96
262    IF (I=652) mw[1]=mw[1]+0
263    IF (I=653) mw[1]=mw[1]+20.39
264    IF (I=654) mw[1]=mw[1]+10.38
265    IF (I=655) mw[1]=mw[1]+8.80
266    IF (I=656) mw[1]=mw[1]+0
267    IF (I=657) mw[1]=mw[1]+6.4
268    IF (I=658) mw[1]=mw[1]+0
269    IF (I=659) mw[1]=mw[1]+0
270    IF (I=660) mw[1]=mw[1]+7.19
271    IF (I=661) mw[1]=mw[1]+8.54
272    IF (I=662) mw[1]=mw[1]+6.14
273    IF (I=663) mw[1]=mw[1]+5.41
274    IF (I=664) mw[1]=mw[1]+12.66
275    IF (I=665) mw[1]=mw[1]+5.17
276    IF (I=666) mw[1]=mw[1]+7.44
277    IF (I=667) mw[1]=mw[1]+0
278    IF (I=668) mw[1]=mw[1]+14.21
279    IF (I=669) mw[1]=mw[1]+0
280    IF (I=670) mw[1]=mw[1]+0
281    IF (I=671) mw[1]=mw[1]+16.28
282    IF (I=672) mw[1]=mw[1]+0
283    IF (I=673) mw[1]=mw[1]+3.82
284    IF (I=674) mw[1]=mw[1]+18.38
285   ;
286   ;Adjust internal to external (IX) gateway distance
287    jloop j=650
288       mw[1] = mw[1]+12.41
289    endjloop
290   ;
291    jloop j=651
292       mw[1] = mw[1]+4.11
293    endjloop
294   ;
295    jloop j=652
296       mw[1] = mw[1]+0
297    endjloop
298   ;
299    jloop j=653
300       mw[1] = mw[1]+31.33
301    endjloop
```

```
302   ;
303    jloop j=654
304       mw[1] = mw[1]+11.07
305    endjloop
306   ;
307    jloop j=655
308       mw[1] = mw[1]+11.32
309    endjloop
310   ;
311    jloop j=656
312       mw[1] = mw[1]+0
313    endjloop
314   ;
315    jloop j=657
316       mw[1] = mw[1]+6.91
317    endjloop
318   ;
319    jloop j=658
320       mw[1] = mw[1]+0
321    endjloop
322   ;
323    jloop j=659
324       mw[1] = mw[1]+0
325    endjloop
326   ;
327    jloop j=660
328       mw[1] = mw[1]+7.73
329    endjloop
330   ;
331    jloop j=661
332       mw[1] = mw[1]+8.88
333    endjloop
334   ;
335    jloop j=662
336       mw[1] = mw[1]+5.47
337    endjloop
338   ;
339    jloop j=663
340       mw[1] = mw[1]+8.16
341    endjloop
342   ;
343    jloop j=664
344       mw[1] = mw[1]+10.17
345    endjloop
346   ;
347    jloop j=665
348       mw[1] = mw[1]+5.43
349    endjloop
350   ;
351    jloop j=666
352       mw[1] = mw[1]+6.97
353    endjloop
354   ;
355    jloop j=667
356       mw[1] = mw[1]+0
357    endjloop
358   ;
359    jloop j=668
360       mw[1] = mw[1]+15.96
361    endjloop
362   ;
```

```
363    jloop j=669
364       mw[1] = mw[1]+0
365    endjloop
366    ;
367    jloop j=670
368       mw[1] = mw[1]+0
369    endjloop
370    ;
371    jloop j=671
372       mw[1] = mw[1]+18.61
373    endjloop
374    ;
375    jloop j=672
376       mw[1] = mw[1]+0
377    endjloop
378    ;
379    jloop j=673
380       mw[1] = mw[1]+3.73
381    endjloop
382    ;
383    jloop j=674
384       mw[1] = mw[1]+19.21
385    endjloop
386    ;
387    ENDRUN
388    ;
389    ;
390    ; PM peak period enterzonal distance skim
391    RUN PGM=HWYLOAD
392    FILEI NETI = "@PMNET@"
393    FILEO MATO[1] = "@TEMP@",
394     MO=1 FORMAT=tpp                                    ; output skim matrix
395     PHASE=LINKREAD                                     ; define link groups
396      IF (LI.HOVLINK=0) ADDTOGROUP=1                    ; no restriction
397      IF (LI.HOVLINK=1) ADDTOGROUP=2                    ; walk
398      IF (LI.HOVLINK=2) ADDTOGROUP=3                    ; HOV lanes
399      IF (LI.HOVLINK=3) ADDTOGROUP=4                    ; HOV bypassses
400      IF (LI.CAPCLASS=99) ADDTOGROUP=5                  ; switched off links
401     endphase
402     PHASE=ILOOP                                        ; skim path building
403        PATHLOAD PATH=li.TIME_1,EXCLUDEGRP=2,5,         ; pathload without HOV links
404           MW[1]=PATHTRACE(LI.DISTANCE),SELECTGROUP=1   ; select links used by all
       veh
405     endphase
406    ENDRUN
407    ; intrazonals - fill the diagonal element with half of the rowmin value
408    RUN PGM=MATRIX
409    FILEI MATI[1] = "@TEMP@"
410    FILEO MATO[1] = "@TEMP2@",
411     MO=1
412     MW[1]=MI.1.1
413     iz1 = lowest(1,1,0.5,32700)*0.5
414     jloop j=i
415        mw[1] = iz1
416     endjloop
417    ENDRUN
418    ;
419    ; Adjust gateway distnaces
420    ;(Note: these values come from the 1/5/2021 Central El Dorado Hills Specific
       Plan VMT Analysis memorandom)
421    RUN PGM=MATRIX
```

```
FILEI MATI[1] = "@TEMP2@"
FILEO MATO[1] = "@PMDIST@",
 MO=1
 MW[1]=MI.1.1
;
;Adjust external to internal (XI) gateway distance
 IF (I=650) mw[1]=mw[1]+13.08
 IF (I=651) mw[1]=mw[1]+3.96
 IF (I=652) mw[1]=mw[1]+0
 IF (I=653) mw[1]=mw[1]+20.39
 IF (I=654) mw[1]=mw[1]+10.38
 IF (I=655) mw[1]=mw[1]+8.80
 IF (I=656) mw[1]=mw[1]+0
 IF (I=657) mw[1]=mw[1]+6.4
 IF (I=658) mw[1]=mw[1]+0
 IF (I=659) mw[1]=mw[1]+0
 IF (I=660) mw[1]=mw[1]+7.19
 IF (I=661) mw[1]=mw[1]+8.54
 IF (I=662) mw[1]=mw[1]+6.14
 IF (I=663) mw[1]=mw[1]+5.41
 IF (I=664) mw[1]=mw[1]+12.66
 IF (I=665) mw[1]=mw[1]+5.17
 IF (I=666) mw[1]=mw[1]+7.44
 IF (I=667) mw[1]=mw[1]+0
 IF (I=668) mw[1]=mw[1]+14.21
 IF (I=669) mw[1]=mw[1]+0
 IF (I=670) mw[1]=mw[1]+0
 IF (I=671) mw[1]=mw[1]+16.28
 IF (I=672) mw[1]=mw[1]+0
 IF (I=673) mw[1]=mw[1]+3.82
 IF (I=674) mw[1]=mw[1]+18.38
;
;Adjust internal to external (IX) gateway distance
 jloop j=650
    mw[1] = mw[1]+12.41
 endjloop
;
 jloop j=651
    mw[1] = mw[1]+4.11
 endjloop
;
 jloop j=652
    mw[1] = mw[1]+0
 endjloop
;
 jloop j=653
    mw[1] = mw[1]+31.33
 endjloop
;
 jloop j=654
    mw[1] = mw[1]+11.07
 endjloop
;
 jloop j=655
    mw[1] = mw[1]+11.32
 endjloop
;
 jloop j=656
    mw[1] = mw[1]+0
 endjloop
;
```

```
 jloop j=657
    mw[1] = mw[1]+6.91
 endjloop
;
 jloop j=658
    mw[1] = mw[1]+0
 endjloop
;
 jloop j=659
    mw[1] = mw[1]+0
 endjloop
;
 jloop j=660
    mw[1] = mw[1]+7.73
 endjloop
;
 jloop j=661
    mw[1] = mw[1]+8.88
 endjloop
;
 jloop j=662
    mw[1] = mw[1]+5.47
 endjloop
;
 jloop j=663
    mw[1] = mw[1]+8.16
 endjloop
;
 jloop j=664
    mw[1] = mw[1]+10.17
 endjloop
;
 jloop j=665
    mw[1] = mw[1]+5.43
 endjloop
;
 jloop j=666
    mw[1] = mw[1]+6.97
 endjloop
;
 jloop j=667
    mw[1] = mw[1]+0
 endjloop
;
 jloop j=668
    mw[1] = mw[1]+15.96
 endjloop
;
 jloop j=669
    mw[1] = mw[1]+0
 endjloop
;
 jloop j=670
    mw[1] = mw[1]+0
 endjloop
;
 jloop j=671
    mw[1] = mw[1]+18.61
 endjloop
;
 jloop j=672
```

```
544       mw[1] = mw[1]+0
545     endjloop
546    ;
547     jloop j=673
548       mw[1] = mw[1]+3.73
549     endjloop
550    ;
551     jloop j=674
552       mw[1] = mw[1]+19.21
553     endjloop
554    ;
555    ENDRUN
556    ;
557    ;
558    ; Evening enterzonal distance skim
559    RUN PGM=HWYLOAD
560    FILEI NETI = "@EVVNET@"
561    FILEO MATO[1] = "@TEMP@",
562     MO=1 FORMAT=tpp                                  ; output skim matrix
563     PHASE=LINKREAD                                   ; define link groups
564      IF (LI.HOVLINK=0) ADDTOGROUP=1                  ; no restriction
565      IF (LI.HOVLINK=1) ADDTOGROUP=2                  ; walk
566      IF (LI.HOVLINK=2) ADDTOGROUP=3                  ; HOV lanes
567      IF (LI.HOVLINK=3) ADDTOGROUP=4                  ; HOV bypassses
568      IF (LI.CAPCLASS=99) ADDTOGROUP=5                ; switched off links
569     endphase
570     PHASE=ILOOP                                      ; skim path building
571        PATHLOAD PATH=li.TIME_1,EXCLUDEGRP=2,5,       ; pathload without HOV links
572           MW[1]=PATHTRACE(LI.DISTANCE),SELECTGROUP=1 ; select links used by all
    veh
573     endphase
574    ENDRUN
575    ; intrazonals - fill the diagonal element with half of the rowmin value
576    RUN PGM=MATRIX
577    FILEI MATI[1] = "@TEMP@"
578    FILEO MATO[1] = "@TEMP2@",
579     MO=1
580     MW[1]=MI.1.1
581     iz1 = lowest(1,1,0.5,32700)*0.5
582     jloop j=i
583        mw[1] = iz1
584     endjloop
585    ENDRUN
586    ;
587    ; Adjust gateway distnaces
588    ;(Note: these values come from the 1/5/2021 Central El Dorado Hills Specific
    Plan VMT Analysis memorandom)
589    RUN PGM=MATRIX
590    FILEI MATI[1] = "@TEMP2@"
591    FILEO MATO[1] = "@EVVDIST@",
592     MO=1
593     MW[1]=MI.1.1
594    ;
595    ;Adjust external to internal (XI) gateway distance
596     IF (I=650) mw[1]=mw[1]+13.08
597     IF (I=651) mw[1]=mw[1]+3.96
598     IF (I=652) mw[1]=mw[1]+0
599     IF (I=653) mw[1]=mw[1]+20.39
600     IF (I=654) mw[1]=mw[1]+10.38
601     IF (I=655) mw[1]=mw[1]+8.80
602     IF (I=656) mw[1]=mw[1]+0
```

```
   IF (I=657) mw[1]=mw[1]+6.4
   IF (I=658) mw[1]=mw[1]+0
   IF (I=659) mw[1]=mw[1]+0
   IF (I=660) mw[1]=mw[1]+7.19
   IF (I=661) mw[1]=mw[1]+8.54
   IF (I=662) mw[1]=mw[1]+6.14
   IF (I=663) mw[1]=mw[1]+5.41
   IF (I=664) mw[1]=mw[1]+12.66
   IF (I=665) mw[1]=mw[1]+5.17
   IF (I=666) mw[1]=mw[1]+7.44
   IF (I=667) mw[1]=mw[1]+0
   IF (I=668) mw[1]=mw[1]+14.21
   IF (I=669) mw[1]=mw[1]+0
   IF (I=670) mw[1]=mw[1]+0
   IF (I=671) mw[1]=mw[1]+16.28
   IF (I=672) mw[1]=mw[1]+0
   IF (I=673) mw[1]=mw[1]+3.82
   IF (I=674) mw[1]=mw[1]+18.38
  ;
  ;Adjust internal to external (IX) gateway distance
   jloop j=650
      mw[1] = mw[1]+12.41
   endjloop
  ;
   jloop j=651
      mw[1] = mw[1]+4.11
   endjloop
  ;
   jloop j=652
      mw[1] = mw[1]+0
   endjloop
  ;
   jloop j=653
      mw[1] = mw[1]+31.33
   endjloop
  ;
   jloop j=654
      mw[1] = mw[1]+11.07
   endjloop
  ;
   jloop j=655
      mw[1] = mw[1]+11.32
   endjloop
  ;
   jloop j=656
      mw[1] = mw[1]+0
   endjloop
  ;
   jloop j=657
      mw[1] = mw[1]+6.91
   endjloop
  ;
   jloop j=658
      mw[1] = mw[1]+0
   endjloop
  ;
   jloop j=659
      mw[1] = mw[1]+0
   endjloop
  ;
   jloop j=660
```

```
664         mw[1] = mw[1]+7.73
665      endjloop
666     ;
667      jloop j=661
668         mw[1] = mw[1]+8.88
669      endjloop
670     ;
671      jloop j=662
672         mw[1] = mw[1]+5.47
673      endjloop
674     ;
675      jloop j=663
676         mw[1] = mw[1]+8.16
677      endjloop
678     ;
679      jloop j=664
680         mw[1] = mw[1]+10.17
681      endjloop
682     ;
683      jloop j=665
684         mw[1] = mw[1]+5.43
685      endjloop
686     ;
687      jloop j=666
688         mw[1] = mw[1]+6.97
689      endjloop
690     ;
691      jloop j=667
692         mw[1] = mw[1]+0
693      endjloop
694     ;
695      jloop j=668
696         mw[1] = mw[1]+15.96
697      endjloop
698     ;
699      jloop j=669
700         mw[1] = mw[1]+0
701      endjloop
702     ;
703      jloop j=670
704         mw[1] = mw[1]+0
705      endjloop
706     ;
707      jloop j=671
708         mw[1] = mw[1]+18.61
709      endjloop
710     ;
711      jloop j=672
712         mw[1] = mw[1]+0
713      endjloop
714     ;
715      jloop j=673
716         mw[1] = mw[1]+3.73
717      endjloop
718     ;
719      jloop j=674
720         mw[1] = mw[1]+19.21
721      endjloop
722     ;
723     ENDRUN
724     ;
```

```
;-------------------------------------------------------------------------------
; Combine distance skimes and OD DAta to get VMT (6 classes)
;-------------------------------------------------------------------------------
/*
; AM peak period VMT
RUN PGM=MATRIX
FILEI MATI[1] = "@AMOD@"                                ; OD Tables
; There are 6 tables in the OD file
;   1 = drive alone, no HOV lane use
;   2 = shared ride, no HOV lane use
;   3 = drive alone, with HOV lane use
;   4 = shared ride, with HOV lane use
;   5 = comercial vehicle 2 axles
;   6 = comercial vehicle 3+ axles
FILEI MATI[2] = "@AMDIST@"
; Note: Gateway TAZs are 650-674
FILEO MATO[1] = "@AMVMT@", MO=1-6, NAME= DA, SR, DA_HOV, SR_HOV, C2, C3
  MW[11]=MI.1.1
  MW[12]=MI.1.2
  MW[13]=MI.1.3
  MW[14]=MI.1.4
  MW[15]=MI.1.5
  MW[16]=MI.1.6
  MW[17]=MI.2.1
;
  JLOOP
    MW[1]=MW[11]*MW[17]
    MW[2]=MW[12]*MW[17]
    MW[3]=MW[13]*MW[17]
    MW[4]=MW[14]*MW[17]
    MW[5]=MW[15]*MW[17]
    MW[6]=MW[16]*MW[17]
  ENDJLOOP
ENDRUN
;
;
; Mid day period VMT
RUN PGM=MATRIX
FILEI MATI[1] = "@MDOD@"                                ; OD Tables
; There are 6 tables in the OD file
;   1 = drive alone, no HOV lane use
;   2 = shared ride, no HOV lane use
;   3 = drive alone, with HOV lane use
;   4 = shared ride, with HOV lane use
;   5 = comercial vehicle 2 axles
;   6 = comercial vehicle 3+ axles
FILEI MATI[2] = "@MDDIST@"
; Note: Gateway TAZs are 650-674
FILEO MATO[1] = "@MDVMT@", MO=1-6, NAME= DA, SR, DA_HOV, SR_HOV, C2, C3
  MW[11]=MI.1.1
  MW[12]=MI.1.2
  MW[13]=MI.1.3
  MW[14]=MI.1.4
  MW[15]=MI.1.5
  MW[16]=MI.1.6
  MW[17]=MI.2.1
;
  JLOOP
    MW[1]=MW[11]*MW[17]
    MW[2]=MW[12]*MW[17]
    MW[3]=MW[13]*MW[17]
```

```
      MW[4]=MW[14]*MW[17]
      MW[5]=MW[15]*MW[17]
      MW[6]=MW[16]*MW[17]
    ENDJLOOP
  ENDRUN
  ;
  ;
  ; PM peak period VMT
  RUN PGM=MATRIX
  FILEI MATI[1] = "@PMOD@"                                ; OD Tables
  ; There are 6 tables in the OD file
  ;   1 = drive alone, no HOV lane use
  ;   2 = shared ride, no HOV lane use
  ;   3 = drive alone, with HOV lane use
  ;   4 = shared ride, with HOV lane use
  ;   5 = comercial vehicle 2 axles
  ;   6 = comercial vehicle 3+ axles
  FILEI MATI[2] = "@PMDIST@"
  ; Note: Gateway TAZs are 650-674
  FILEO MATO[1] = "@PMVMT@", MO=1-6, NAME= DA, SR, DA_HOV, SR_HOV, C2, C3
    MW[11]=MI.1.1
    MW[12]=MI.1.2
    MW[13]=MI.1.3
    MW[14]=MI.1.4
    MW[15]=MI.1.5
    MW[16]=MI.1.6
    MW[17]=MI.2.1
  ;
    JLOOP
      MW[1]=MW[11]*MW[17]
      MW[2]=MW[12]*MW[17]
      MW[3]=MW[13]*MW[17]
      MW[4]=MW[14]*MW[17]
      MW[5]=MW[15]*MW[17]
      MW[6]=MW[16]*MW[17]
    ENDJLOOP
  ENDRUN
  ;
  ;
  ; Evening period VMT
  RUN PGM=MATRIX
  FILEI MATI[1] = "@EVVOD@"                                ; OD Tables
  ; There are 6 tables in the OD file
  ;   1 = drive alone, no HOV lane use
  ;   2 = shared ride, no HOV lane use
  ;   3 = drive alone, with HOV lane use
  ;   4 = shared ride, with HOV lane use
  ;   5 = comercial vehicle 2 axles
  ;   6 = comercial vehicle 3+ axles
  FILEI MATI[2] = "@EVVDIST@"
  ; Note: Gateway TAZs are 650-674
  FILEO MATO[1] = "@EVVVMT@", MO=1-6, NAME= DA, SR, DA_HOV, SR_HOV, C2, C3
    MW[11]=MI.1.1
    MW[12]=MI.1.2
    MW[13]=MI.1.3
    MW[14]=MI.1.4
    MW[15]=MI.1.5
    MW[16]=MI.1.6
    MW[17]=MI.2.1
  ;
    JLOOP
```

```
      MW[1]=MW[11]*MW[17]
      MW[2]=MW[12]*MW[17]
      MW[3]=MW[13]*MW[17]
      MW[4]=MW[14]*MW[17]
      MW[5]=MW[15]*MW[17]
      MW[6]=MW[16]*MW[17]
    ENDJLOOP
  ENDRUN
  */
  ;
  ;-------------------------------------------------------------------------------
  ; ombine distance skimes and OD DAta to get VMT.
  ; Simplify VMT tables to 4 classes: DA, SR, C2, and C3
  ;-------------------------------------------------------------------------------
  ; AM peak period VMT
  RUN PGM=MATRIX
  FILEI MATI[1] = "@AMOD@"                              ; OD Tables
  ; There are 6 tables in the OD file
  ;   1 = drive alone, no HOV lane use
  ;   2 = shared ride, no HOV lane use
  ;   3 = drive alone, with HOV lane use
  ;   4 = shared ride, with HOV lane use
  ;   5 = comercial vehicle 2 axles
  ;   6 = comercial vehicle 3+ axles
  FILEI MATI[2] = "@AMDIST@"
  ; Note: Gateway TAZs are 650-674
  FILEO MATO[1] = "@AMVMTSIMP@", MO=1-4, NAME= DA, SR, C2, C3
    MW[11]=MI.1.1
    MW[12]=MI.1.2
    MW[13]=MI.1.3
    MW[14]=MI.1.4
    MW[15]=MI.1.5
    MW[16]=MI.1.6
    MW[17]=MI.2.1
  ;
    JLOOP
      MW[1]=MW[11]*MW[17]+MW[13]*MW[17]
      MW[2]=MW[12]*MW[17]+MW[14]*MW[17]
      MW[3]=MW[15]*MW[17]
      MW[4]=MW[16]*MW[17]
    ENDJLOOP
  ENDRUN
  ;
  ; Mid day period VMT
  RUN PGM=MATRIX
  FILEI MATI[1] = "@MDOD@"                              ; OD Tables
  ; There are 6 tables in the OD file
  ;   1 = drive alone, no HOV lane use
  ;   2 = shared ride, no HOV lane use
  ;   3 = drive alone, with HOV lane use
  ;   4 = shared ride, with HOV lane use
  ;   5 = comercial vehicle 2 axles
  ;   6 = comercial vehicle 3+ axles
  FILEI MATI[2] = "@MDDIST@"
  ; Note: Gateway TAZs are 650-674
  FILEO MATO[1] = "@MDVMTSIMP@", MO=1-4, NAME= DA, SR, C2, C3
    MW[11]=MI.1.1
    MW[12]=MI.1.2
    MW[13]=MI.1.3
    MW[14]=MI.1.4
    MW[15]=MI.1.5
```

```
    MW[16]=MI.1.6
    MW[17]=MI.2.1
  ;
    JLOOP
      MW[1]=MW[11]*MW[17]+MW[13]*MW[17]
      MW[2]=MW[12]*MW[17]+MW[14]*MW[17]
      MW[3]=MW[15]*MW[17]
      MW[4]=MW[16]*MW[17]
    ENDJLOOP
  ENDRUN
  ;
  ; PM peak period VMT
  RUN PGM=MATRIX
  FILEI MATI[1] = "@PMOD@"                              ; OD Tables
  ; There are 6 tables in the OD file
  ;   1 = drive alone, no HOV lane use
  ;   2 = shared ride, no HOV lane use
  ;   3 = drive alone, with HOV lane use
  ;   4 = shared ride, with HOV lane use
  ;   5 = comercial vehicle 2 axles
  ;   6 = comercial vehicle 3+ axles
  FILEI MATI[2] = "@PMDIST@"
  ; Note: Gateway TAZs are 650-674
  FILEO MATO[1] = "@PMVMTSIMP@", MO=1-4, NAME= DA, SR, C2, C3
    MW[11]=MI.1.1
    MW[12]=MI.1.2
    MW[13]=MI.1.3
    MW[14]=MI.1.4
    MW[15]=MI.1.5
    MW[16]=MI.1.6
    MW[17]=MI.2.1
  ;
    JLOOP
      MW[1]=MW[11]*MW[17]+MW[13]*MW[17]
      MW[2]=MW[12]*MW[17]+MW[14]*MW[17]
      MW[3]=MW[15]*MW[17]
      MW[4]=MW[16]*MW[17]
    ENDJLOOP
  ENDRUN
  ;
  ; Evening period VMT
  RUN PGM=MATRIX
  FILEI MATI[1] = "@EVVOD@"                              ; OD Tables
  ; There are 6 tables in the OD file
  ;   1 = drive alone, no HOV lane use
  ;   2 = shared ride, no HOV lane use
  ;   3 = drive alone, with HOV lane use
  ;   4 = shared ride, with HOV lane use
  ;   5 = comercial vehicle 2 axles
  ;   6 = comercial vehicle 3+ axles
  FILEI MATI[2] = "@EVVDIST@"
  ; Note: Gateway TAZs are 650-674
  FILEO MATO[1] = "@EVVVMTSIMP@", MO=1-4, NAME= DA, SR, C2, C3
    MW[11]=MI.1.1
    MW[12]=MI.1.2
    MW[13]=MI.1.3
    MW[14]=MI.1.4
    MW[15]=MI.1.5
    MW[16]=MI.1.6
    MW[17]=MI.2.1
  ;
```

```
969     JLOOP
970       MW[1]=MW[11]*MW[17]+MW[13]*MW[17]
971       MW[2]=MW[12]*MW[17]+MW[14]*MW[17]
972       MW[3]=MW[15]*MW[17]
973       MW[4]=MW[16]*MW[17]
974     ENDJLOOP
975   ENDRUN
976   ;
977   ;
978   ;
```

```
;-------------------------------------------------------------------------
;
; Step 2: Determine trips by purpose for each time period.
;
;         Inputs: PA tables for HBW, HBS, HBSc, HBO, WO, OO, Commercial,
;                 transit access, and Thru trips by class
;
;         Output for each period: Production to Attraction (PA) and
;                 Attraction to Production (AP) trip tables for
;                    (File 1) drive alone (HBW, HBS, HBSc, HBO, WO,and OO)
;                    (File 2) shared ride (HBW, HBS, HBSc, HBO, WO,and OO)
;                    (File 3) C2
;                    (File 4) C3
;        these are then  further processed to multiclass OD tables and
;        multiclass OD percentage tables.
;
;        Combine multiclass PA and AP tables to true OD tables for C2, C3, and
;        by purpose for drive alone and shared ride. Then estiumate the
;        percentage of each trip...all by period.
;
;        Inputs: PA and AP tables by purpose for DA, SR, C2 and C3 for each
;                 time period.
;        Outputs: Fraction of trips for DA (by purpose), SR (by purpose)
;                  C2, and C3.
;        These outputs from step 2 will be combined with VMT by class from
;        step 1 to estimate total VMT by trip purpose in step 3.
;
;-------------------------------------------------------------------------
; Note This is addopted from the script that parse the daily PA's to OD pairs
; by time-of-day (i.e., "EDC_CAT_082118C\APPLICATIONS1\03_ASSIGN\3AMAT00C.S")
; and from 3AMAT00D.S which is under the first highway assignment step in
; the assenment portion of the catalog.
;-------------------------------------------------------------------------
;    We have TAZ-to-TAZ VMT for DA, SR C2 and C3.
;
;   For residential we want want HBW, HBS, HBSc, and HBO trips for DA and SR.
;   For office we want HBW.
;   To derive percentages, we also want total OD pairs across HBW, HBS, HBS, HBO,
;   WO, OO, C2, and C3.
;-------------------------------------------------------------------------
;-------------------------------------------------------------------------
; Input daily PA tables (sub tables in parentheses)
;-------------------------------------------------------------------------
HBW='.\PA_Tables\2040HBWM.MAT'    ;home based work
;                        (1)DA, (2)SR2, (3)SR3, (4)transit access walk,
;                        (5)transit access drive, (6)walk, (7)bike
HBS='.\PA_Tables\2040HBSM.MAT'    ;home based shop
;                        (1)DA, (2)SR2, (3)SR3, (4)transit access walk,
;                        (5)transit access drive, (6)walk, (7)bike
HBSC='.\PA_Tables\2040HSCM.MAT'   ;home based school
;                         (1)m1, (2)m2 ???
HBO='.\PA_Tables\2040HBOM.MAT'     ;home based other
;                        (1)DA, (2)SR2, (3)SR3, (4)transit access walk,
;                        (5)transit access drive, (6)walk, (7)bike
WO='.\PA_Tables\2040WOM.MAT'       ;work-other
;                        (1)DA, (2)SR2, (3)SR3, (4)transit access walk,
;                        (5)transit access drive, (6)walk, (7)bike
OO='.\PA_Tables\2040OOM.MAT'       ;other-other
;                        (1)DA, (2)SR2, (3)SR3, (4)transit access walk,
;                        (5)transit access drive, (6)walk, (7)bike
NWTD='.\PA_Tables\2040NWTD.MAT'   ;used for commercial vehicle trips (???)
```

```
;                          (1)HBS, (2)HBSC, (3)HBO, (4)WO, (5)OO,
;                          (6)C2, (7)C3
TDVT='.\PA_Tables\TDVT.MAT'       ;transit access
;                          (1)HBW DA, (2)HBW SR, (3)HBS DA, (4)HBS SR,
;                          (5)HBO DA, (6)HBO SR, (7)WO DA, (8)WO SR,
;                          (9)OO DA, (10)OO SR)
THRU='.\PA_Tables\2040THRU.MAT'   ;through trips
;                          (1)auto, (2)C3
;
;-------------------------------------------------------------------------------
; Temp output trips by purpose
;-------------------------------------------------------------------------------
; AM Peak Period
DA_AM='.\Temp_Files\DA_AM_Trips_by_Purpose.mat'
SR_AM='.\Temp_Files\SR_AM_Trips_by_Purpose.mat'
C2_AM='.\Temp_Files\C2_AM_Trips_by_Purpose.mat'
C3_AM='.\Temp_Files\C3_AM_Trips_by_Purpose.mat'
;
; mid day Period
DA_MD='.\Temp_Files\DA_MD_Trips_by_Purpose.mat'
SR_MD='.\Temp_Files\SR_MD_Trips_by_Purpose.mat'
C2_MD='.\Temp_Files\C2_MD_Trips_by_Purpose.mat'
C3_MD='.\Temp_Files\C3_MD_Trips_by_Purpose.mat'
;
; PM Peak Period
DA_PM='.\Temp_Files\DA_PM_Trips_by_Purpose.mat'
SR_PM='.\Temp_Files\SR_PM_Trips_by_Purpose.mat'
C2_PM='.\Temp_Files\C2_PM_Trips_by_Purpose.mat'
C3_PM='.\Temp_Files\C3_PM_Trips_by_Purpose.mat'
;
; Evening Peak Period
DA_EV='.\Temp_Files\DA_EV_Trips_by_Purpose.mat'
SR_EV='.\Temp_Files\SR_EV_Trips_by_Purpose.mat'
C2_EV='.\Temp_Files\C2_EV_Trips_by_Purpose.mat'
C3_EV='.\Temp_Files\C3_EV_Trips_by_Purpose.mat'
;
;-------------------------------------------------------------------------------
; Output multi-class OD tables
;-------------------------------------------------------------------------------
AM_OD=  '.\Temp_Files\AM_MULTICLASS.MAT'
AM_FRAC='AM_FRACTIONS_BY_PURPOSE.MAT'
MD_OD=  '.\Temp_Files\MD_MULTICLASS.MAT'
MD_FRAC='MD_FRACTIONS_BY_PURPOSE.MAT'
PM_OD=  '.\Temp_Files\PM_MULTICLASS.MAT'
PM_FRAC='PM_FRACTIONS_BY_PURPOSE.MAT'
EV_OD=  '.\Temp_Files\EV_MULTICLASS.MAT'
EV_FRAC='EV_FRACTIONS_BY_PURPOSE.MAT'
DAILY_OD='Daily_multiclass_OD.MAT'
;
;-------------------------------------------------------------------------------
; Estimate trip purposes for AM3
;-------------------------------------------------------------------------------
RUN PGM=MATRIX
; Inputs
FILEI MATI[1] = "@HBW@"
FILEI MATI[2] = "@HBS@"
FILEI MATI[3] = "@HBSC@"
FILEI MATI[4] = "@HBO@"
FILEI MATI[5] = "@WO@"
FILEI MATI[6] = "@OO@"
FILEI MATI[7] = "@nwtd@"
```

```
FILEI MATI[8] = "@TDVT@"
FILEI MATI[9] = "@THRU@"
;
; Outputs
FILEO MATO[1] = "@DA_AM@", MO=21-34,
                NAME= HBW_PA, HBW_AP,    HBS_PA, HBS_AP,    HBSc_PA, HBSC_AP,
                      HBO_PA, HBO_AP,    WO_PA, WO_AP,      OO_PA, OO_AP,
                      THRU_PA, THRU_AP
FILEO MATO[2] = "@SR_AM@", MO=41-54,
                NAME= HBW_PA, HBW_AP,    HBS_PA, HBS_AP,    HBSc_PA, HBSC_AP,
                      HBO_PA, HBO_AP,    WO_PA, WO_AP,      OO_PA, OO_AP,
                      THRU_PA, THRU_AP
FILEO MATO[3] = "@C2_AM@", MO=55-56, NAME= C2_PA, C2_AP
FILEO MATO[4] = "@C3_AM@", MO=57-58, NAME= C3_PA, C3_AP
;
; Input DA trips
  MW[1] = mi.1.1 *0.01                        ; HBW (scaled by 100)
  MW[2] = mi.2.1                              ; HBS (unscaled)
  MW[3] = (mi.3.1*0.06 + mi.3.1.t*0.22)       ; HBSc (unscaled)
  MW[4] = mi.4.1                              ; HBO (unscaled)
  MW[5] = mi.5.1                              ; WO (unscaled)
  MW[6] = mi.6.1                              ; OO (unscaled)
;
; Input and convert SR to Vehicle Trips
  MW[11] = (mi.1.2*0.50 + mi.1.3*0.302)*0.01 ; HBW SR (scaled by 100)
  MW[12] = (mi.2.2*0.50 + mi.2.3*0.272)       ; HBS (unscaled)
  MW[13] = (mi.3.1*0.34)                      ; HBSc (unscaled)
  MW[14] = (mi.4.2*0.50 + mi.4.3*0.287)       ; HBO (unscaled)
  MW[15] = (mi.5.2*0.50 + mi.5.3*0.279)       ; WO (unscaled)
  MW[16] = (mi.6.2*0.50 + mi.6.3*0.272)       ; OO (unscaled)
;
; Drive Alone P-A to O-D factoring
; P-A
  MW[21] = 0.330 *MW[1] + 0.406 *mi.8.1       ;HBW + HBW TD access
  MW[23] = 0.052 *MW[2] + 0.185 *mi.8.3       ;HBS + HBS TD access
  MW[25] = 0.523 *MW[3]                       ;HBSc
  MW[27] = 0.147 *MW[4] + 0.108 *mi.8.5       ;HBO + HBO TD access
  MW[29] = 0.146 *MW[5] + 0.075 *mi.8.7       ;WO + WO TD access
  MW[31] = 0.063 *MW[6] + 0.1675*mi.8.9       ;OO + OO TD access
  MW[33] = 0.090 *mi.9.1*0.8                  ;Thru
;
; A-P
  MW[22] = 0.014 *MW[1] + 0.0   *mi.8.1       ;HBW + HBW TD access
  MW[24] = 0.026 *MW[2] + 0.004 *mi.8.3       ;HBS + HBS TD access
  MW[26] = 0.006 *MW[3]                       ;HBSc
  MW[28] = 0.045 *MW[4] + 0.004 *mi.8.5       ;HBO + HBO TD access
  MW[30] = 0.040 *MW[5] + 0.093 *mi.8.7       ;WO + WO TD access
  MW[32] = 0.063 *MW[6] + 0.1675*mi.8.9       ;OO + OO TD access
  MW[34] = 0.090 *mi.9.1*0.8                  ;Thru
;
; Shared Ride  P-A to O-D factoring
; P-A
  MW[41] = 0.365 *MW[11] + 0.406 *mi.8.2       ;HBW + HBW TD access
  MW[43] = 0.052 *MW[12] + 0.185 *mi.8.4       ;HBS + HBS TD access
  MW[45] = 0.523 *MW[13]                       ;HBSc
  MW[47] = 0.147 *MW[14] + 0.108 *mi.8.6       ;HBO + HBO TD access
  MW[49] = 0.146 *MW[15] + 0.075 *mi.8.8       ;WO + WO TD access
  MW[51] = 0.063 *MW[16] + 0.1675*mi.8.10      ;OO + OO TD access
  MW[53] = 0.090 *mi.9.1*0.2                   ;Thru
;
; A-P
```

```
    MW[42] = 0.009 *MW[11] + 0.0   *mi.8.2      ;HBW + HBW TD access
    MW[43] = 0.026 *MW[12] + 0.004 *mi.8.4      ;HBS + HBS TD access
    MW[46] = 0.006 *MW[13]                      ;HBSc
    MW[48] = 0.045 *MW[14] + 0.004 *mi.8.6      ;HBO + HBO TD access
    MW[50] = 0.040 *MW[15] + 0.093 *mi.8.8      ;WO + WO TD access
    MW[52] = 0.063 *MW[16] + 0.1675*mi.8.10     ;OO + OO TD access
    MW[54] = 0.090 *MI.9.1*0.2                  ;Thru
  ;
  ; C2  P-A to O-D factoring
    MW[55] = 0.091*mi.7.6                       ; P-A
    MW[56] = MW[55]                             ; A-P
  ;
  ; C3  P-A to O-D factoring
    MW[57] = 0.091*mi.7.7 + 0.91*mi.9.2         ; P-A (with XX commercial)
    MW[58] = MW[57]                             ; A-P
  ENDRUN
  ;
  ;
  ;
  ;-------------------------------------------------------------------------------
  ; Estimate trip purposes for mid day
  ;-------------------------------------------------------------------------------
  RUN PGM=MATRIX
  ; Inputs
  FILEI MATI[1] = "@HBW@"
  FILEI MATI[2] = "@HBS@"
  FILEI MATI[3] = "@HBSC@"
  FILEI MATI[4] = "@HBO@"
  FILEI MATI[5] = "@WO@"
  FILEI MATI[6] = "@OO@"
  FILEI MATI[7] = "@nwtd@"
  FILEI MATI[8] = "@TDVT@"
  FILEI MATI[9] = "@THRU@"
  ;
  ; Outputs
  FILEO MATO[1] = "@DA_MD@", MO=21-34,
                  NAME= HBW_PA, HBW_AP,    HBS_PA, HBS_AP,    HBSc_PA, HBSC_AP,
                        HBO_PA, HBO_AP,    WO_PA, WO_AP,      OO_PA, OO_AP,
                        THRU_PA, THRU_AP
  FILEO MATO[2] = "@SR_MD@", MO=41-54,
                  NAME= HBW_PA, HBW_AP,    HBS_PA, HBS_AP,    HBSc_PA, HBSC_AP,
                        HBO_PA, HBO_AP,    WO_PA, WO_AP,      OO_PA, OO_AP,
                        THRU_PA, THRU_AP
  FILEO MATO[3] = "@C2_MD@", MO=55-56, NAME= C2_PA, C2_AP
  FILEO MATO[4] = "@C3_MD@", MO=57-78, NAME= C3_PA, C3_AP
  ;
  ; Input DA trips
    MW[1] = mi.1.1 *0.01                        ; HBW (scaled by 100)
    MW[2] = mi.2.1                              ; HBS (unscaled)
    MW[3] = (mi.3.1*0.06 + mi.3.1.t*0.22)       ; HBSc (unscaled)
    MW[4] = mi.4.1                              ; HBO (unscaled)
    MW[5] = mi.5.1                              ; WO (unscaled)
    MW[6] = mi.6.1                              ; OO (unscaled)
  ;
  ; Input and convert SR to Vehicle Trips
    MW[11] = (mi.1.2*0.50 + mi.1.3*0.302)*0.01 ; HBW SR (scaled by 100)
    MW[12] = (mi.2.2*0.50 + mi.2.3*0.272)       ; HBS (unscaled)
    MW[13] = (mi.3.1*0.34)                      ; HBSc (unscaled)
    MW[14] = (mi.4.2*0.50 + mi.4.3*0.287)       ; HBO (unscaled)
    MW[15] = (mi.5.2*0.50 + mi.5.3*0.279)       ; WO (unscaled)
    MW[16] = (mi.6.2*0.50 + mi.6.3*0.272)       ; OO (unscaled)
```

```
;
; Drive Alone P-A to O-D factoring
; P-A
  MW[21] = 0.082 *MW[1] + 0.044 *mi.8.1      ;HBW + HBW TD access
  MW[23] = 0.145 *MW[2] + 0.015 *mi.8.3      ;HBS + HBS TD access
  MW[25] = 0.028 *MW[3]                      ;HBSc
  MW[27] = 0.135 *MW[4] + 0.131 *mi.8.5      ;HBO + HBO TD access
  MW[29] = 0.219 *MW[5] + 0.394 *mi.8.7      ;WO + WO TD access
  MW[31] = 0.194 *MW[6] + 0.1295*mi.8.9      ;OO + OO TD access
  MW[33] = 0.180 *mi.9.1*0.8                 ;Thru
;
; A-P
  MW[22] = 0.076 *MW[1] + 0.0   *mi.8.1      ;HBW + HBW TD access
  MW[24] = 0.189 *MW[2] + 0.311 *mi.8.3      ;HBS + HBS TD access
  MW[26] = 0.119 *MW[3]                      ;HBSc
  MW[28] = 0.109 *MW[4] + 0.138 *mi.8.5      ;HBO + HBO TD access
  MW[30] = 0.203 *MW[5] + 0.309 *mi.8.7      ;WO + WO TD access
  MW[32] = 0.194 *MW[6] + 0.1295*mi.8.9      ;OO + OO TD access
  MW[34] = 0.180 *mi.9.1*0.8                 ;Thru
;
; Shared Ride  P-A to O-D factoring
; P-A
  MW[41] = 0.083 *MW[11] + 0.044 *mi.8.2      ;HBW + HBW TD access
  MW[43] = 0.145 *MW[12] + 0.015 *mi.8.4      ;HBS + HBS TD access
  MW[45] = 0.028 *MW[13]                      ;HBSc
  MW[47] = 0.135 *MW[14] + 0.131 *mi.8.6      ;HBO + HBO TD access
  MW[49] = 0.219 *MW[15] + 0.394 *mi.8.8      ;WO + WO TD access
  MW[51] = 0.194 *MW[16] + 0.129*mi.8.10      ;OO + OO TD access
  MW[53] = 0.180 *mi.9.1*0.2                  ;Thru
;
; A-P
  MW[42] = 0.064 *MW[11] + 0.0   *mi.8.2      ;HBW + HBW TD access
  MW[42] = 0.189 *MW[12] + 0.311 *mi.8.4      ;HBS + HBS TD access
  MW[46] = 0.119 *MW[13]                      ;HBSc
  MW[48] = 0.109 *MW[14] + 0.138 *mi.8.6      ;HBO + HBO TD access
  MW[50] = 0.203 *MW[15] + 0.309 *mi.8.8      ;WO + WO TD access
  MW[52] = 0.194 *MW[16] + 0.129 *mi.8.10     ;OO + OO TD access
  MW[54] = 0.180 *MI.9.1*0.2                  ;Thru
;
; C2  P-A to O-D factoring
  MW[55] = 0.144*mi.7.6                       ; P-A
  MW[56] = MW[55]                             ; A-P
;
; C3  P-A to O-D factoring
  MW[57] = 0.1625*mi.7.7 + 0.1625*mi.9.2      ; P-A (with XX commercial)
  MW[58] = MW[57]                             ; A-P
ENDRUN
;
;
;
;-------------------------------------------------------------------------------
; Estimate trip purposes for PM3
;-------------------------------------------------------------------------------
RUN PGM=MATRIX
; Inputs
FILEI MATI[1] = "@HBW@"
FILEI MATI[2] = "@HBS@"
FILEI MATI[3] = "@HBSC@"
FILEI MATI[4] = "@HBO@"
FILEI MATI[5] = "@WO@"
FILEI MATI[6] = "@OO@"
```

```
FILEI MATI[7] = "@nwtd@"
FILEI MATI[8] = "@TDVT@"
FILEI MATI[9] = "@THRU@"
;
; Outputs
FILEO MATO[1] = "@DA_PM@", MO=21-34,
                NAME= HBW_PA, HBW_AP,    HBS_PA, HBS_AP,    HBSc_PA, HBSC_AP,
                      HBO_PA, HBO_AP,    WO_PA, WO_AP,      OO_PA, OO_AP,
                      THRU_PA, THRU_AP
FILEO MATO[2] = "@SR_PM@", MO=41-54,
                NAME= HBW_PA, HBW_AP,    HBS_PA, HBS_AP,    HBSc_PA, HBSC_AP,
                      HBO_PA, HBO_AP,    WO_PA, WO_AP,      OO_PA, OO_AP,
                      THRU_PA, THRU_AP
FILEO MATO[3] = "@C2_PM@", MO=55-56, NAME= C2_PA, C2_AP
FILEO MATO[4] = "@C3_PM@", MO=57-78, NAME= C3_PA, C3_AP
;
; Input DA trips
  MW[1] = mi.1.1 *0.01                          ; HBW (scaled by 100)
  MW[2] = mi.2.1                                ; HBS (unscaled)
  MW[3] = (mi.3.1*0.06 + mi.3.1.t*0.22)         ; HBSc (unscaled)
  MW[4] = mi.4.1                                ; HBO (unscaled)
  MW[5] = mi.5.1                                ; WO (unscaled)
  MW[6] = mi.6.1                                ; OO (unscaled)
;
; Input and convert SR to Vehicle Trips
  MW[11] = (mi.1.2*0.50 + mi.1.3*0.302)*0.01 ; HBW SR (scaled by 100)
  MW[12] = (mi.2.2*0.50 + mi.2.3*0.272)         ; HBS (unscaled)
  MW[13] = (mi.3.1*0.34)                        ; HBSc (unscaled)
  MW[14] = (mi.4.2*0.50 + mi.4.3*0.287)         ; HBO (unscaled)
  MW[15] = (mi.5.2*0.50 + mi.5.3*0.279)         ; WO (unscaled)
  MW[16] = (mi.6.2*0.50 + mi.6.3*0.272)         ; OO (unscaled)
;
; Drive Alone P-A to O-D factoring
; P-A
  MW[21] = 0.026 *MW[1] + 0.0 *mi.8.1           ;HBW + HBW TD access
  MW[23] = 0.093 *MW[2] + 0.069 *mi.8.3         ;HBS + HBS TD access
  MW[25] = 0.023 *MW[3]                         ;HBSc
  MW[27] = 0.088 *MW[4] + 0.154 *mi.8.5         ;HBO + HBO TD access
  MW[29] = 0.075 *MW[5] + 0.039 *mi.8.7         ;WO + WO TD access
  MW[31] = 0.142 *MW[6] + 0.146*mi.8.9          ;OO + OO TD access
  MW[33] = 0.090 *mi.9.1*0.8                    ;Thru
;
; A-P
  MW[22] = 0.226 *MW[1] + 0.465 *mi.8.1         ;HBW + HBW TD access
  MW[24] = 0.213 *MW[2] + 0.171 *mi.8.3         ;HBS + HBS TD access
  MW[26] = 0.246 *MW[3]                         ;HBSc
  MW[28] = 0.133 *MW[4] + 0.176 *mi.8.5         ;HBO + HBO TD access
  MW[30] = 0.207 *MW[5] + 0.064 *mi.8.7         ;WO + WO TD access
  MW[32] = 0.142 *MW[6] + 0.146 *mi.8.9         ;OO + OO TD access
  MW[34] = 0.090 *mi.9.1*0.8                    ;Thru
;
; Shared Ride  P-A to O-D factoring
; P-A
  MW[41] = 0.037 *MW[11] + 0.0 *mi.8.2           ;HBW + HBW TD access
  MW[43] = 0.093 *MW[12] + 0.069 *mi.8.4         ;HBS + HBS TD access
  MW[45] = 0.023 *MW[13]                         ;HBSc
  MW[47] = 0.088 *MW[14] + 0.154 *mi.8.6         ;HBO + HBO TD access
  MW[49] = 0.075 *MW[15] + 0.039 *mi.8.8         ;WO + WO TD access
  MW[51] = 0.142 *MW[16] + 0.146 *mi.8.10        ;OO + OO TD access
  MW[53] = 0.090 *mi.9.1*0.2                     ;Thru
;
```

```
; A-P
  MW[42] = 0.211 *MW[11] + 0.465 *mi.8.2      ;HBW + HBW TD access
  MW[44] = 0.213 *MW[12] + 0.171 *mi.8.4      ;HBS + HBS TD access
  MW[46] = 0.246 *MW[13]                      ;HBSc
  MW[48] = 0.133 *MW[14] + 0.176 *mi.8.6      ;HBO + HBO TD access
  MW[50] = 0.207 *MW[15] + 0.064 *mi.8.8      ;WO + WO TD access
  MW[52] = 0.142 *MW[16] + 0.146 *mi.8.10     ;OO + OO TD access
  MW[54] = 0.090 *MI.9.1*0.2                  ;Thru
;
; C2  P-A to O-D factoring
  MW[55] = 0.1175*mi.7.6                       ; P-A
  MW[56] = MW[55]                             ; A-P
;
; C3  P-A to O-D factoring
  MW[57] = 0.072*mi.7.7 + 0.072*mi.9.2        ; P-A (with XX commercial)
  MW[58] = MW[57]                             ; A-P
ENDRUN
;
;
;
;-------------------------------------------------------------------------------
; Estimate trip purposes for evening
;-------------------------------------------------------------------------------
RUN PGM=MATRIX
; Inputs
FILEI MATI[1] = "@HBW@"
FILEI MATI[2] = "@HBS@"
FILEI MATI[3] = "@HBSC@"
FILEI MATI[4] = "@HBO@"
FILEI MATI[5] = "@WO@"
FILEI MATI[6] = "@OO@"
FILEI MATI[7] = "@nwtd@"
FILEI MATI[8] = "@TDVT@"
FILEI MATI[9] = "@THRU@"
;
; Outputs
FILEO MATO[1] = "@DA_EV@", MO=21-34,
                NAME= HBW_PA, HBW_AP,    HBS_PA, HBS_AP,    HBSc_PA, HBSC_AP,
                      HBO_PA, HBO_AP,    WO_PA, WO_AP,      OO_PA, OO_AP,
                      THRU_PA, THRU_AP
FILEO MATO[2] = "@SR_EV@", MO=41-54,
                NAME= HBW_PA, HBW_AP,    HBS_PA, HBS_AP,    HBSc_PA, HBSC_AP,
                      HBO_PA, HBO_AP,    WO_PA, WO_AP,      OO_PA, OO_AP,
                      THRU_PA, THRU_AP
FILEO MATO[3] = "@C2_EV@", MO=55-56, NAME= C2_PA, C2_AP
FILEO MATO[4] = "@C3_EV@", MO=57-78, NAME= C3_PA, C3_AP
;
; Input DA trips
  MW[1] = mi.1.1 *0.01                      ; HBW (scaled by 100)
  MW[2] = mi.2.1                            ; HBS (unscaled)
  MW[3] = (mi.3.1*0.06 + mi.3.1.t*0.22)     ; HBSc (unscaled)
  MW[4] = mi.4.1                            ; HBO (unscaled)
  MW[5] = mi.5.1                            ; WO (unscaled)
  MW[6] = mi.6.1                            ; OO (unscaled)
;
; Input and convert SR to Vehicle Trips
  MW[11] = (mi.1.2*0.50 + mi.1.3*0.302)*0.01 ; HBW SR (scaled by 100)
  MW[12] = (mi.2.2*0.50 + mi.2.3*0.272)     ; HBS (unscaled)
  MW[13] = (mi.3.1*0.34)                    ; HBSc (unscaled)
  MW[14] = (mi.4.2*0.50 + mi.4.3*0.287)     ; HBO (unscaled)
  MW[15] = (mi.5.2*0.50 + mi.5.3*0.279)     ; WO (unscaled)
```

```
  MW[16] = (mi.6.2*0.50 + mi.6.3*0.272)      ; OO (unscaled)
;
; Drive Alone P-A to O-D factoring
; P-A
  MW[21] = 0.098 *MW[1] + 0.048 *mi.8.1      ;HBW + HBW TD access
  MW[23] = 0.089 *MW[2] + 0.136 *mi.8.3      ;HBS + HBS TD access
  MW[25] = 0.018 *MW[3]                      ;HBSc
  MW[27] = 0.140 *MW[4] + 0.128 *mi.8.5      ;HBO + HBO TD access
  MW[29] = 0.036 *MW[5] + 0.0 *mi.8.7        ;WO + WO TD access
  MW[31] = 0.101 *MW[6] + 0.057*mi.8.9       ;OO + OO TD access
  MW[33] = 0.140 *mi.9.1*0.8                 ;Thru
;
; A-P
  MW[22] = 0.149 *MW[1] + 0.037 *mi.8.1      ;HBW + HBW TD access
  MW[24] = 0.194 *MW[2] + 0.109 *mi.8.3      ;HBS + HBS TD access
  MW[26] = 0.036 *MW[3]                      ;HBSc
  MW[28] = 0.204 *MW[4] + 0.161 *mi.8.5      ;HBO + HBO TD access
  MW[30] = 0.072 *MW[5] + 0.026 *mi.8.7      ;WO + WO TD access
  MW[32] = 0.101 *MW[6] + 0.057 *mi.8.9      ;OO + OO TD access
  MW[34] = 0.140 *mi.9.1*0.8                 ;Thru
;
; Shared Ride  P-A to O-D factoring
; P-A
  MW[41] = 0.082 *MW[11] + 0.048 *mi.8.2      ;HBW + HBW TD access
  MW[43] = 0.089 *MW[12] + 0.136 *mi.8.4      ;HBS + HBS TD access
  MW[45] = 0.018 *MW[13]                      ;HBSc
  MW[47] = 0.140 *MW[14] + 0.128 *mi.8.6      ;HBO + HBO TD access
  MW[49] = 0.036 *MW[15] + 0.0 *mi.8.8        ;WO + WO TD access
  MW[51] = 0.101 *MW[16] + 0.057 *mi.8.10     ;OO + OO TD access
  MW[53] = 0.140 *mi.9.1*0.2                  ;Thru
;
; A-P
  MW[42] = 0.148 *MW[11] + 0.037 *mi.8.2      ;HBW + HBW TD access
  MW[44] = 0.194 *MW[12] + 0.109 *mi.8.4      ;HBS + HBS TD access
  MW[46] = 0.036 *MW[13]                      ;HBSc
  MW[48] = 0.204 *MW[14] + 0.161 *mi.8.6      ;HBO + HBO TD access
  MW[50] = 0.072 *MW[15] + 0.026 *mi.8.8      ;WO + WO TD access
  MW[52] = 0.101 *MW[16] + 0.057 *mi.8.10     ;OO + OO TD access
  MW[54] = 0.140 *MI.9.1*0.2                  ;Thru
;
; C2  P-A to O-D factoring
  MW[55] = 0.1475*mi.7.6                      ; P-A
  MW[56] = MW[55]                             ; A-P
;
; C3  P-A to O-D factoring
  MW[57] = 0.1745*mi.7.7 + 0.1745*mi.9.2      ; P-A (with XX commercial)
  MW[58] = MW[57]                             ; A-P
ENDRUN
;*********************************************************************************
;
;--------------------------------------------------------------------------------
;  Combine P-A and A-P into assignable vehicle trips and estimate percentages
;--------------------------------------------------------------------------------
;
;--------------------------------------------------------------------------------
; For A3 period,
;--------------------------------------------------------------------------------
RUN PGM=MATRIX
; INPUTS
FILEI MATI[1] = "@DA_AM@"
FILEI MATI[2] = "@SR_AM@"
```

```
  FILEI MATI[3] = "@C2_AM@"
  FILEI MATI[4] = "@C3_AM@"
  ;
  ; OUTPUTS
  FILEO MATO[1] = "@AM_OD@'", mo=1-17, name=
                  DA_HBW, SR_HBW, DA_HBS, SR_HBS,
                  DA_HBSC, SR_HBSC, DA_HBO, SR_HBO,
                  DA_WO, SR_WO, DA_OO, SR_OO,
                  DA_THRU, SR_THRU, C2, C3, TOT
  FILEO MATO[2] = "@AM_FRAC@'", mo=21-37, name=
                  DA_HBW, SR_HBW, DA_HBS, SR_HBS,
                  DA_HBSC, SR_HBSC, DA_HBO, SR_HBO,
                  DA_WO, SR_WO, DA_OO, SR_OO,
                  DA_THRU, SR_THRU, C2, C3, TOT
  ;
  ; TRIPS
  ; HBW
    MW[1] = mi.1.1 + mi.1.2.t                                   ;DA_HBW
    MW[2] = mi.2.1 + mi.2.2.t                                   ;SR_HBW
  ; HBS
    MW[3] = mi.1.3 + mi.1.4.t                                   ;DA_HBS
    MW[4] = mi.2.3 + mi.2.4.t                                   ;SR_HBS
  ; HBSC
    MW[5] = mi.1.5 + mi.1.6.t                                   ;DA_HBSC
    MW[6] = mi.2.5 + mi.2.6.t                                   ;SR_HBSC
  ; HBO
    MW[7] = mi.1.7 + mi.1.8.t                                   ;DA_HBO
    MW[8] = mi.2.7 + mi.2.8.t                                   ;SR_HBO
  ; WO
    MW[9] = mi.1.9 + mi.1.10.t                                  ;DA_WO
    MW[10] = mi.2.9 + mi.2.10.t                                 ;SR_WO
  ; OO
    MW[11] = mi.1.11 + mi.1.12.t                                ;DA_OO
    MW[12] = mi.2.11 + mi.2.12.t                                ;SR_OO
  ; THRU
    MW[13] = mi.1.13 + mi.1.14.t                                ;DA_THRU
    MW[14] = mi.2.13 + mi.2.14.t                                ;SR_THRU
  ; C2
    MW[15] = mi.3.1 + mi.3.2.t                                  ;C2
  ; C3
    MW[16] = mi.4.1 + mi.4.2.t                                  ;C2
  ; TOTAL
    MW[17]=MW[1] +MW[2] +MW[3] +MW[4] +MW[5] +MW[6] +           ;TOTAL
           MW[7] +MW[8] +MW[9] +MW[10]+MW[11]+MW[12]+
           MW[13]+MW[14]+MW[15]+MW[16]
  ;
  ; fRACTIONS
  ; HBW
    JLOOP
      IF (MW[17] == 0)
        MW[21] = 0
        MW[22] = 0
        MW[23] = 0
        MW[24] = 0
        MW[25] = 0
        MW[26] = 0
        MW[27] = 0
        MW[28] = 0
        MW[29] = 0
        MW[30] = 0
        MW[31] = 0
```

```
        MW[32] = 0
        MW[33] = 0
        MW[34] = 0
        MW[35] = 0
        MW[36] = 0
      ELSE
        MW[21] = MW[1] / MW[17]                                  ;DA_HBW
        MW[22] = MW[2] / MW[17]                                  ;SR_HBW
   ;
        MW[23] = MW[3] / MW[17]                                  ;DA_HBS
        MW[24] = MW[4] / MW[17]                                  ;SR_HBS
   ;
        MW[25] = MW[5] / MW[17]                                  ;DA_HBSC
        MW[26] = MW[6] / MW[17]                                  ;SR_HBSC
   ;
        MW[27] = MW[7] / MW[17]                                  ;DA_HBO
        MW[28] = MW[8] / MW[17]                                  ;SR_HBO
   ;
        MW[29] = MW[9] / MW[17]                                  ;DA_WO
        MW[30] = MW[10] / MW[17]                                 ;SR_WO
   ;
        MW[31] = MW[11] / MW[17]                                 ;DA_OO
        MW[32] = MW[12] / MW[17]                                 ;SR_OO
   ;
        MW[33] = MW[13] / MW[17]                                 ;DA_THRU
        MW[34] = MW[14] / MW[17]                                 ;SR_THRY
   ;
        MW[35] = MW[15] / MW[17]                                 ;C2
        MW[36] = MW[16] / MW[17]                                 ;C3
      ENDIF
    ENDJLOOP
    MW[37]=MW[21]+MW[22]+MW[23]+MW[24]+MW[25]+MW[26] +           ;TOTAL
           MW[27]+MW[28]+MW[29]+ MW[30]+MW[31]+MW[32]+
           MW[33]+MW[34]+MW[35]+MW[36]
ENDRUN
;
;-------------------------------------------------------------------------------
; For mid day period,
;-------------------------------------------------------------------------------
RUN PGM=MATRIX
; INPUTS
FILEI MATI[1] = "@DA_MD@"
FILEI MATI[2] = "@SR_MD@"
FILEI MATI[3] = "@C2_MD@"
FILEI MATI[4] = "@C3_MD@"
;
; OUTPUTS
FILEO MATO[1] = "@MD_OD@'", mo=1-17, name=
                DA_HBW, SR_HBW, DA_HBS, SR_HBS,
                DA_HBSC, SR_HBSC, DA_HBO, SR_HBO,
                DA_WO, SR_WO, DA_OO, SR_OO,
                DA_THRU, SR_THRU, C2, C3, TOT
FILEO MATO[2] = "@MD_FRAC@'", mo=21-37, name=
                DA_HBW, SR_HBW, DA_HBS, SR_HBS,
                DA_HBSC, SR_HBSC, DA_HBO, SR_HBO,
                DA_WO, SR_WO, DA_OO, SR_OO,
                DA_THRU, SR_THRU, C2, C3, TOT
;
; TRIPS
; HBW
  MW[1] = mi.1.1 + mi.1.2.t                                      ;DA_HBW
```

```
611     MW[2] = mi.2.1 + mi.2.2.t                                       ;SR_HBW
612   ; HBS
613     MW[3] = mi.1.3 + mi.1.4.t                                       ;DA_HBS
614     MW[4] = mi.2.3 + mi.2.4.t                                       ;SR_HBS
615   ; HBSC
616     MW[5] = mi.1.5 + mi.1.6.t                                       ;DA_HBSC
617     MW[6] = mi.2.5 + mi.2.6.t                                       ;SR_HBSC
618   ; HBO
619     MW[7] = mi.1.7 + mi.1.8.t                                       ;DA_HBO
620     MW[8] = mi.2.7 + mi.2.8.t                                       ;SR_HBO
621   ; WO
622     MW[9] = mi.1.9 + mi.1.10.t                                      ;DA_WO
623     MW[10] = mi.2.9 + mi.2.10.t                                     ;SR_WO
624   ; OO
625     MW[11] = mi.1.11 + mi.1.12.t                                    ;DA_OO
626     MW[12] = mi.2.11 + mi.2.12.t                                    ;SR_OO
627   ; THRU
628     MW[13] = mi.1.13 + mi.1.14.t                                    ;DA_THRU
629     MW[14] = mi.2.13 + mi.2.14.t                                    ;SR_THRU
630   ; C2
631     MW[15] = mi.3.1 + mi.3.2.t                                      ;C2
632   ; C3
633     MW[16] = mi.4.1 + mi.4.2.t                                      ;C2
634   ; TOTAL
635     MW[17]=MW[1] +MW[2] +MW[3] +MW[4] +MW[5] +MW[6] +               ;TOTAL
636            MW[7] +MW[8] +MW[9] +MW[10]+MW[11]+MW[12]+
637            MW[13]+MW[14]+MW[15]+MW[16]
638   ;
639   ; fRACTIONS
640   ; HBW
641     JLOOP
642       IF (MW[17] == 0)
643         MW[21] = 0
644         MW[22] = 0
645         MW[23] = 0
646         MW[24] = 0
647         MW[25] = 0
648         MW[26] = 0
649         MW[27] = 0
650         MW[28] = 0
651         MW[29] = 0
652         MW[30] = 0
653         MW[31] = 0
654         MW[32] = 0
655         MW[33] = 0
656         MW[34] = 0
657         MW[35] = 0
658         MW[36] = 0
659       ELSE
660         MW[21] = MW[1] / MW[17]                                     ;DA_HBW
661         MW[22] = MW[2] / MW[17]                                     ;SR_HBW
662    ;
663         MW[23] = MW[3] / MW[17]                                     ;DA_HBS
664         MW[24] = MW[4] / MW[17]                                     ;SR_HBS
665    ;
666         MW[25] = MW[5] / MW[17]                                     ;DA_HBSC
667         MW[26] = MW[6] / MW[17]                                     ;SR_HBSC
668    ;
669         MW[27] = MW[7] / MW[17]                                     ;DA_HBO
670         MW[28] = MW[8] / MW[17]                                     ;SR_HBO
671    ;
```

```
         MW[29] = MW[9] / MW[17]                                    ;DA_WO
         MW[30] = MW[10] / MW[17]                                   ;SR_WO
    ;
         MW[31] = MW[11] / MW[17]                                   ;DA_OO
         MW[32] = MW[12] / MW[17]                                   ;SR_OO
    ;
         MW[33] = MW[13] / MW[17]                                   ;DA_THRU
         MW[34] = MW[14] / MW[17]                                   ;SR_THRY
    ;
         MW[35] = MW[15] / MW[17]                                   ;C2
         MW[36] = MW[16] / MW[17]                                   ;C3
        ENDIF
     ENDJLOOP
     MW[37]=MW[21]+MW[22]+MW[23]+MW[24]+MW[25]+MW[26] +             ;TOTAL
            MW[27]+MW[28]+MW[29]+ MW[30]+MW[31]+MW[32]+
            MW[33]+MW[34]+MW[35]+MW[36]
  ENDRUN
  ;
  ;-------------------------------------------------------------------------------
  ; For P3 period,
  ;-------------------------------------------------------------------------------
  RUN PGM=MATRIX
  ; INPUTS
  FILEI MATI[1] = "@DA_PM@"
  FILEI MATI[2] = "@SR_PM@"
  FILEI MATI[3] = "@C2_PM@"
  FILEI MATI[4] = "@C3_PM@"
  ;
  ; OUTPUTS
  FILEO MATO[1] = "@PM_OD@'", mo=1-17, name=
                  DA_HBW, SR_HBW, DA_HBS, SR_HBS,
                  DA_HBSC, SR_HBSC, DA_HBO, SR_HBO,
                  DA_WO, SR_WO, DA_OO, SR_OO,
                  DA_THRU, SR_THRU, C2, C3, TOT
  FILEO MATO[2] = "@PM_FRAC@'", mo=21-37, name=
                  DA_HBW, SR_HBW, DA_HBS, SR_HBS,
                  DA_HBSC, SR_HBSC, DA_HBO, SR_HBO,
                  DA_WO, SR_WO, DA_OO, SR_OO,
                  DA_THRU, SR_THRU, C2, C3, TOT
  ;
  ; TRIPS
  ; HBW
    MW[1] = mi.1.1 + mi.1.2.t                                       ;DA_HBW
    MW[2] = mi.2.1 + mi.2.2.t                                       ;SR_HBW
  ; HBS
    MW[3] = mi.1.3 + mi.1.4.t                                       ;DA_HBS
    MW[4] = mi.2.3 + mi.2.4.t                                       ;SR_HBS
  ; HBSC
    MW[5] = mi.1.5 + mi.1.6.t                                       ;DA_HBSC
    MW[6] = mi.2.5 + mi.2.6.t                                       ;SR_HBSC
  ; HBO
    MW[7] = mi.1.7 + mi.1.8.t                                       ;DA_HBO
    MW[8] = mi.2.7 + mi.2.8.t                                       ;SR_HBO
  ; WO
    MW[9] = mi.1.9 + mi.1.10.t                                      ;DA_WO
    MW[10] = mi.2.9 + mi.2.10.t                                     ;SR_WO
  ; OO
    MW[11] = mi.1.11 + mi.1.12.t                                    ;DA_OO
    MW[12] = mi.2.11 + mi.2.12.t                                    ;SR_OO
  ; THRU
    MW[13] = mi.1.13 + mi.1.14.t                                    ;DA_THRU
```

```
    MW[14] = mi.2.13 + mi.2.14.t                                    ;SR_THRU
  ; C2
    MW[15] = mi.3.1 + mi.3.2.t                                      ;C2
  ; C3
    MW[16] = mi.4.1 + mi.4.2.t                                      ;C2
  ; TOTAL
    MW[17]=MW[1] +MW[2] +MW[3] +MW[4] +MW[5] +MW[6] +               ;TOTAL
           MW[7] +MW[8] +MW[9] +MW[10]+MW[11]+MW[12]+
           MW[13]+MW[14]+MW[15]+MW[16]
  ;
  ; fRACTIONS
  ; HBW
    JLOOP
      IF (MW[17] == 0)
        MW[21] = 0
        MW[22] = 0
        MW[23] = 0
        MW[24] = 0
        MW[25] = 0
        MW[26] = 0
        MW[27] = 0
        MW[28] = 0
        MW[29] = 0
        MW[30] = 0
        MW[31] = 0
        MW[32] = 0
        MW[33] = 0
        MW[34] = 0
        MW[35] = 0
        MW[36] = 0
      ELSE
        MW[21] = MW[1] / MW[17]                                     ;DA_HBW
        MW[22] = MW[2] / MW[17]                                     ;SR_HBW
   ;
        MW[23] = MW[3] / MW[17]                                     ;DA_HBS
        MW[24] = MW[4] / MW[17]                                     ;SR_HBS
   ;
        MW[25] = MW[5] / MW[17]                                     ;DA_HBSC
        MW[26] = MW[6] / MW[17]                                     ;SR_HBSC
   ;
        MW[27] = MW[7] / MW[17]                                     ;DA_HBO
        MW[28] = MW[8] / MW[17]                                     ;SR_HBO
   ;
        MW[29] = MW[9] / MW[17]                                     ;DA_WO
        MW[30] = MW[10] / MW[17]                                    ;SR_WO
   ;
        MW[31] = MW[11] / MW[17]                                    ;DA_OO
        MW[32] = MW[12] / MW[17]                                    ;SR_OO
   ;
        MW[33] = MW[13] / MW[17]                                    ;DA_THRU
        MW[34] = MW[14] / MW[17]                                    ;SR_THRY
   ;
        MW[35] = MW[15] / MW[17]                                    ;C2
        MW[36] = MW[16] / MW[17]                                    ;C3
       ENDIF
    ENDJLOOP
    MW[37]=MW[21]+MW[22]+MW[23]+MW[24]+MW[25]+MW[26] +              ;TOTAL
           MW[27]+MW[28]+MW[29]+ MW[30]+MW[31]+MW[32]+
           MW[33]+MW[34]+MW[35]+MW[36]
ENDRUN
;
```

```
;-------------------------------------------------------------------------
; For EVENING period,
;-------------------------------------------------------------------------
RUN PGM=MATRIX
; INPUTS
FILEI MATI[1] = "@DA_EV@"
FILEI MATI[2] = "@SR_EV@"
FILEI MATI[3] = "@C2_EV@"
FILEI MATI[4] = "@C3_EV@"
;
; OUTPUTS
FILEO MATO[1] = "@EV_OD@'", mo=1-17, name=
                DA_HBW, SR_HBW, DA_HBS, SR_HBS,
                DA_HBSC, SR_HBSC, DA_HBO, SR_HBO,
                DA_WO, SR_WO, DA_OO, SR_OO,
                DA_THRU, SR_THRU, C2, C3, TOT
FILEO MATO[2] = "@EV_FRAC@'", mo=21-37, name=
                DA_HBW, SR_HBW, DA_HBS, SR_HBS,
                DA_HBSC, SR_HBSC, DA_HBO, SR_HBO,
                DA_WO, SR_WO, DA_OO, SR_OO,
                DA_THRU, SR_THRU, C2, C3, TOT
;
; TRIPS
; HBW
  MW[1] = mi.1.1 + mi.1.2.t                                    ;DA_HBW
  MW[2] = mi.2.1 + mi.2.2.t                                    ;SR_HBW
; HBS
  MW[3] = mi.1.3 + mi.1.4.t                                    ;DA_HBS
  MW[4] = mi.2.3 + mi.2.4.t                                    ;SR_HBS
; HBSC
  MW[5] = mi.1.5 + mi.1.6.t                                    ;DA_HBSC
  MW[6] = mi.2.5 + mi.2.6.t                                    ;SR_HBSC
; HBO
  MW[7] = mi.1.7 + mi.1.8.t                                    ;DA_HBO
  MW[8] = mi.2.7 + mi.2.8.t                                    ;SR_HBO
; WO
  MW[9] = mi.1.9 + mi.1.10.t                                   ;DA_WO
  MW[10] = mi.2.9 + mi.2.10.t                                  ;SR_WO
; OO
  MW[11] = mi.1.11 + mi.1.12.t                                 ;DA_OO
  MW[12] = mi.2.11 + mi.2.12.t                                 ;SR_OO
; THRU
  MW[13] = mi.1.13 + mi.1.14.t                                 ;DA_THRU
  MW[14] = mi.2.13 + mi.2.14.t                                 ;SR_THRU
; C2
  MW[15] = mi.3.1 + mi.3.2.t                                   ;C2
; C3
  MW[16] = mi.4.1 + mi.4.2.t                                   ;C2
; TOTAL
  MW[17]=MW[1] +MW[2] +MW[3] +MW[4] +MW[5] +MW[6] +            ;TOTAL
         MW[7] +MW[8] +MW[9] +MW[10]+MW[11]+MW[12]+
         MW[13]+MW[14]+MW[15]+MW[16]
;
; fRACTIONS
; HBW
  JLOOP
    IF (MW[17] == 0)
      MW[21] = 0
      MW[22] = 0
      MW[23] = 0
      MW[24] = 0
```

```
        MW[25] = 0
        MW[26] = 0
        MW[27] = 0
        MW[28] = 0
        MW[29] = 0
        MW[30] = 0
        MW[31] = 0
        MW[32] = 0
        MW[33] = 0
        MW[34] = 0
        MW[35] = 0
        MW[36] = 0
      ELSE
        MW[21] = MW[1] / MW[17]                                  ;DA_HBW
        MW[22] = MW[2] / MW[17]                                  ;SR_HBW
   ;
        MW[23] = MW[3] / MW[17]                                  ;DA_HBS
        MW[24] = MW[4] / MW[17]                                  ;SR_HBS
   ;
        MW[25] = MW[5] / MW[17]                                  ;DA_HBSC
        MW[26] = MW[6] / MW[17]                                  ;SR_HBSC
   ;
        MW[27] = MW[7] / MW[17]                                  ;DA_HBO
        MW[28] = MW[8] / MW[17]                                  ;SR_HBO
   ;
        MW[29] = MW[9] / MW[17]                                  ;DA_WO
        MW[30] = MW[10] / MW[17]                                 ;SR_WO
   ;
        MW[31] = MW[11] / MW[17]                                 ;DA_OO
        MW[32] = MW[12] / MW[17]                                 ;SR_OO
   ;
        MW[33] = MW[13] / MW[17]                                 ;DA_THRU
        MW[34] = MW[14] / MW[17]                                 ;SR_THRY
   ;
        MW[35] = MW[15] / MW[17]                                 ;C2
        MW[36] = MW[16] / MW[17]                                 ;C3
       ENDIF
    ENDJLOOP
    MW[37]=MW[21]+MW[22]+MW[23]+MW[24]+MW[25]+MW[26] +           ;TOTAL
           MW[27]+MW[28]+MW[29]+ MW[30]+MW[31]+MW[32]+
           MW[33]+MW[34]+MW[35]+MW[36]
ENDRUN
;
;-------------------------------------------------------------------------------
; Save daily trips by purpose in case we want to estimate avarage trip.
;-------------------------------------------------------------------------------
RUN PGM=MATRIX
; INPUTS
FILEI MATI[1] = "@AM_OD@"
FILEI MATI[2] = "@MD_OD@"
FILEI MATI[3] = "@PM_OD@"
FILEI MATI[4] = "@EV_OD@"
;
; OUTPUTS
FILEO MATO[1] = "@DAILY_OD@'", mo=1-9, name=
                HBW, HBS, HBSC, HBO,
                DWO, OO,THRU, Comercial, TOT
;
  MW[1]=(mi.1.1 +mi.1.2 )+(mi.2.1 +mi.2.2 )+                     ;HBW (DA+SR)
        (mi.3.1 +mi.3.2 )+(mi.4.1 +mi.4.2 )
;
```

```
916     MW[2]=(mi.1.3 +mi.1.4 )+(mi.2.3 +mi.2.4 )+              ;HBS (DA+SR)
917           (mi.3.3 +mi.3.4 )+(mi.4.3 +mi.4.4 )
918   ;
919     MW[3]=(mi.1.5 +mi.1.6 )+(mi.2.5 +mi.2.6 )+              ;HBSC (DA+SR)
920           (mi.3.5 +mi.3.6 )+(mi.4.5 +mi.4.6 )
921   ;
922     MW[4]=(mi.1.7 +mi.1.8 )+(mi.2.7 +mi.2.8 )+              ;HBO (DA+SR)
923           (mi.3.7 +mi.3.8 )+(mi.4.7 +mi.4.8 )
924   ;
925     MW[5]=(mi.1.9 +mi.1.10)+(mi.2.9 +mi.2.10)+              ;WO (DA+SR)
926           (mi.3.9 +mi.3.10)+(mi.4.9 +mi.4.10)
927   ;
928     MW[6]=(mi.1.11+mi.1.12)+(mi.2.11+mi.2.12)+              ;OO (DA+SR)
929           (mi.3.11+mi.3.12)+(mi.4.11+mi.4.12)
930   ;
931     MW[7]=(mi.1.13+mi.1.14)+(mi.2.13+mi.2.14)+              ;THRU (DA+SR)
932           (mi.3.13+mi.3.14)+(mi.4.13+mi.4.14)
933   ;
934     MW[8]=(mi.1.15+mi.1.16)+(mi.2.15+mi.2.16)+              ;COMMERCIAL  (C2+C3)
935           (mi.3.15+mi.3.16)+(mi.4.15+mi.4.16)
936   ;
937     MW[9]=MW[1]+MW[2]+MW[3]+MW[4]+                          ;TOTAL
938           MW[5]+MW[6]+MW[7]+MW[8]
939   ;
940   ENDRUN
```

```
;--------------------------------------------------------------------------
;
; Step 3: Combine the 4 class VMT tables from step 1 with the fraction of
;         trips by class and purpose from step 2 to estimate VMT by class
;         and pupurose for each TAZ.
;
;         These data can then be postprocessed with pop and employment data to
;         derive VMT per capita/service pop data for comparison to thresholds.
;
;--------------------------------------------------------------------------
; Input VMT matrices
;--------------------------------------------------------------------------
AMVMTSIMP='2040A3VS_vmt_4_Class.MAT'
MDVMTSIMP='2040MDVS_VMT_4_Class.MAT'
PMVMTSIMP='2040P3V_VMT_4_Class.MAT'
EVVVMTSIMP='2040EVV_VMT_4_Class.MAT'
; Note: VMT is provided for 4 classes: DA, SR, C2 and C3
;--------------------------------------------------------------------------
; Input multi-class OD table fractions
;--------------------------------------------------------------------------
AM_FRAC='AM_FRACTIONS_BY_PURPOSE.MAT'
MD_FRAC='MD_FRACTIONS_BY_PURPOSE.MAT'
PM_FRAC='PM_FRACTIONS_BY_PURPOSE.MAT'
EV_FRAC='EV_FRACTIONS_BY_PURPOSE.MAT'
; Note 16 fractions, when sumed =1.0 for each TAZ:
;    DA (HBW, HBS, HBSC, HBO, WO, OO, and Thru)
;    SR (HBW, HBS, HBSC, HBO, WO, OO, and Thru)
;    C2 (all)
;    C3 (all)
;--------------------------------------------------------------------------
; Input multi-class TRIP table fractions (FOR TRIP TOTALS TO EST TRIP LENGTH)
;--------------------------------------------------------------------------
TRIPS_BY_PURPOSE='Daily_multiclass_OD.MAT'
;    HBW, HBS, HBSC, HBO, WO, OO, THRU, COMMERCIAL, TOTAL
;
;--------------------------------------------------------------------------
; Output VMT by purpose and each TAZ
;--------------------------------------------------------------------------
VMT_BY_PURPOSE='DAILY_VMT_BY_PURPOSE.MAT'
; Daily HBW, HBS, HBSC, HBO, WO, OO, THRU, COMMERCIAL
;--------------------------------------------------------------------------
; Temp output VMT by class and purpose and each TAZ and period
;--------------------------------------------------------------------------
AM_VMT_BY_PURPOSE=     '.\Temp_Files\AM_VMT_BY_PURPOSE.MAT'
MD_VMT_BY_PURPOSE=     '.\Temp_Files\MD_VMT_BY_PURPOSE.MAT'
PM_VMT_BY_PURPOSE=     '.\Temp_Files\PM_VMT_BY_PURPOSE.MAT'
EV_VMT_BY_PURPOSE=     '.\Temp_Files\EV_VMT_BY_PURPOSE.MAT'
;
;--------------------------------------------------------------------------
; For AM period,
;--------------------------------------------------------------------------
RUN PGM=MATRIX
; VMT inputs
FILEI MATI[1] = "@AMVMTSIMP@"                       ;AM VMT by TAZ
; Trip fraction inputs
FILEI MATI[2] = "@AM_FRAC@"                         ;AM Fraction by trip purpose
; OUTPUTS
FILEO MATO[1] = "@AM_VMT_BY_PURPOSE@", mo=21-29,
                 name= HBW, HBS, SHSC, HBO, WO,
                 OO, THRU, COMERCIAL, TOT
;
```

```
    MW[1]=mi.1.1                                        ;DA VMT
    MW[2]=mi.1.2                                        ;SR VMT
    MW[3]=mi.1.3                                        ;C2 VMT
    MW[4]=mi.1.4                                        ;C3 VMT
;
    MW[5]=mi.2.1                                        ;DA HBW FRACTION
    MW[6]=mi.2.2                                        ;SR HBW FRACTION
;
    MW[7]=mi.2.3                                        ;DA HBS FRACTION
    MW[8]=mi.2.4                                        ;SR HBS FRACTION
;
    MW[9]=mi.2.5                                        ;DA HBSC FRACTION
    MW[10]=mi.2.6                                       ;SR HBSC FRACTION
;
    MW[11]=mi.2.7                                       ;DA HBO FRACTION
    MW[12]=mi.2.8                                       ;SR HBO FRACTION
;
    MW[13]=mi.2.9                                       ;DA WO FRACTION
    MW[14]=mi.2.10                                      ;SR WO FRACTION
;
    MW[15]=mi.2.11                                      ;DA OO FRACTION
    MW[16]=mi.2.12                                      ;SR OO FRACTION
;
    MW[17]=mi.2.13                                      ;DA THRU FRACTION
    MW[18]=mi.2.14                                      ;SR THRU FRACTION
;
    MW[19]=mi.2.15                                      ;C2 FRACTION
    MW[20]=mi.2.16                                      ;C3 FRACTION
;
    MW[21]= MW[1]*MW[5] +  MW[2]*MW[6]                  ;HBW
    MW[22]= MW[1]*MW[7] +  MW[2]*MW[8]                  ;HBS
    MW[23]= MW[1]*MW[9] +  MW[2]*MW[10]                 ;HBSC
    MW[24]= MW[1]*MW[11] + MW[2]*MW[12]                 ;HB0
    MW[25]= MW[1]*MW[13] + MW[2]*MW[14]                 ;WO
    MW[26]= MW[1]*MW[15] + MW[2]*MW[16]                 ;OO
    MW[27]= MW[1]*MW[17] + MW[2]*MW[18]                 ;THRU
    MW[28]= MW[3]*MW[19] + MW[4]*MW[20]                 ;COMMERCIAL
    MW[29]=MW[21]+MW[22]+MW[23]+MW[24]+                 ;TOTAL
           MW[25]+MW[26]+MW[27]+MW[28]
ENDRUN
;
;-------------------------------------------------------------------------------
; For MD period,
;-------------------------------------------------------------------------------
RUN PGM=MATRIX
; VMT inputs
FILEI MATI[1] = "@MDVMTSIMP@"                           ;AM VMT by TAZ
; Trip fraction inputs
FILEI MATI[2] = "@MD_FRAC@"                             ;AM Fraction by trip purpose
; OUTPUTS
FILEO MATO[1] = "@MD_VMT_BY_PURPOSE@", mo=21-29,
                 name= HBW, HBS, SHSC, HBO, WO,
                 OO, THRU, COMERCIAL, TOT
;
;
    MW[1]=mi.1.1                                        ;DA VMT
    MW[2]=mi.1.2                                        ;SR VMT
    MW[3]=mi.1.3                                        ;C2 VMT
    MW[4]=mi.1.4                                        ;C3 VMT
;
    MW[5]=mi.2.1                                        ;DA HBW FRACTION
```

```
  MW[6]=mi.2.2                                          ;SR HBW FRACTION
;
  MW[7]=mi.2.3                                          ;DA HBS FRACTION
  MW[8]=mi.2.4                                          ;SR HBS FRACTION
;
  MW[9]=mi.2.5                                          ;DA HBSC FRACTION
  MW[10]=mi.2.6                                         ;SR HBSC FRACTION
;
  MW[11]=mi.2.7                                         ;DA HBO FRACTION
  MW[12]=mi.2.8                                         ;SR HBO FRACTION
;
  MW[13]=mi.2.9                                         ;DA WO FRACTION
  MW[14]=mi.2.10                                        ;SR WO FRACTION
;
  MW[15]=mi.2.11                                        ;DA OO FRACTION
  MW[16]=mi.2.12                                        ;SR OO FRACTION
;
  MW[17]=mi.2.13                                        ;DA THRU FRACTION
  MW[18]=mi.2.14                                        ;SR THRU FRACTION
;
  MW[19]=mi.2.15                                        ;C2 FRACTION
  MW[20]=mi.2.16                                        ;C3 FRACTION
;
  MW[21]= MW[1]*MW[5] +  MW[2]*MW[6]                    ;HBW
  MW[22]= MW[1]*MW[7] +  MW[2]*MW[8]                    ;HBS
  MW[23]= MW[1]*MW[9] +  MW[2]*MW[10]                   ;HBSC
  MW[24]= MW[1]*MW[11] + MW[2]*MW[12]                   ;HB0
  MW[25]= MW[1]*MW[13] + MW[2]*MW[14]                   ;WO
  MW[26]= MW[1]*MW[15] + MW[2]*MW[16]                   ;OO
  MW[27]= MW[1]*MW[17] + MW[2]*MW[18]                   ;THRU
  MW[28]= MW[3]*MW[19] + MW[4]*MW[20]                   ;COMMERCIAL
  MW[29]=MW[21]+MW[22]+MW[23]+MW[24]+                   ;TOTAL
         MW[25]+MW[26]+MW[27]+MW[28]
ENDRUN
;
;-------------------------------------------------------------------------------
; For PM period,
;-------------------------------------------------------------------------------
RUN PGM=MATRIX
; VMT inputs
FILEI MATI[1] = "@PMVMTSIMP@"                           ;AM VMT by TAZ
; Trip fraction inputs
FILEI MATI[2] = "@PM_FRAC@"                             ;AM Fraction by trip purpose
; OUTPUTS
FILEO MATO[1] = "@PM_VMT_BY_PURPOSE@", mo=21-29,
                 name= HBW, HBS, SHSC, HBO, WO,
                 OO, THRU, COMERCIAL, TOT
;
;
  MW[1]=mi.1.1                                          ;DA VMT
  MW[2]=mi.1.2                                          ;SR VMT
  MW[3]=mi.1.3                                          ;C2 VMT
  MW[4]=mi.1.4                                          ;C3 VMT
;
  MW[5]=mi.2.1                                          ;DA HBW FRACTION
  MW[6]=mi.2.2                                          ;SR HBW FRACTION
;
  MW[7]=mi.2.3                                          ;DA HBS FRACTION
  MW[8]=mi.2.4                                          ;SR HBS FRACTION
;
  MW[9]=mi.2.5                                          ;DA HBSC FRACTION
```

```
    MW[10]=mi.2.6                                          ;SR HBSC FRACTION
  ;
    MW[11]=mi.2.7                                          ;DA HBO FRACTION
    MW[12]=mi.2.8                                          ;SR HBO FRACTION
  ;
    MW[13]=mi.2.9                                          ;DA WO FRACTION
    MW[14]=mi.2.10                                         ;SR WO FRACTION
  ;
    MW[15]=mi.2.11                                         ;DA OO FRACTION
    MW[16]=mi.2.12                                         ;SR OO FRACTION
  ;
    MW[17]=mi.2.13                                         ;DA THRU FRACTION
    MW[18]=mi.2.14                                         ;SR THRU FRACTION
  ;
    MW[19]=mi.2.15                                         ;C2 FRACTION
    MW[20]=mi.2.16                                         ;C3 FRACTION
  ;
    MW[21]= MW[1]*MW[5] +  MW[2]*MW[6]                     ;HBW
    MW[22]= MW[1]*MW[7] +  MW[2]*MW[8]                     ;HBS
    MW[23]= MW[1]*MW[9] +  MW[2]*MW[10]                    ;HBSC
    MW[24]= MW[1]*MW[11] + MW[2]*MW[12]                    ;HB0
    MW[25]= MW[1]*MW[13] + MW[2]*MW[14]                    ;WO
    MW[26]= MW[1]*MW[15] + MW[2]*MW[16]                    ;OO
    MW[27]= MW[1]*MW[17] + MW[2]*MW[18]                    ;THRU
    MW[28]= MW[3]*MW[19] + MW[4]*MW[20]                    ;COMMERCIAL
    MW[29]=MW[21]+MW[22]+MW[23]+MW[24]+                    ;TOTAL
           MW[25]+MW[26]+MW[27]+MW[28]
  ENDRUN
  ;
  ;-----------------------------------------------------------------------------
  ; For EV period,
  ;-----------------------------------------------------------------------------
  RUN PGM=MATRIX
  ; VMT inputs
  FILEI MATI[1] = "@EVVVMTSIMP@"                            ;AM VMT by TAZ
  ; Trip fraction inputs
  FILEI MATI[2] = "@EV_FRAC@"                              ;AM Fraction by trip purpose
  ; OUTPUTS
  FILEO MATO[1] = "@EV_VMT_BY_PURPOSE@", mo=21-29,
                   name= HBW, HBS, SHSC, HBO, WO,
                   OO, THRU, COMERCIAL, TOT
  ;
  ;
    MW[1]=mi.1.1                                           ;DA VMT
    MW[2]=mi.1.2                                           ;SR VMT
    MW[3]=mi.1.3                                           ;C2 VMT
    MW[4]=mi.1.4                                           ;C3 VMT
  ;
    MW[5]=mi.2.1                                           ;DA HBW FRACTION
    MW[6]=mi.2.2                                           ;SR HBW FRACTION
  ;
    MW[7]=mi.2.3                                           ;DA HBS FRACTION
    MW[8]=mi.2.4                                           ;SR HBS FRACTION
  ;
    MW[9]=mi.2.5                                           ;DA HBSC FRACTION
    MW[10]=mi.2.6                                          ;SR HBSC FRACTION
  ;
    MW[11]=mi.2.7                                          ;DA HBO FRACTION
    MW[12]=mi.2.8                                          ;SR HBO FRACTION
  ;
    MW[13]=mi.2.9                                          ;DA WO FRACTION
```

```
  MW[14]=mi.2.10                                        ;SR WO FRACTION
;
  MW[15]=mi.2.11                                        ;DA OO FRACTION
  MW[16]=mi.2.12                                        ;SR OO FRACTION
;
  MW[17]=mi.2.13                                        ;DA THRU FRACTION
  MW[18]=mi.2.14                                        ;SR THRU FRACTION
;
  MW[19]=mi.2.15                                        ;C2 FRACTION
  MW[20]=mi.2.16                                        ;C3 FRACTION
;
  MW[21]= MW[1]*MW[5] +  MW[2]*MW[6]                    ;HBW
  MW[22]= MW[1]*MW[7] +  MW[2]*MW[8]                    ;HBS
  MW[23]= MW[1]*MW[9] +  MW[2]*MW[10]                   ;HBSC
  MW[24]= MW[1]*MW[11] + MW[2]*MW[12]                   ;HB0
  MW[25]= MW[1]*MW[13] + MW[2]*MW[14]                   ;WO
  MW[26]= MW[1]*MW[15] + MW[2]*MW[16]                   ;OO
  MW[27]= MW[1]*MW[17] + MW[2]*MW[18]                   ;THRU
  MW[28]= MW[3]*MW[19] + MW[4]*MW[20]                   ;COMMERCIAL
  MW[29]=MW[21]+MW[22]+MW[23]+MW[24]+                   ;TOTAL
         MW[25]+MW[26]+MW[27]+MW[28]
ENDRUN
;
;-------------------------------------------------------------------------------
; DAILY TOTALS
;-------------------------------------------------------------------------------
RUN PGM=MATRIX
; Inputs
FILEI MATI[1] = "@AM_VMT_BY_PURPOSE@"                   ;AM
FILEI MATI[2] = "@MD_VMT_BY_PURPOSE@"                   ;Md
FILEI MATI[3] = "@PM_VMT_BY_PURPOSE@"                   ;PM
FILEI MATI[4] = "@EV_VMT_BY_PURPOSE@"                   ;EV
; Outputs
FILEO MATO[1] = "@VMT_BY_PURPOSE@", mo=1-9,             ;daily
                 name= HBW, HBS, SHSC, HBO, WO,
                 OO, THRU, COMERCIAL, TOT
;
  MW[1]=mi.1.1+mi.2.1+mi.3.1+mi.4.1                     ;hbw
  MW[2]=mi.1.2+mi.2.2+mi.3.2+mi.4.2                     ;hbs
  MW[3]=mi.1.3+mi.2.3+mi.3.3+mi.4.3                     ;hbsc
  MW[4]=mi.1.4+mi.2.4+mi.3.4+mi.4.4                     ;hbo
  MW[5]=mi.1.5+mi.2.5+mi.3.5+mi.4.5                     ;wo
  MW[6]=mi.1.6+mi.2.6+mi.3.6+mi.4.6                     ;oo
  MW[7]=mi.1.7+mi.2.7+mi.3.7+mi.4.7                     ;thru
  MW[8]=mi.1.8+mi.2.8+mi.3.8+mi.4.8                     ;commercial
  mw[9]=mw[1]+mw[2]+mw[3]+mw[4]+                        ;Total
        mw[5]+mw[6]+mw[7]+mw[8]
;
ENDRUN
;
RUN PGM=MATRIX
;-------------------------------------------------------------------------------
; Print VMT - Rows & Columns
;-------------------------------------------------------------------------------
  MATI="@VMT_BY_PURPOSE@"
  ZONES=4023
  mw[1]=mi.1.1                                          ;HBW
  mw[2]=mi.1.2                                          ;HBS
  mw[3]=mi.1.3                                          ;HBSC
  mw[4]=mi.1.4                                          ;HBO
  mw[5]=mi.1.5                                          ;WO
```

```
    mw[6]=mi.1.6                                        ;00
    mw[7]=mi.1.7                                        ;THRU
    mw[8]=mi.1.8                                        ;COMMERCIAL
    mw[9]=mi.1.9                                        ;Total
  ;
    REPORT  MARGINS=1      ; request margins summaries
    MARGINREC=Y FORM=8.0,LIST=J(5.0),R1,C1,FILE=HBW_VMT_from_to.txt,PRINT=N
  ;
    REPORT  MARGINS=2      ; request margins summaries
    MARGINREC=Y FORM=8.0,LIST=J(5.0),R2,C2,FILE=HBS_VMT_from_to.txt,PRINT=N
  ;
    REPORT  MARGINS=3      ; request margins summaries
    MARGINREC=Y FORM=8.0,LIST=J(5.0),R3,C3,FILE=HBSc_VMT_from_to.txt,PRINT=N
  ;
    REPORT  MARGINS=4      ; request margins summaries
    MARGINREC=Y FORM=8.0,LIST=J(5.0),R4,C4,FILE=HBO_VMT_from_to.txt,PRINT=N
  ;
    REPORT  MARGINS=5      ; request margins summaries
    MARGINREC=Y FORM=8.0,LIST=J(5.0),R5,C5,FILE=WO_VMT_from_to.txt,PRINT=N
  ;
    REPORT  MARGINS=6      ; request margins summaries
    MARGINREC=Y FORM=8.0,LIST=J(5.0),R6,C6,FILE=OO_VMT_from_to.txt,PRINT=N
  ;
    REPORT  MARGINS=7      ; request margins summaries
    MARGINREC=Y FORM=8.0,LIST=J(5.0),R7,C7,FILE=THRU_VMT_from_to.txt,PRINT=N
  ;
    REPORT  MARGINS=8      ; request margins summaries
    MARGINREC=Y FORM=8.0,LIST=J(5.0),R8,C8,FILE=COMMERCIAL_VMT_from_to.txt,PRINT=N
  ;
    REPORT  MARGINS=9      ; request margins summaries
    MARGINREC=Y FORM=8.0,LIST=J(5.0),R9,C9,FILE=Total_VMT_from_to.txt,PRINT=N
  ;
  ;
    ENDRUN
  ;
  RUN PGM=MATRIX
  ;-------------------------------------------------------------------------------
  ; Print Trips - Rows & Columns
  ;-------------------------------------------------------------------------------
    MATI="@TRIPS_BY_PURPOSE@"
    ZONES=4023
    mw[1]=mi.1.1                                        ;HBW
    mw[2]=mi.1.2                                        ;HBS
    mw[3]=mi.1.3                                        ;HBSC
    mw[4]=mi.1.4                                        ;HBO
    mw[5]=mi.1.5                                        ;WO
    mw[6]=mi.1.6                                        ;00
    mw[7]=mi.1.7                                        ;THRU
    mw[8]=mi.1.8                                        ;COMMERCIAL
    mw[9]=mi.1.9                                        ;Total
  ;
    REPORT  MARGINS=1      ; request margins summaries
    MARGINREC=Y FORM=8.0,LIST=J(5.0),R1,C1,FILE=HBW_TRIPS_from_to.txt,PRINT=N
  ;
    REPORT  MARGINS=2      ; request margins summaries
    MARGINREC=Y FORM=8.0,LIST=J(5.0),R2,C2,FILE=HBS_TRIPS_from_to.txt,PRINT=N
  ;
    REPORT  MARGINS=3      ; request margins summaries
    MARGINREC=Y FORM=8.0,LIST=J(5.0),R3,C3,FILE=HBSc_TRIPS_from_to.txt,PRINT=N
  ;
    REPORT  MARGINS=4      ; request margins summaries
```

```
367     MARGINREC=Y FORM=8.0,LIST=J(5.0),R4,C4,FILE=HBO_TRIPS_from_to.txt,PRINT=N
368   ;
369     REPORT  MARGINS=5       ; request margins summaries
370     MARGINREC=Y FORM=8.0,LIST=J(5.0),R5,C5,FILE=WO_TRIPS_from_to.txt,PRINT=N
371   ;
372     REPORT  MARGINS=6       ; request margins summaries
373     MARGINREC=Y FORM=8.0,LIST=J(5.0),R6,C6,FILE=OO_TRIPS_from_to.txt,PRINT=N
374   ;
375     REPORT  MARGINS=7       ; request margins summaries
376     MARGINREC=Y FORM=8.0,LIST=J(5.0),R7,C7,FILE=THRU_TRIPS_from_to.txt,PRINT=N
377   ;
378     REPORT  MARGINS=8       ; request margins summaries
379     MARGINREC=Y FORM=8.0,LIST=J(5.0),R8,C8,FILE=COMMERCIAL_TRIPS_from_to.txt,PRINT
      =N
380   ;
381     REPORT  MARGINS=9       ; request margins summaries
382     MARGINREC=Y FORM=8.0,LIST=J(5.0),R9,C9,FILE=Total_TRIPS_from_to.txt,PRINT=N
383   ;
384   ;
385     ENDRUN
386
```

Appendix F: Business Park Land Uses

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EXISTING USES IN THE EDH BUSINESS PARK

Schools:
John Adams Academy
Marble Valley Academy
Golden Hills School
The Gift of Kids Daycare & Preschool
Madrone Montessori School
Praiseland Academy of EDH
Busy Bees Preschool
SUM Bible College & Theological Seminary
Suzuki Piano Academy
Avicenna Academy Farsi School
Buckeye Union School District Offices
The FADE Institute (dental education)

Churches:
Rolling Hills Church
Sun Hills Church
Congregation of Jehovah's Witnesses

Retail/Commercial:
El Dorado Hills Florist
CVS Drugstore
ClearBags (package supply store)
Cartridge World
Colorado Federal Savings Bank
Yellow Book (bookstore)
Connect one Computers
Executive Style Boat Club (boat sales)
GoldKey Boathouse (boat sales)
Kratos Defense & Security Systems
Alpha Research & Technology, Inc.
USA Student Travel
Ewing Irrigation & Landscape Supply
Soulstice Juice (juice bar & shop)
Accent Bead Design (craft store)
Fastenal

Gym/Fitness Centers:
El Dorado Hills CrossFit
Kaia FIT El Dorado Hills
Kinetic Dance
El Dorado Dance Academy
Flip & Twist Tumbling (gymnastics)
West Coast Martial Arts
El Dorado Hills Brazilian Jiu Jitsu & Self Defense
Steve Wallen Swim School

JJ PilatesXercise
Mini's House of Pain
Urban Sprawl Fitness
Hard 90 Baseball Academy

Services:
America's Best – Contacts & Eyeglasses
Business Workspaces (coworking office space)
Absolut Office Solutions (office furniture store)
Grapevine Apparel (embroidery)
Lavish Wax (personal care)
Personal Management Consultant (financial planner)
GoldKey Storage – El Dorado Hills
iStorage Self Storage
Palms Commerce Center Self-Storage
El Dorado Hills Party Rentals
Fortis – El Dorado Hills (telecom)
V3 Electric (solar)
Gold Rush Energy Solutions (solar)
Sierra Mountain Insurance Agency: Allstate Insurance
Farmers Insurance
Premier Business Lending
Davis & Amaral Mortgage Inc
El Dorado Hills Realty
American Commercial Real Estate
Navigate Realty
Wallen Realty
Youngdahl Consulting Group
Burne Engineering Services
Cason Engineering
Warren Consulting Engineers
National Analytic Laboratories (env consultant)
Nor-Cal Controls ES, Inc. (energy solutions)
D. Marel Plumbing Service & Repair
Dorado Software
El Dorado Hills Musical Theatre
RCP Construction, Inc
Coffey Building Group, Inc. (construction)
Bayview Engineering & Construction
Tri-Square Construction Company, Inc
Heaven' Best Carpet Cleaning
Carter's Carpet Restoration
Wester Water Features (swimming pools)
Gregg's Pool Works
Premier Auto Tint
Norcal Mechanical Heating and Cooling
Inventx (equipment rental)
Central Valley Floor Design

JB Developers, Inc
Grigsby Label (label maker)
Sign Chef (sign maker)
RTS Computers (consultant)
School Innovations & Achievements (school software)
R Systems International (software)
RFgen Software
Wavelength Photography
Front Street Media (web design)
American Recovery Service (repo service)
USA Recovery Solutions (financial consultant)

Law Offices:
Pat A. Turner, CPA
The Gordon Law Firm
Law Office of David J. Cramer
Forethough Law, PC
Clemons & Jaquish
Weiner Law Offices

Doctor/Dental Offices:
Aloha Family Dental
Golden Foothills Oral & Facial Surgery Center
Healthy Eyes Optometry of El Dorado Hills
True Health Center for Functional Medicine
Harmony Home Care
Synergy Dental
Magic Smiles – Dentistry for Children
Beretta Physical Therapy
Marshall Family Medicine
Marshall Physical and Speech Therapy

Employers:
Broadridge
DST Output
Envision
Frontier Dental Labs
Ansync Labs
ITW Rippey (manufacturer)
Aerometals
Digital Doc (medical manufacturer)
Emed Technologies Corporation (medical products)
Consensus Orthopedics (medical equipment)
Ampac Analytical (laboratory)
Vista Analytical Laboratory (medical)

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Appendix G: Abatement 10A Phasing Analysis

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Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	19.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.798

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	115	314	447	38	380	79
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]			0.00			
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	27	50	0	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	11	0	24
Total Hourly Volume [veh/h]	116	341	497	27	380	56
Peak Hour Factor	0.9000	0.9000	0.9000	0.7900	0.7900	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	95	138	9	120	16
Total Analysis Volume [veh/h]	129	379	552	34	481	62
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	164
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	50	50	50	0	50	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0.0	0.0	4.0	0.0	4.0	0.0
Pedestrian Clearance [s]	0.0	0.0	20.0	0.0	12.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	54.0	56.0	56.0	0.0	54.0	0.0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Calculated Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	5.6	30.8	21.2	21.2	18.8	18.8
g / C, Green / Cycle	0.09	0.52	0.35	0.35	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.07	0.20	0.30	0.02	0.27	0.04
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1589
c, Capacity [veh/h]	169	966	664	564	563	503
d1, Uniform Delay [s]	26.41	8.76	17.65	12.71	19.14	14.54
k, delay calibration	0.04	0.15	0.15	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.73	0.37	3.93	0.06	3.82	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.39	0.83	0.06	0.85	0.12
d, Delay for Lane Group [s/veh]	29.14	9.13	21.57	12.77	22.96	14.65
Lane Group LOS	C	A	C	B	C	B
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.65	2.00	5.95	0.24	6.16	0.56
50th-Percentile Queue Length [ft/ln]	41.37	49.93	148.67	6.04	154.09	14.00
95th-Percentile Queue Length [veh/ln]	2.98	3.59	9.95	0.43	10.24	1.01
95th-Percentile Queue Length [ft/ln]	74.46	89.87	248.65	10.87	255.88	25.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.14	9.13	21.57	12.77	22.96	14.65
Movement LOS	C	A	C	B	C	B
d_A, Approach Delay [s/veh]	14.21		21.06		22.01	
Approach LOS	B		C		C	
d_I, Intersection Delay [s/veh]	19.25					
Intersection LOS	B					
Intersection V/C	0.798					

Emissions

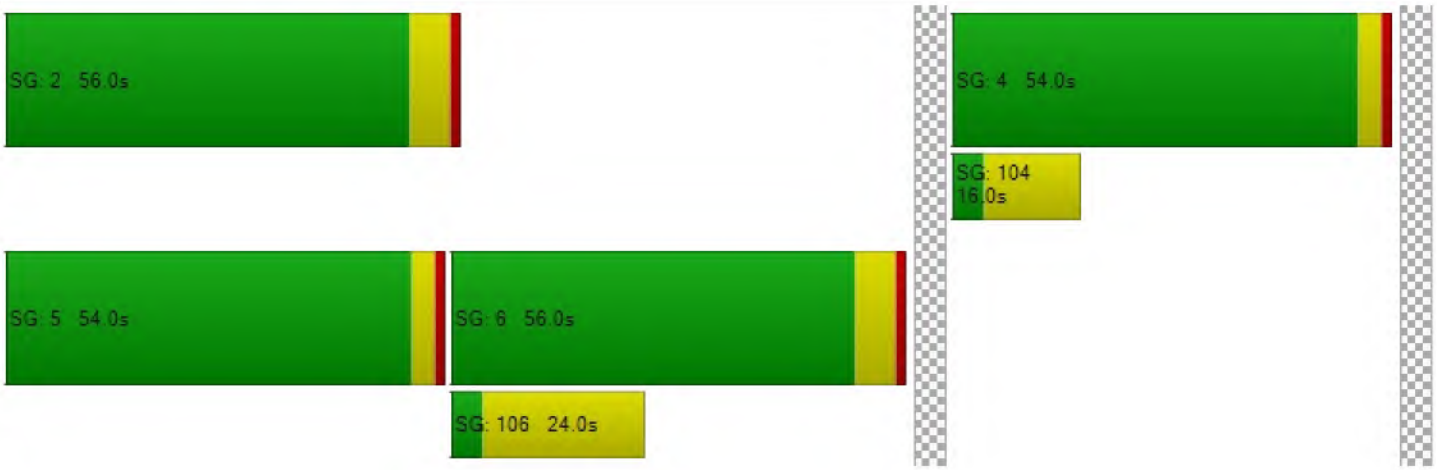
Vehicle Miles Traveled [mph]	15.92	46.76	318.79	19.64	112.97	14.56
Stops [stops/h]	99.88	120.55	358.97	14.58	372.05	33.81
Fuel consumption [US gal/h]	3.15	4.51	19.76	1.02	8.95	0.97
CO [g/h]	220.36	315.11	1380.88	71.02	625.87	67.88
NOx [g/h]	42.87	61.31	268.67	13.82	121.77	13.21
VOC [g/h]	51.07	73.03	320.03	16.46	145.05	15.73

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.36	0.00	22.36
l_p,int, Pedestrian LOS Score for Intersectio	2.605	0.000	2.197
Crosswalk LOS	B	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1677	1677	1677
d_b, Bicycle Delay [s]	0.78	0.78	0.78
l_b,int, Bicycle LOS Score for Intersection	2.398	2.545	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-


SG: 2 56.0s
SG: 4 54.0s
SG: 104
16.0s
SG: 5 54.0s
SG: 6 56.0s
SG: 106 24.0s

Vistro File: C:\...\PM 763 DU 20241003.vistro
Report File: T:\...\10A with 90 conventional DU.pdf

Scenario 3 2023 PM, Plus Project
4/14/2025

Trip Generation summary

Added Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	% Int. Capture	Trips In Adj.	Trips Out Adj.	Total Trips Adj.	% of Total Trips
1: Creekside Village					0.000	50.00	50.00	0.00	57	32	89	100.00
						Added Trips Total			**57**	**32**	**89**	**100.00**

Intersection Level Of Service Report
Intersection 10: Latrobe Rd/Investment Blvd

Control Type:	Signalized	Delay (sec / veh):	19.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.798

Intersection Setup

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Latrobe Rd		Latrobe Rd		Investment Blvd	
Base Volume Input [veh/h]	115	314	447	38	380	79
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	37	50	0	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	11	0	24
Total Hourly Volume [veh/h]	116	351	497	27	380	56
Peak Hour Factor	0.9000	0.9000	0.9000	0.7900	0.7900	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	98	138	9	120	16
Total Analysis Volume [veh/h]	129	390	552	34	481	62
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	164
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lagging Force-Off
Permissive Mode	MultiBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	4	0
Auxiliary Signal Groups						
Maximum Green [s]	50	50	50	0	50	0
Amber [s]	3.0	5.0	5.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Walk [s]	0.0	0.0	4.0	0.0	4.0	0.0
Pedestrian Clearance [s]	0.0	0.0	20.0	0.0	12.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	4.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	20.0	0.0	20.0	0.0
Advanced Detector Location [ft]	150.0	245.0	245.0	0.0	100.0	0.0
Advanced Detector Length [ft]	6.0	6.0	6.0	0.0	6.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	54.0	56.0	56.0	0.0	54.0	0.0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Vehicle Extension [s]	2.0	4.0	4.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Calculated Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	6.00	6.00	6.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	4.00	4.00	4.00	2.00	2.00
g_i, Effective Green Time [s]	5.6	30.8	21.2	21.2	18.8	18.8
g / C, Green / Cycle	0.09	0.52	0.35	0.35	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.07	0.21	0.30	0.02	0.27	0.04
s, saturation flow rate [veh/h]	1781	1870	1870	1589	1781	1589
c, Capacity [veh/h]	169	966	664	564	563	503
d1, Uniform Delay [s]	26.41	8.83	17.65	12.71	19.14	14.54
k, delay calibration	0.04	0.15	0.15	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.73	0.39	3.93	0.06	3.82	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.40	0.83	0.06	0.85	0.12
d, Delay for Lane Group [s/veh]	29.14	9.22	21.57	12.77	22.96	14.65
Lane Group LOS	C	A	C	B	C	B
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.65	2.07	5.95	0.24	6.16	0.56
50th-Percentile Queue Length [ft/ln]	41.37	51.79	148.67	6.04	154.09	14.00
95th-Percentile Queue Length [veh/ln]	2.98	3.73	9.95	0.43	10.24	1.01
95th-Percentile Queue Length [ft/ln]	74.46	93.22	248.65	10.87	255.88	25.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.14	9.22	21.57	12.77	22.96	14.65
Movement LOS	C	A	C	B	C	B
d_A, Approach Delay [s/veh]	14.17		21.06		22.01	
Approach LOS	B		C		C	
d_I, Intersection Delay [s/veh]	19.20					
Intersection LOS	B					
Intersection V/C	0.798					

Emissions

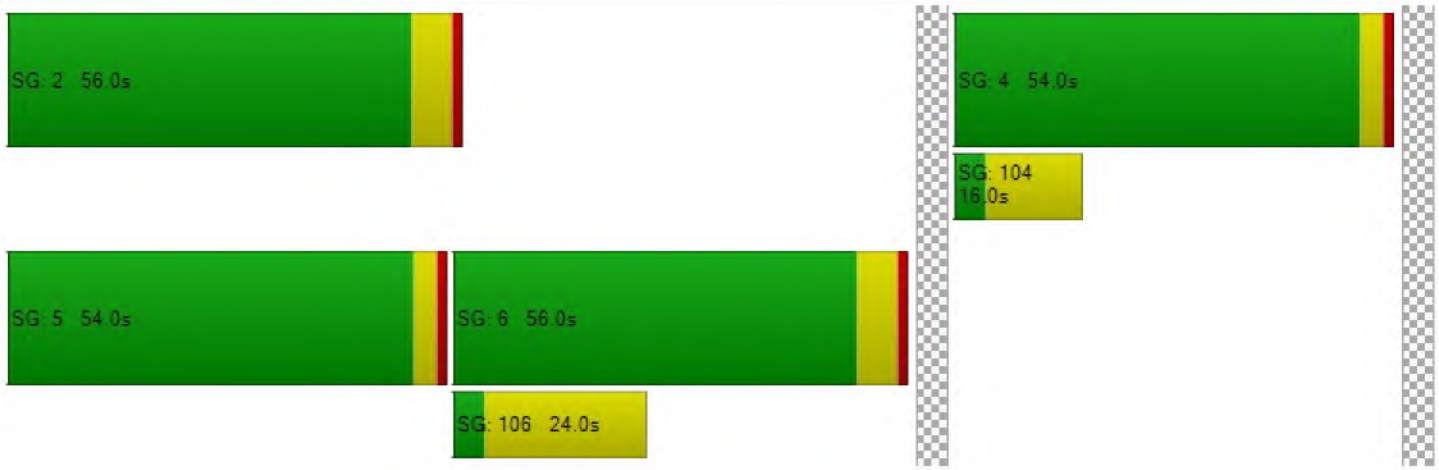
Vehicle Miles Traveled [mph]	15.92	48.12	318.79	19.64	112.97	14.56
Stops [stops/h]	99.88	125.05	358.97	14.58	372.05	33.81
Fuel consumption [US gal/h]	3.15	4.66	19.76	1.02	8.95	0.97
CO [g/h]	220.36	326.01	1380.88	71.02	625.87	67.88
NOx [g/h]	42.87	63.43	268.67	13.82	121.77	13.21
VOC [g/h]	51.07	75.56	320.03	16.46	145.05	15.73

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	0.0	8.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	
d_p, Pedestrian Delay [s]	22.36	0.00	22.36	
l_p,int, Pedestrian LOS Score for Intersectio	2.611	0.000	2.197	
Crosswalk LOS	B	F	B	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	
c_b, Capacity of the bicycle lane [bicycles/h]	1677	1677	1677	
d_b, Bicycle Delay [s]	0.78	0.78	0.78	
l_b,int, Bicycle LOS Score for Intersection	2.416	2.545	1.560	
Bicycle LOS	B	B	A	

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-


SG: 2 56.0s
SG: 4 54.0s
SG: 104
16.0s
SG: 5 54.0s
SG: 6 56.0s
SG: 106 24.0s

Vistro File: C:\...\PM 763 DU 20241003.vistro Scenario 3 2023 PM, Plus Project
Report File: T:\...\10A with 260 active adult DU.pdf 4/14/2025

Trip Generation summary

Added Trips

Zone ID: Name	Land Use variables	Code	Ind. Var.	Rate	Quantity	% In	% Out	% Int. Capture	Trips In Adj.	Trips Out Adj.	Total Trips Adj.	% of Total Trips
1: Creekside Village					0.000	50.00	50.00	0.00	57	44	101	100.00
					Added Trips Total				**57**	**44**	**101**	**100.00**