

TRANSPORTATION IMPACT STUDY

Brawley Mixed Use Master Plan Development

*Prepared for:
City of Brawley
383 Main Street
Brawley, CA 92227*

January 7, 2025

TABLE OF CONTENTS

1	EXECUTIVE SUMMARY	4
1.1	CEQA Analysis Summary	4
1.2	Transportation Operations (Level of Service) Summary	4
2	INTRODUCTION	5
2.1	Project Description.....	5
2.2	Project Location	5
3	PROJECT TRIP GENERATION	8
3.1	Proposed Project.....	8
3.1.1	Project Forecast Trip Generation	8
3.1.2	Proposed Project Trip Distribution & Trip Assignment.....	9
4	STUDY AREA & ANALYSIS METHODOLOGY	15
4.1	LOS Analysis Methodology.....	15
4.1.1	Intersection Analysis Methodology	15
4.1.1	Roadway Segment Analysis Methodology	16
4.1.2	Thresholds of Improvements	16
4.2	Study Area.....	17
4.3	Data Collection.....	17
5	CEQA VMT ANALYSIS	19
5.1	VMT Screening Criteria	19
5.2	VMT Thresholds	20
5.3	VMT Analysis.....	21
6	EXISTING CONDITIONS.....	23
6.1	Surrounding Roadway Network.....	23
6.2	Existing Conditions Traffic Analysis.....	24
6.2.1	Existing Intersection Evaluation	24
6.2.2	Existing Roadway Segment Evaluation	27
6.3	Active Transportation	28
6.3.1	Existing Pedestrian and Bicycle Facilities	28
6.3.2	Existing Transit Facilities	28
7	OPENING YEAR 2028 WITHOUT PROJECT CONDITIONS	31
7.1	Opening Year 2028 Without Project Analysis	31
7.1.1	Cumulative Traffic	31

7.1.2	Opening Year 2028 Without Project Intersection Evaluation.....	32
7.1.3	Opening Year 2028 Without Project Roadway Segment Evaluation	34
8	OPENING YEAR 2028 PLUS PROJECT CONDITIONS	35
8.1	Opening Year 2028 Plus Project Intersection Evaluation	35
8.1.1	Opening Year 2028 Plus Project Roadway Segment Evaluation	37
9	SUMMARY & CONCLUSIONS	38
9.1	CEQA Analysis Summary	38
9.1.1	VMT Impact Mitigation Options	38
9.2	Local Mobility Assessment (Level of Service) Summary	40

LIST OF EXHIBITS

Exhibit 1 – Project Location Map	6
Exhibit 2 – Project Site Plan	7
Exhibit 3 – Project Trip Distribution (Residential).....	10
Exhibit 4 – Project Trip Distribution (Commercial)	11
Exhibit 5 – Project Trip Assignment (Residential).....	12
Exhibit 6 – Project Trip Assignment (Commercial)	13
Exhibit 7 – Project Trip Assignment (Total).....	14
Exhibit 8 – Study Area	18
Exhibit 9 – Traffic Analysis Zone (TAZ) For Project Site	22
Exhibit 10 – Existing Intersection Lane Geometry	25
Exhibit 11 – Existing Daily and AM/PM Peak Hour Intersection Volumes.....	26
Exhibit 12 – Existing Pedestrian and Bicycle Facilities	29
Exhibit 13 – Existing Transit Facilities	30
Exhibit 14 – Opening Year 2028 Without Project Daily and AM/PM Peak Hour Traffic Volumes.....	33
Exhibit 15 – Opening Year 2028 Plus Project Daily and AM/PM Peak Hour Traffic Volumes.....	36

LIST OF TABLES

Table 1 – ITE Trip Generation Rates.....	8
Table 2 – Proposed Project Trip Generation.....	8
Table 3 - Level of Service & Delay Range	15
Table 4 – Roadway Segment Daily Capacity & LOS Standards.....	16
Table 5 - VMT Screening Criteria Evaluation.....	19
Table 6 - VMT Assessment	21
Table 7 – Existing Conditions AM/PM Peak Hour Intersection LOS.....	24
Table 8 – Existing Conditions Roadway Segment LOS	27

Table 9 – Cumulative Projects Trip Generation Summary 31

Table 10 – Opening Year 2028 Without Project AM/PM Peak Hour Intersection LOS..... 32

Table 11 – Opening Year 2028 Without Project Conditions Roadway Segment LOS 34

Table 12 – Opening Year 2028 WO Project & Opening Year 2028 + Project AM/PM PH Int. LOS 35

Table 13 – Opening Year 2028 WO Project & Opening Year 2028 + Project Roadway Segment LOS
Comparison 37

APPENDICES

- Appendix A: TIA Scoping Memo
- Appendix B: Traffic Count Data & Signal Timing Sheets
- Appendix C: Existing HCM Worksheets
- Appendix D: Opening Year 2028 Without Project HCM Worksheets
- Appendix E: Opening Year 2028 Plus Project HCM Worksheets

1 EXECUTIVE SUMMARY

This transportation impact study analyzes the forecast transportation conditions associated with the proposed Brawley Mixed Use Master Plan Development (project). The approximately 66-acre project site is located on the southeast corner of Brawley Avenue and Legion Road in the City of Brawley (City) in south-central Imperial County, California. The project proposes an amendment to the Brawley Gateway Specific Plan to subdivide the property and allow for future commercial and multi-family residential uses. The affected County Assessor Parcel Number is 048-440-001. The site currently supports agricultural use.

1.1 CEQA ANALYSIS SUMMARY

In December 2018, new California Environmental Quality Act (CEQA) guidelines were approved that shift transportation analysis from delay and operations to vehicle miles traveled (VMT) when evaluating transportation impacts under CEQA. This change in methodology is a result of Senate Bill 743 (SB743), which was signed into law in September 2013. The Governor's Office of Planning and Research (OPR) released *Technical Advisory on Evaluating Transportation Impacts in CEQA* in December 2018 (Technical Advisory) that contains recommendations regarding assessment of VMT, screening criteria, thresholds of significance, and approach to mitigating impacts. Statewide implementation VMT as the metric for evaluating transportation impacts under CEQA occurred on July 1, 2020. The City of Brawley does not have VMT guidelines, therefore, OPR's Technical Advisory was used to evaluate the project's transportation impacts based on VMT. The project is not screened out from needing a VMT analysis for both the residential and commercial components of the site. As such, a detailed VMT analysis is required and provided in this report.

1.2 TRANSPORTATION OPERATIONS (LEVEL OF SERVICE) SUMMARY

While transportation impacts are based on VMT, the City also requires analysis of intersection and roadway segment operating conditions for their Transportation Impact Analysis (TIA). For purposes of this analysis, level of service (LOS) D or better is considered acceptable operating conditions at study intersections and roadway segments. LOS E and F are considered deficient operating conditions.

Under the Opening Year 2028 Without and With Project conditions, all study intersections are forecast to operate at acceptable LOS D or better. It may be noted that a new traffic signal is assumed at S Brawley Avenue & Future Road (Study Int. #9) and Project Driveway #1 & Future Legion Road (Study Int. #6) to be designed and constructed by the project. Coordination with City staff will be necessary to address permits, utilities, plans and construction of a new signal at these two locations.

S Brawley Avenue from Malan Street to Wildcat Drive is forecast to operate at LOS F under Opening Year 2028 Plus Project conditions. As discussed in Section 4.1.2 in this report, if traffic generated by the project causes a roadway to degrade to LOS E or below, the project shall build a roadway segment to its ultimate General Plan Mobility Element classification if not currently constructed as such. However, this section of S Brawley Avenue is built to its ultimate classification (i.e. 4-lane Arterial). In addition, the intersections at S Brawley Avenue & Malan Street and S Brawley Avenue & Wildcat Drive are forecast to operate at acceptable conditions (LOS C) during the AM and PM peak hour. Therefore, widening S Brawley Avenue from Malan Street to Wildcat Drive is not recommended.

2 INTRODUCTION

This study analyzes the forecast transportation conditions associated with the proposed Brawley Mixed Use Master Plan Development project in the City of Brawley.

2.1 PROJECT DESCRIPTION

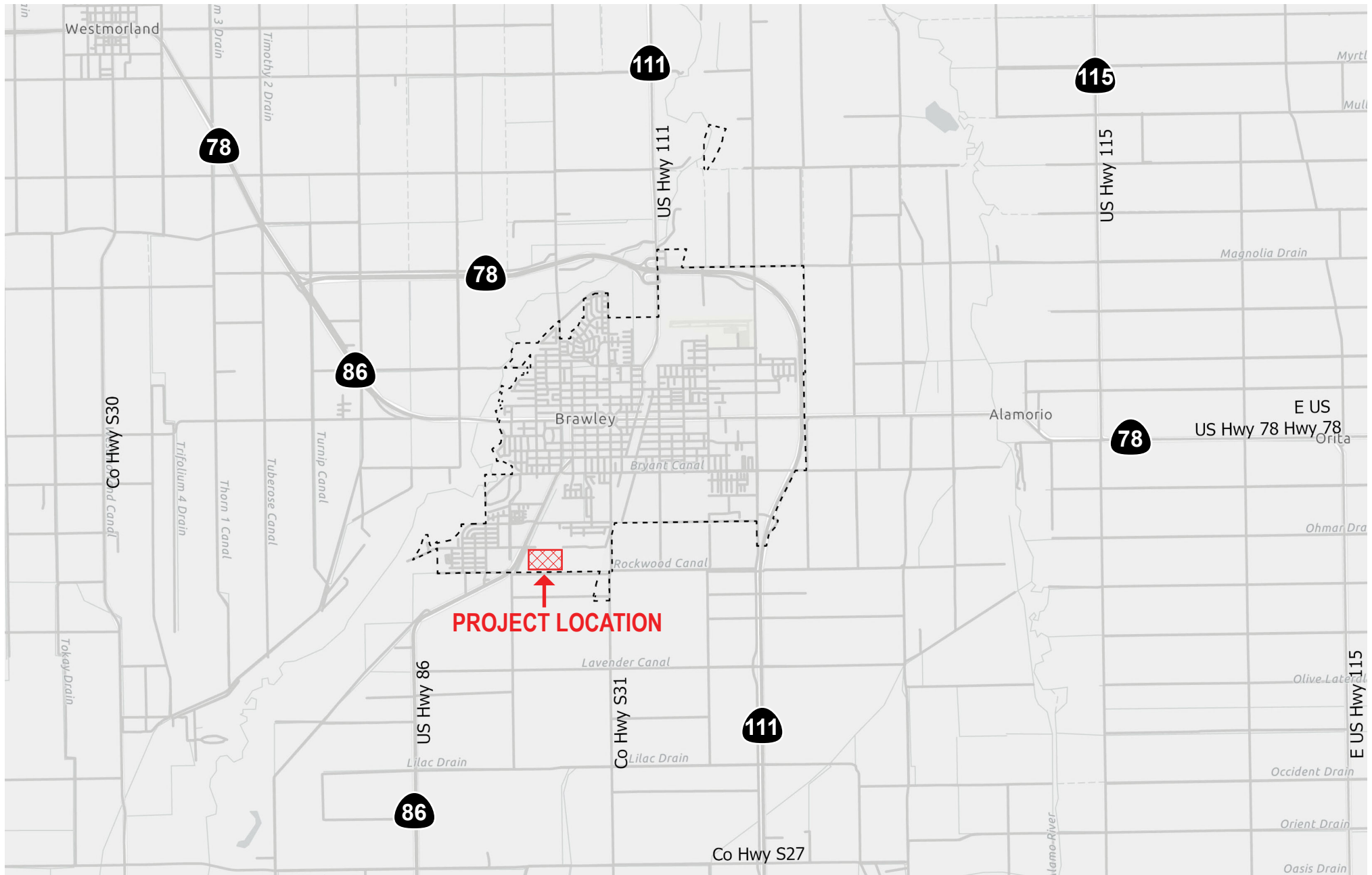
The Brawley Mixed Use Master Plan Development project (proposed project) proposes an amendment to the Brawley Gateway Specific Plan to subdivide the property and allow for future commercial and multi-family residential uses. The eastern portion of the property (approximately 29 acres) would be subdivided to allow for development of 408 multi-family residential units, with an estimated 816 parking spaces provided. The western portion of the property (approximately 37 acres) would be subdivided into 12 lots for future commercial development, including strip retail plaza, larger retail shopping center and a commercial hotel with approximately 100 rooms. The site currently supports agricultural use. Primary access to the proposed commercial area is planned from (future) Legion Road to the north and a second (future/unnamed) road to the south. Future access from the north would require improvement of Legion Road to the centerline along a portion of the northern property boundary. Future access from the south into the proposed commercial area would require construction of a new roadway above the existing canal (Rockwood Canal) along the extent of the southern project boundary. Primary and secondary access to the proposed residential area is planned from (future) Legion Road to the north (to be improved to centerline of roadway). Secondary access is also anticipated via a future road along the eastern boundary.

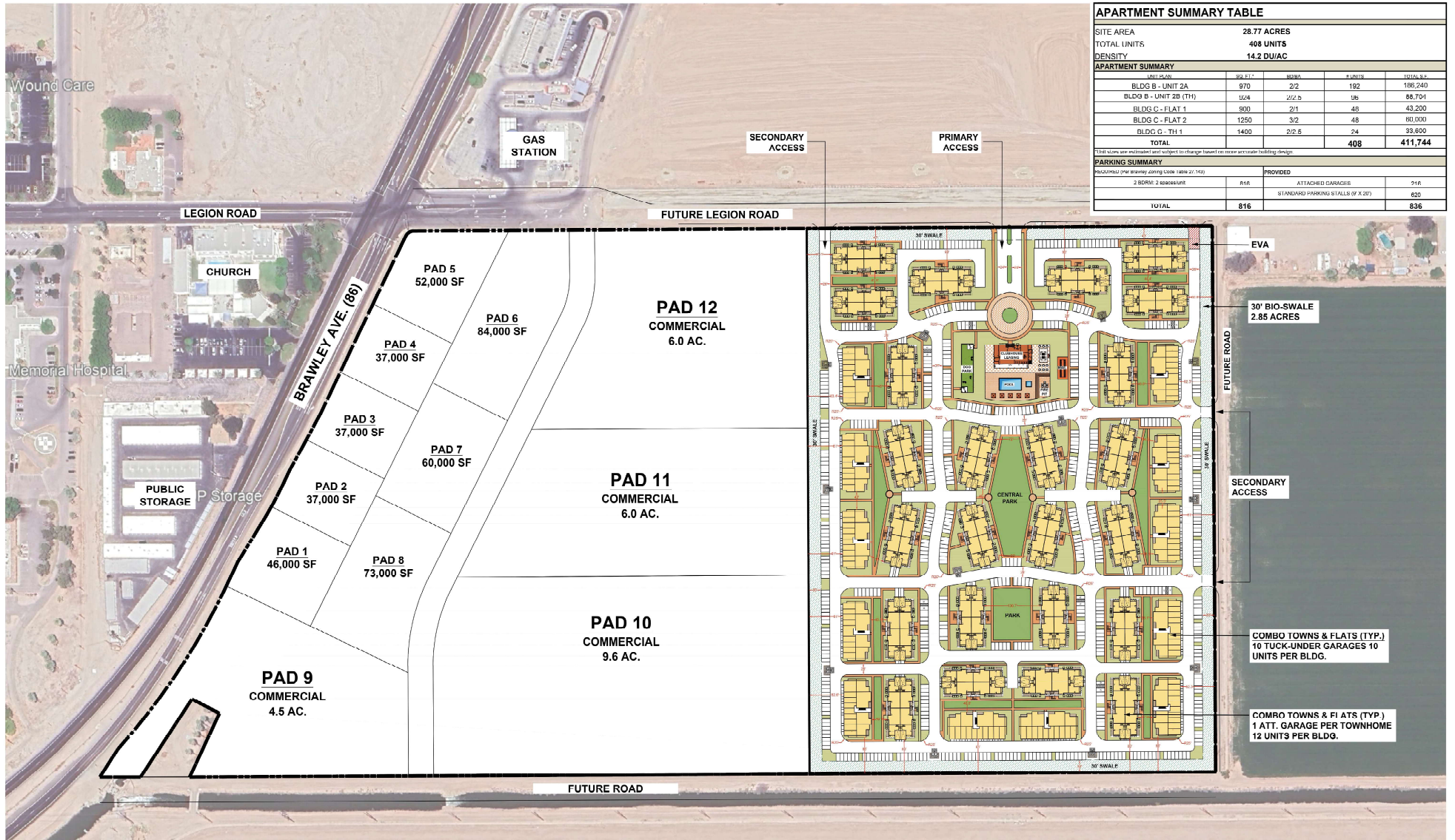
2.2 PROJECT LOCATION

The proposed project site is located in the northern portion of the City of Brawley (City) in south-central Imperial County, California. The subject site is located south of (future) Legion Road, east of Brawley Avenue/State Highway 86, and north of Rockwood Canal. The affected County Assessor Parcel Number is 048-440-001.

Exhibit 1 shows the location of the project site.

Exhibit 2 provides the project site plan.





NOTE: SITE PLAN, YIELD AND AREA CALCULATIONS ARE CONCEPTUAL AND SUBJECT TO CHANGE BASED ON MORE ACCURATE BOUNDARY DATA.

Source: Danielian Associates Architecture and Planning



Not to Scale

3 PROJECT TRIP GENERATION

3.1 PROPOSED PROJECT

The project proposes to construct 408 multi-family residential units and approximately 37 acres of commercial area. The site currently supports agricultural use. Vehicular access to the project site will be provided via (future) Legion Road for the residential portion of the project. For the commercial portion, primary access will be provided via (future) Legion Road to the north and a second (future/unnamed) road along the southern boundary of the project site.

3.1.1 Project Forecast Trip Generation

In order to calculate the vehicular trips forecast to be generated by the project, the *Institute of Transportation Engineers (ITE) 11th Edition Trip Generation Manual* rates were utilized as summarized in **Table 1**.

TABLE 1 – ITE TRIP GENERATION RATES

Trip Generation Rates ¹						
Land Use	ITE Code ¹	Daily Trip Rate	AM Peak Hour Rate		PM Peak Hour Rate	
			Total	In : Out	Total	In : Out
Multi-Family Residential	220	6.74 /DU	0.40 /DU	24% : 76%	0.51 /DU	63% : 37%
Shopping Plaza	821	67.52 /KSF	1.73 /KSF	62% : 38%	5.91 /KSF	49% : 51%
Shopping Center	820	37.01 /KSF	0.84 /KSF	62% : 38%	3.40 /KSF	48% : 52%
Hotel	310	7.99 /Room	0.46 /KSF	56% : 44%	0.59 /KSF	51% : 49%

¹ Source: ITE Trip Generation Manual, 11th Edition.

Table 2 summarizes the project trip generation using the rates shown in **Table 1**. As shown, the project is forecast to generate approximately 15,150 daily vehicle trips with 489 AM peak hour trips (239 inbound and 251 outbound) and 1,247 PM peak hour trips (636 inbound and 611 outbound).

TABLE 2 – PROPOSED PROJECT TRIP GENERATION

Land Use	Pad	Intensity	Daily Trips	AM Peak Hour Trips		PM Peak Hour Trips	
				Total	In : Out	Total	In : Out
Multi-Family Residential	-	408 DU	2750	163	39 : 124	208	131 : 77
Shopping Plaza	1 thru 8	85 KSF	5739	147	91 : 56	441	216 : 225
Shopping Center	10 thru 12	240 KSF	8882	202	125 : 77	816	392 : 424
Pass-By Trips Reduction (34%) ¹			-3020	-69	-43 : -26	-277	-133 : -144
Sub-Total Shopping Center Trips			5862	133	83 : 51	539	259 : 280
Hotel	9	100 Rooms	799	46	26 : 20	59	30 : 29
TOTAL TRIP GENERATION			15150	489	239 : 251	1247	636 : 611

Notes:

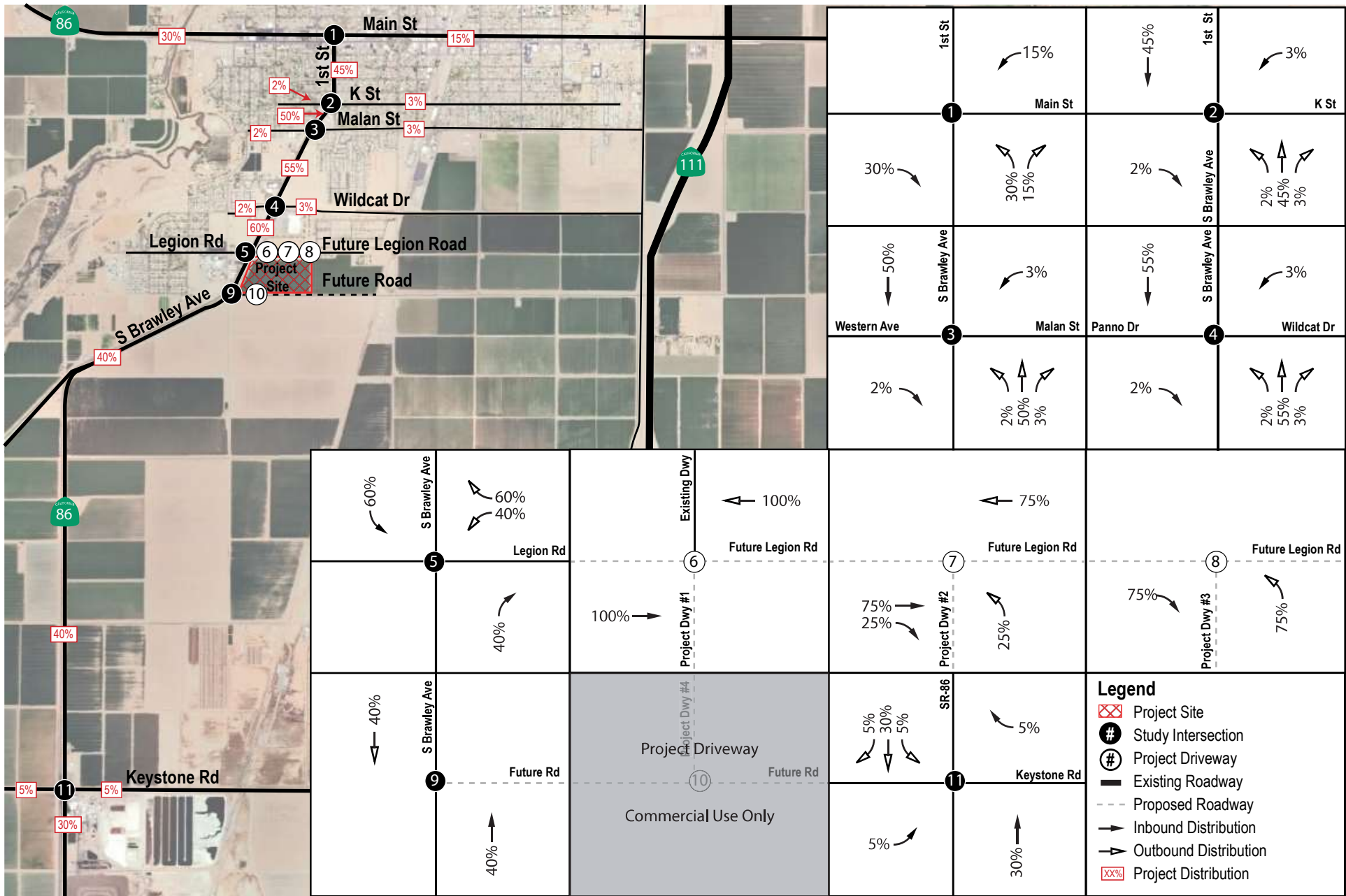
DU = Dwelling Unit

KSF = 1,000 Square Feet

¹ ITE Trip Generation Handbook

3.1.2 Proposed Project Trip Distribution & Trip Assignment

Project trips were distributed onto the surrounding roadway network based on existing travel patterns using existing traffic count data. **Exhibit 3** shows the forecast residential trip percent distribution of the proposed project within the study area, while **Exhibit 4** shows the forecast commercial trip percent distribution. As shown, 60% of project traffic is expected to travel to/from the north on Brawley Avenue and 40% to/from the south. On Main Street, 30% of traffic is assumed to use this roadway traveling west while 15% traveling east. **Exhibit 5** and **Exhibit 6** show the corresponding residential and commercial forecast assignment of AM and PM peak hour project-generated trips assuming the trip percent distribution. The total project trip assignment is shown in **Exhibit 7**.





Michael Baker

INTERNATIONAL

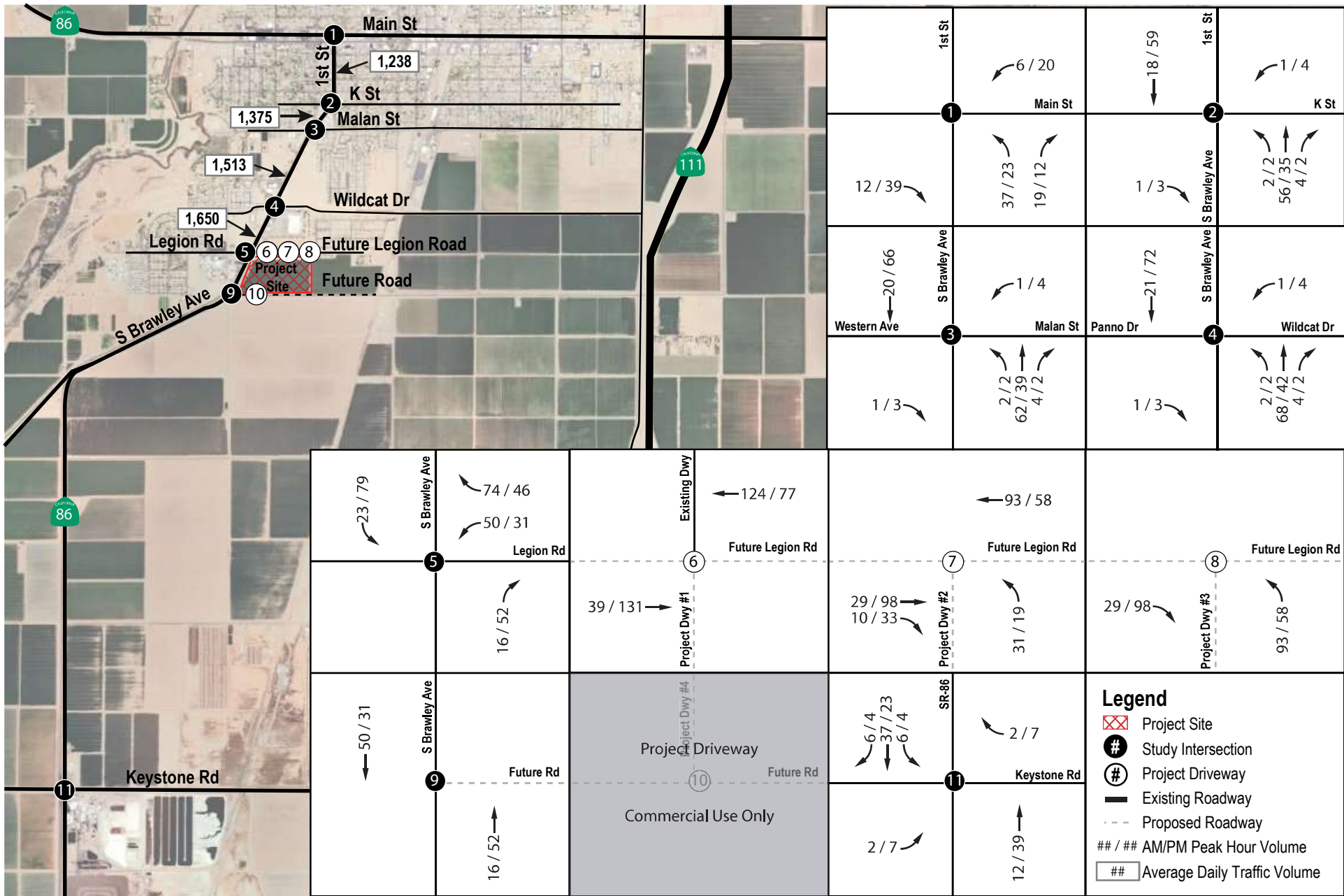
Not to Scale

Oct 2024

\\Santca1hub\carlca1fs1\HROOT\PDATA\202590_Brawley Mixed Use Development\Exhibits

Project Trip Distribution (Commercial)

Exhibit 4



Michael Baker

INTERNATIONAL

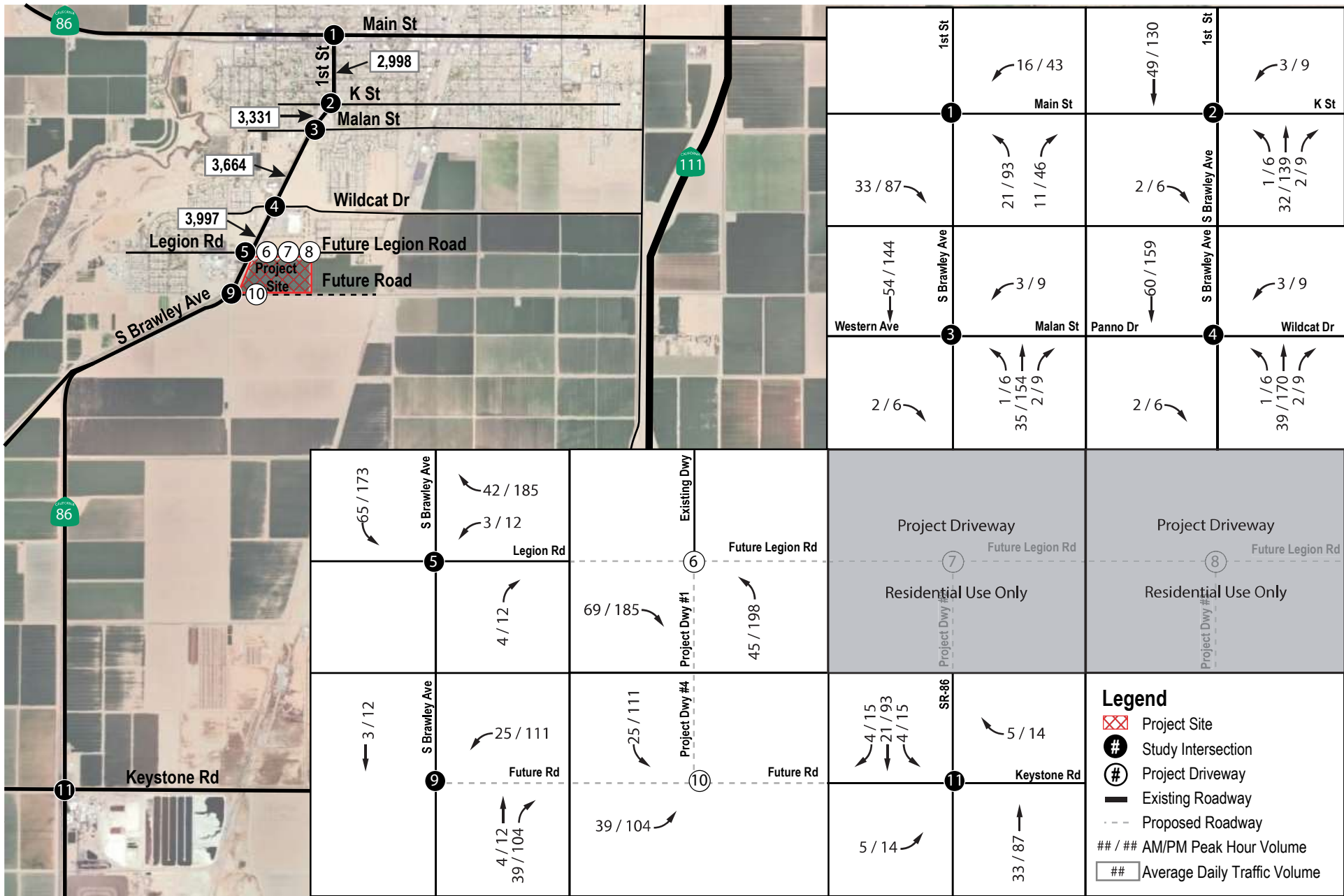
Not to Scale

Oct 2024

\\Santca1hub\carlca1fs1\HROOT\PDATA\202590_Brawley Mixed Use Development\Exhibits

Project Trip Assignment (Residential)

Exhibit 5



Michael Baker

INTERNATIONAL

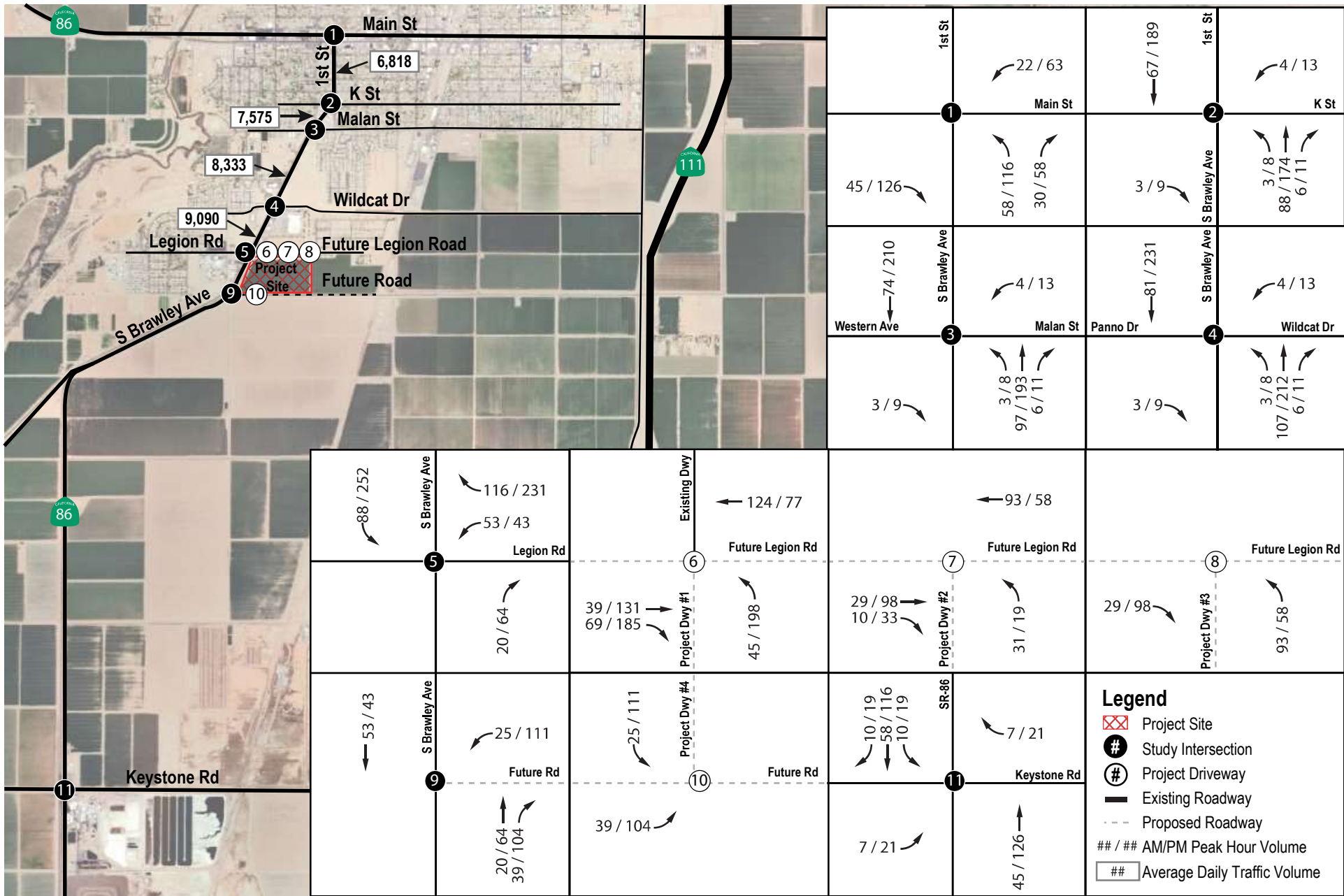
Not to Scale

Oct 2024

\\Santca1hub\carlca1fs1\HROOT\PDATA\202590_Brawley Mixed Use Development\Exhibits

Project Trip Assignment (Commercial)

Exhibit 6



4 STUDY AREA & ANALYSIS METHODOLOGY

4.1 LOS ANALYSIS METHODOLOGY

4.1.1 Intersection Analysis Methodology

Level of Service (LOS) is commonly used as a qualitative description of intersection operation and is based on the capacity of the travel lanes approaching the intersection, the volume of traffic using the intersection, and the average vehicle delay. The intersection analysis conforms to the operational analysis methodology outlined in the *Highway Capacity Manual (HCM 6th Edition)* and performed utilizing *Synchro 11* traffic analysis software.

The *HCM* analysis methodology describes the operation of an intersection using a range of level of service from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding stopped delay experienced per vehicle for study intersections as shown in **Table 3**.

For signalized intersections, signal timing data and parameters such as cycle lengths, splits, clearance intervals, etc. were obtained from the current signal timing data sheets provided by City staff and incorporated into the Synchro model. Synchro reports average vehicle delay for a signalized intersection, which correspond to a particular LOS, to describe the overall operation of an intersection.

Unsignalized intersection LOS for all-way stops and roundabouts is based on the average vehicle delay for all approaches. Average vehicle delay for one-way or two-way stop-controlled intersections is influenced by available gaps in traffic flow on the non-controlled approaches and LOS is based on the approach with the worst delay. The City of Brawley has adopted level of service “D” or better as the standard for acceptable operating conditions for intersections.

TABLE 3 - LEVEL OF SERVICE & DELAY RANGE

Level of Service	Control Delay (seconds/vehicle)		Description
	Signalized Intersections	Unsignalized Intersections	
A	≤ 10.0	≤ 10.0	Operates with very low delay and most vehicles do not stop.
B	> 10.0 to 20.0	> 10.0 to 15.0	Operates with good progression with some restricted movements.
C	> 20.0 to 35.0	>15.1 to 25.0	Operates with significant number of vehicles stopping with some backup and light congestion.
D	> 35.0 to 55.0	> 25.0 to 35.0	Operates with noticeable congestion, longer delays occur, and many vehicles stop.
E	> 55.0 to 80.0	> 35.1 to 50.0	Operates with significant delay, extensive queuing and unfavorable progression.
F	> 80.0	> 50.0	Operates at a level that is unacceptable to most drivers. Arrival rates exceed capacity of the intersection. Extensive queuing occurs.

Source: Highway Capacity Manual (HCM) 6th Edition.

4.1.1 Roadway Segment Analysis Methodology

The basis for roadway segment analysis is the relationship between the measured daily traffic volume and the Level of Service (LOS) capacity thresholds established according to roadway classifications. The analysis results provide a planning-level assessment of whether a segment is under, approaching, or over the planning level capacity threshold. For purposes of this analysis, LOS “D” or better is considered acceptable operating conditions for roadway segments. **Table 4** presents the roadway segment capacity thresholds by LOS for 4 lane roadways and 2 lane roadways per Table ME.3 in the El Centro Traffic Study Guidelines.

TABLE 4 – ROADWAY SEGMENT DAILY CAPACITY & LOS STANDARDS

Roadway Functional Classification	Level of Service Capacity (ADT)				
	LOS A	LOS B	LOS C	LOS D	LOS E
4-Lane Divided Arterial	22,000	25,000	29,000	32,300	36,000
4-Lane Undivided Arterial	16,000	19,000	22,000	24,000	27,000
2-Lane Arterial	11,000	12,500	14,500	16,000	18,000
2-Lane Collector	6,000	7,500	9,000	10,500	12,000

Source: Table ME.3 from El Centro Traffic Study Guidelines | **Note:** El Centro Traffic Study Guidelines were used as reference for this report since Brawley does not LOS Standards in their Circulation Element.

4.1.2 Thresholds of Improvements

For purposes of this analysis, level of service “D” or better is considered acceptable operating conditions for intersections and roadway segments. The following thresholds are used to determine a project’s substantial traffic effect on vehicular intersections and roadway segments:

Roadway Segment:

- Proposed project causes roadway capacity to degrade to LOS E or below. The proposed project shall build a roadway segment to its ultimate mobility element classification if not currently constructed as such.

Signalized Intersection:

- Proposed project adds traffic to an intersection that currently operates or is projected to operate at LOS E or below.
- Proposed project causes an intersection’s operations to degrade to LOS E or below.
- Proposed project traffic either contributes to or is responsible for the 95th percentile queue length to exceed the available storage length.

Side-Street Stop Control:

- Proposed project contributes to a critical movement of an intersection that currently operates or is projected to operate at LOS E or below.

4.2 STUDY AREA

Based on the estimated trips generated by the project, existing roadway network and surrounding land uses, Michael Baker determined the following eleven (11) intersections should be analyzed during the AM/PM peak hours:

1. 1st Street / Main Street
2. 1st Street / K Street
3. S Brawley Avenue / Malan Street
4. S Brawley Avenue / Wildcat Drive
5. S Brawley Avenue / Legion Road
6. Future Driveway #1 / Future Legion Road
7. Future Driveway #2 / Future Legion Road
8. Future Driveway #3 / Future Legion Road
9. S Brawley Avenue / Future Road
10. Future Driveway #4 / Future Road
11. Imperial Avenue (SR-86) / Keystone Road

The study also evaluates the following four (4) roadway segments for average daily (24-hour) traffic volumes:

- A. 1st Street – between Main Street and K Street
- B. 1st Street – between K Street and Malan Street
- C. S Brawley Avenue – between Malan Street and Wildcat Drive
- D. S Brawley Avenue – between Wildcat Drive and Legion Road

Exhibit 8 shows the study locations.

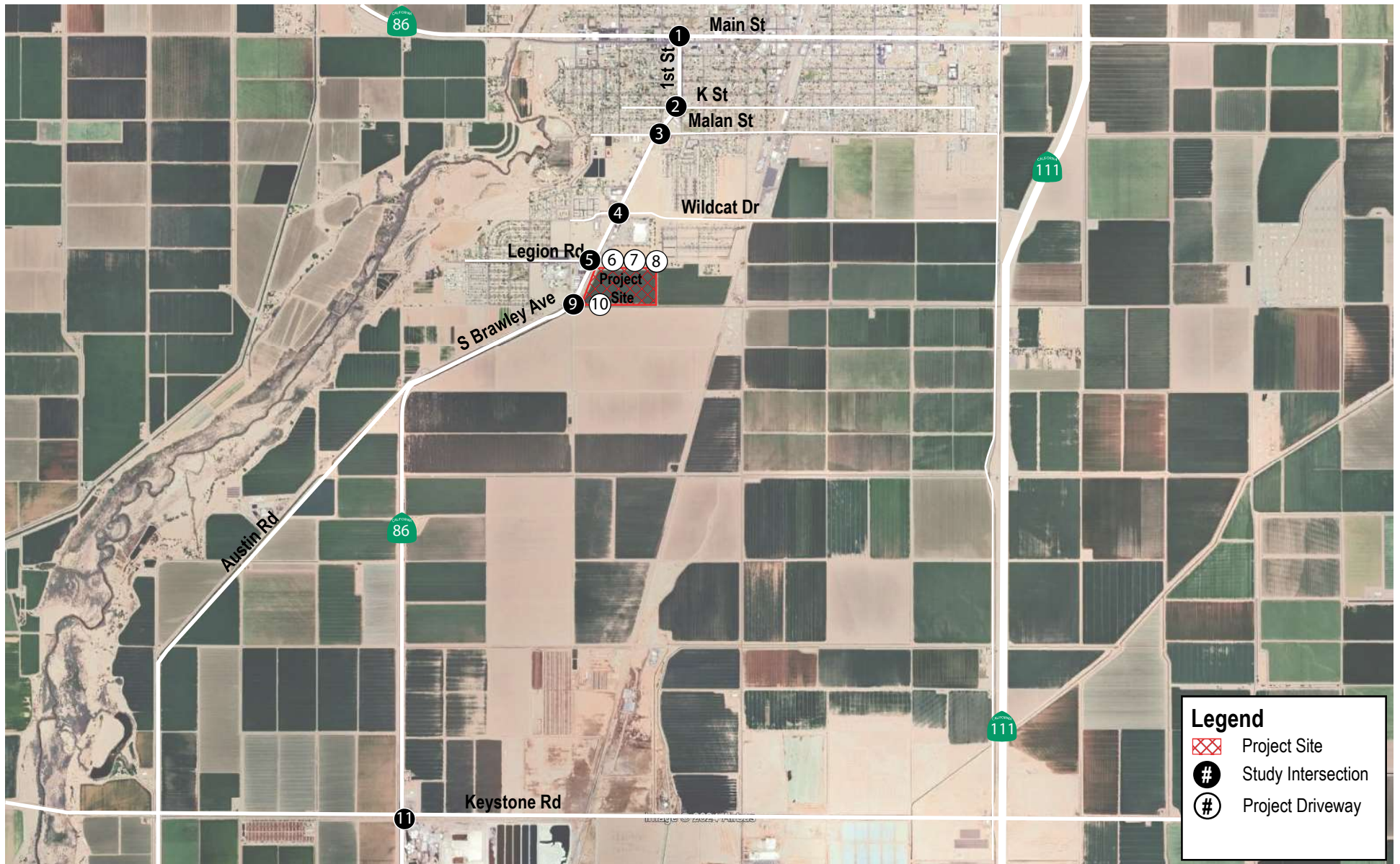
The following study scenarios will be evaluated:

- Existing Conditions
- Opening Year 2028 Without Project Conditions
- Opening Year 2028 Plus Project Conditions

Michael Baker coordinated with City staff on the study assumptions and completed the traffic scoping process which identified the project's trip generation, trip distribution and assignment, study locations and scenarios, and study methodology which can be found in **Appendix A**.

4.3 DATA COLLECTION

Traffic counts were collected at the study locations along S Brawley Avenue on Wednesday, October 16, 2024. Pedestrian and bicycle counts were also collected at the study intersections during the AM and PM peak periods. Traffic count data and signal timing at study locations are provided in **Appendix B**.



Legend

- Project Site
- Study Intersection
- Project Driveway



Not to Scale

5 CEQA VMT ANALYSIS

In December 2018 new CEQA guidelines were approved that shift traffic analysis from delay and operations to VMT when evaluating Transportation Impacts under CEQA. This change in methodology is a result of SB743, which was signed into law in September 2013. SB743 “creates a process to change the way that transportation impacts are analyzed under CEQA. Specifically, SB743 requires OPR to amend the CEQA Guidelines to provide an alternative to LOS for evaluating transportation impacts. Particularly within areas served by transit, those alternative criteria must ‘promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.’¹ ²

As part of the development of the new CEQA guidelines, OPR prepared a Technical Advisory. The final version of the Technical Advisory is dated December 2018 and provides guidance for local jurisdictions in developing methodologies and thresholds for evaluating VMT. The City of Brawley does not have their own VMT guidelines, therefore, OPR’s Technical Advisory was used to evaluate the project’s transportation impacts based on VMT.

5.1 VMT SCREENING CRITERIA

OPR’s Technical Advisory includes screening criteria for land use projects such as the proposed Brawley Mixed use project. A project that meets at least one of the screening criteria would have a less-than-significant VMT impact due to project characteristics and/or location. Each of the screening criteria have been reviewed to determine if the proposed project meets the screening criteria, see **Table 5**.

TABLE 5 - VMT SCREENING CRITERIA EVALUATION

ID	VMT Screening Criteria	Description	Screening Evaluation	Criteria Met? (Yes / No)
1	Small Projects	Projects that generate or attract fewer than 110 trips per day.	The project generates 15,150 daily trips which exceeds the 110 daily trip threshold.	NO
2	Map-Based Screening for Residential and Office Projects	Residential and office projects that locate in areas with low VMT, and that incorporate similar features (i.e., density, mix of uses, transit accessibility), will tend to exhibit similarly low VMT. Maps created with data from a travel survey or travel demand model can illustrate areas that are currently below threshold VMT. Because new development in such locations would likely result in a similar level of VMT, such maps can be used to screen out residential and office projects from needing to prepare a detailed VMT analysis.	Map-based screening maps have not been developed for the City of Brawley. Therefore, low VMT areas have not been identified and the project cannot be analyzed using this metric.	NO

¹ Public Resources Code Section 21099(b)(1)

² Office of Planning and Research, <http://www.opr.ca.gov/ceqa/updates/sb-743/>

ID	VMT Screening Criteria	Description	Screening Evaluation	Criteria Met? (Yes / No)
3	Near Transit Stations	<p>Projects that are proposed within ½ mile of an existing major transit stop or an existing stop along a high-quality transit corridor will have a less-than-significant impact on VMT.</p> <p>This presumption would not apply, however, if project-specific or location-specific information indicates that the project will still generate significant levels of VMT. For example, the presumption might not be appropriate if the project:</p> <ul style="list-style-type: none"> • Has a Floor Area Ratio (FAR) of less than 0.75 • Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking) • Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization) 	<p>The project is not located within ½ mile of an existing major transit stop (site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods).</p> <p>The project is also not located along a high-quality transit corridor (corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours).</p>	NO

The project meets none of the three VMT screening criteria described in the table above. Therefore, a detailed VMT analysis is required, and the proposed project is not presumed to have a less-than-significant transportation impact.

5.2 VMT THRESHOLDS

OPR's Technical Advisory provides recommended thresholds for residential, retail and office projects.

Residential Project Threshold: A proposed project exceeding a level of 15 percent below existing VMT per capita may indicate a significant transportation impact. Existing VMT per capita may be measured as regional VMT per capita or as city VMT per capita. Proposed development referencing city VMT per capita should not cumulatively exceed the number of units specified in the Sustainable Community Strategy (SCS) for that city, and should be consistent with the SCS.

Office Project Threshold: A proposed project exceeding a level of 15 percent below existing regional VMT per employee may indicate a significant transportation impact. The proposed project does not include an office component and therefore, this threshold does not apply to the project.

Retail Project Threshold: A net increase in total VMT may indicate a significant transportation impact.

The OPR Technical Advisory Guidelines also state “By adding retail opportunities into the fabric and thereby improving retail destination proximity, local-serving retail development tends to shorten trips and reduce VMT. Thus, lead agencies generally may presume such development creates a less-than-significant transportation impact. Regional-serving retail development, on the other hand, which can lead to substitution of longer trips for shorter ones, may tend to have a significant impact. Where such development decreases VMT, lead agencies should consider the impact to be less-than-significant.” For the retail portion of the proposed development, the recommended “Retail Project Threshold” is based on whether the total work-based VMT/employee for the project TAZ is less than Imperial County’s total work-based VMT/employee (i.e. 10.04).

5.3 VMT ANALYSIS

According to a Southern California Association of Governments (SCAG) Year 2040 Travel Forecast Model for Imperial County, the project site is located in Traffic Analysis Zone (TAZ) 14049103. A map of the TAZ is provided in **Exhibit 9**. The socioeconomic data including home-based and work-based productions and attractions within this TAZ are provided in **Table 6**.

For the residential component of the project, the total home-based VMT/capita for the project’s TAZ is 12.55 which is slightly higher than Imperial County’s total home-based VMT/capita (12.04). For the project to have a less-than-significant impact, the total VMT/capita would need to be 10.67 which is 15% below Imperial County’s VMT/capita. As shown, an 11% reduction in VMT/capita is needed to mitigate the impact.

For the retail component of the project, the total work-based VMT/employee for the project’s TAZ is 9.46 which is less than Imperial County’s total work-based VMT/employee (10.04). Since the project’s VMT/employee value (9.46) is less than Imperial County’s VMT/employee value of 10.04, no mitigation is required.

TABLE 6 - VMT ASSESSMENT

Imperial County				TAZ: 14049103			
ID	Purpose	Productions	Attractions	ID	Purpose	Productions	Attractions
1	Home-based Work	1,232,690	1,067,512	1	Home-based Work	6,215	1,170
2	Home-based School	85,723	80,903	2	Home-based School	416	-
3	Home-based University	104,487	120,874	3	Home-based University	818	-
4	Home-based Shopping	246,748	237,524	4	Home-based Shopping	1,590	984
5	Home-based Social-Recreational	591,550	538,702	5	Home-based Social-Recreational	2,696	2,061
6	Home-based Serve Passenger	284,806	281,670	6	Home-based Serve Passenger	949	424
7	Home-based Other	690,990	635,172	7	Home-based Other	2,508	1,610
8	Work-Based Other	146,718	140,652	8	Work-Based Other	221	271
9	Other Based Other	406,998	408,156	9	Other Based Other	1,881	1,263
Total VMT		3,790,710	3,511,165	Total VMT		17,294	7,784
Total Home-based VMT			3,236,994	Total Home-based VMT			15,192
Total Work-based VMT			1,214,230	Total Work-based VMT			1,391
Total Population			268,928	Total Population			1,211
Total Employees			120,998	Total Employees			147
Total Home-based VMT/Capita			12.04	Total Home-based VMT/Capita			12.55
Total Work-based VMT/Employee			10.04	Total Work-based VMT/Employee			9.46
15% Below Imperial County VMT/Capita				15% Below Imperial County VMT/Capita			10.67
Difference in Imperial County VMT/Employee				Difference in Imperial County VMT/Employee			0.58 (10.04 - 9.46)
% Needed to Mitigate Impact (VMT/Capita)				% Needed to Mitigate Impact (VMT/Capita)			11%
% Needed to Mitigate Impact (VMT/Employee)				% Needed to Mitigate Impact (VMT/Employee)			0%

EXHIBIT 9 – TRAFFIC ANALYSIS ZONE (TAZ) FOR PROJECT SITE



VMT MITIGATION

The California Air Pollution Control Officers Association's Handbook for *Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity, Designing for Local Government, Communities, and Project Developers Report, Chapter 3 – Transportation, December 2021*, (CAPCOA Report) quantifies the reduction in VMT associated with a particular mitigation measure. The CAPCOA VMT reduction strategies include built environment changes and transportation demand management actions.

The recommended mitigation measure for the Project found in the CAPCOA Report is T-1 (Increase Residential Density). This measure accounts for the VMT reduction achieved by a project that is designed with a higher density of dwelling units compared to the average residential density in the U.S.

VMT Reduction Formula for T-1 is $A = (B - C)/C \times D$.

where,

A = percent reduction in GHG emissions from project VMT in study area (%)

B = residential density of Project development (du/acre)

C = residential density of typical development (9.1 du/acre per Ewing et al. 2007)

D = elasticity of VMT with respect to residential density (-0.22 per Stevens 2016)

Based on the Project description for the residential component which includes 408 units on approx. 29 acres, the CAPCOA T-1 formula was applied, as shown below:

$$A = (B - C)/C \times D = ((408/29) - 9.1)/9.1 \times -0.22 = 12\%$$

Based on the above calculation, the Project's VMT could be reduced by 12% which exceeds the 11% needed for the residential component of the Project. Therefore, in accordance with OPR Guidelines, the proposed Project is presumed to have a less than significant CEQA related transportation impact.

6 EXISTING CONDITIONS

6.1 SURROUNDING ROADWAY NETWORK

The characteristics of the roadway system in the vicinity of the project site are described below:

1st Street is oriented in the north-south direction and is currently constructed as a 4-lane Arterial. Raised medians are provided for the length of the corridor with dedicated left turn lanes at signalized intersections. Within the study area, the posted speed limit is 40 miles per hour (MPH). On-street parking is permitted in both directions within the study area. There are no bike lanes, but intermittent sidewalks provided within the study area.

Main Street is oriented in the east-west direction and is currently constructed as a 4-lane Arterial. The post speed limit is 30 MPH in the eastbound direction and 40 MPH westbound. On-street parking is prohibited in both directions within the study area. Sidewalks are generally provided on both sides of the roadway.

K Street is oriented in the east-west direction and is currently constructed as a 2-lane Collector. Within the study area, the Prima Facie speed limit is 25 MPH. On-street parking is provided in both directions within the study area. Class II bike lanes and sidewalks are provided on both sides of the roadway.

S Brawley Avenue is oriented in the north-south direction and is currently constructed as a 4-lane Arterial between K Street and Legion Road. The posted speed limit is 40 MPH. On-street parking is prohibited along both sides of the road. There are no bike lanes, but intermittent sidewalks provided on both sides of the road. This roadway will provide direct access to the project site.

Malan Street is oriented in the east-west direction and is currently constructed as a 2-lane Collector. On-street parking is permitted. Within the study area, the Prima Facie speed limit is 25 MPH. Class II bike lanes and intermittent sidewalks are provided on both sides of the roadway.

Wildcat Drive is oriented in the east-west direction and is currently constructed as a 2-lane Collector. Raised medians are provided for the length of the roadway with dedicated left turn lanes at both signalized and stop-controlled intersections. Within the study area, the Prima Facie speed limit is 25 MPH. Sidewalks are provided on the eastbound side of the road east of S Brawley Avenue, while available on both sides of the road west of S Brawley Avenue.

Legion Road is oriented in the east-west direction and is currently constructed as a 2-lane Collector west of S Brawley Avenue and a 4-lane Arterial east of S Brawley Avenue. Within the study area, the Prima Facie speed limit is 25 MPH. There are no bike lanes, but intermittent sidewalks are provided within the study area. The current Legion Road is approximately 400 feet in length extending eastward from S Brawley Avenue. Future access to the project site would require improvement of Legion Road to the centerline along a portion of the northern property boundary.

Imperial Avenue (SR-86) is oriented in the north-south direction and is currently constructed as a 4-lane Arterial with approximately 35 feet of separation between the two directions. On-street parking is prohibited along both sides of the road. Within the study area, the posted speed limit is 65 MPH. There are no bike lanes or sidewalks provided on both sides of the road.

Keystone Road is oriented in the east-west direction and is currently constructed as a 2-lane Collector. Within the study area, on-street parking is prohibited. There are no bike lanes or sidewalks provided on both sides of the road.

6.2 EXISTING CONDITIONS TRAFFIC ANALYSIS

6.2.1 Existing Intersection Evaluation

Exhibit 10 shows the existing lane geometry at the study intersections.

Exhibit 11 shows the existing daily and AM/PM peak hour traffic volumes at the study intersections.

Table 7 summarizes existing conditions AM/PM peak hour level of service for all study intersections. As previously discussed, LOS D or better is considered acceptable operating conditions for intersections. LOS E or F is considered unacceptable or deficient operating conditions at a study intersection.

Detailed HCM analysis worksheets are contained in **Appendix C**.

TABLE 7 – EXISTING CONDITIONS AM/PM PEAK HOUR INTERSECTION LOS

Study Intersection	Existing Traffic Control	Existing Conditions					
		AM			PM		
		Delay ⁽¹⁾	-	LOS	Delay ⁽¹⁾	-	LOS
1 - 1st Street & Main Street	Signal	27.3	-	C	23.4	-	C
2 - Brawley Avenue & 1st Street	Signal	24.4	-	C	23.6	-	C
3 - S Brawley Avenue & Malan Street	Signal	31.7	-	C	30.6	-	C
4 - S Brawley Avenue & Wildcat Drive	Signal	34.3	-	C	29.2	-	C
5 - S Brawley Avenue & Legion Road	Signal	34.1	-	C	27.6	-	C
6 - Project Driveway #1 & Future Legion Road	N/A	Does Not Exist Without Project					
7 - Project Driveway #2 & Future Legion Road	N/A	Does Not Exist Without Project					
8 - Project Driveway #3 & Future Legion Road	N/A	Does Not Exist Without Project					
9 - S Brawley Avenue & Future Road	N/A	Does Not Exist Without Project					
10 - Project Driveway #4 & Future Road	N/A	Does Not Exist Without Project					
11 - SR-86 & Keystone Road	Signal	30.0	-	C	29.2	-	C

Note: Deficient intersection operation indicated in **bold**.

⁽¹⁾ Average seconds of delay per vehicle.

LOS = level of service.

6.2.2 Existing Roadway Segment Evaluation

Operating conditions and LOS for roadway segments are calculated based on the capacity of the roadway determined by the existing functional classification and a comparison to existing daily traffic volumes.

Table 8 summarizes existing conditions average daily traffic level of service for all study roadway segments based on the capacity threshold shown in Table 4. As shown, all study roadway segments are currently operating at LOS C or better.

TABLE 8 – EXISTING CONDITIONS ROADWAY SEGMENT LOS

Roadway	Segment	Classification	LOS E Capacity	Existing Condition		
				ADT	V/C	LOS
1st Street	Main St. to K St.	4-Lane Divided Arterial	36,000	10,815	0.30	A
	K St. to Malan St.	4-Lane Undivided Arterial	27,000	11,905	0.44	A
S Brawley Avenue	Malan St. to Wildcat Dr.	4-Lane Undivided Arterial	27,000	20,037	0.74	C
	Wildcat Dr. to Legion Rd.	4-Lane Undivided Arterial	27,000	14,090	0.52	A

Note: Deficient roadway segment operations shown in **bold**.

ADT= Average Daily Traffic

LOS= Level of Service

V/C= Volume to Capacity Ratio

6.3 ACTIVE TRANSPORTATION

6.3.1 Existing Pedestrian and Bicycle Facilities

Exhibit 12 shows the sidewalks that are provided within the study area.

1st Street – Within the study area, there are intermittent sidewalks provided within the study area.

Main Street – Sidewalks are generally provided on both sides of the roadway.

K Street – Within the study area, sidewalks are generally provided on both sides of the roadway.

S Brawley Avenue – Within the study area, there are intermittent sidewalks provided on both sides of the road.

Malan Street – Within the study area, sidewalks are provided intermittently on both sides of the roadway.

Wildcat Drive – Within the study area, sidewalks are only provided on the eastbound side of the road east of S Brawley Avenue, while sidewalks are available on both sides of the road west of S Brawley Avenue.

Legion Road – Within the study area, while sidewalks are available west of S Brawley Avenue, there are no sidewalks provided on either side of the road east of S Brawley Avenue. This project plans to provide continuous sidewalks along its frontage.

Imperial Avenue (SR-86) – Within the study area, there are no sidewalks provided on both sides of the road.

Keystone Road – Within the study area, there are no sidewalks provided on both sides of the road.

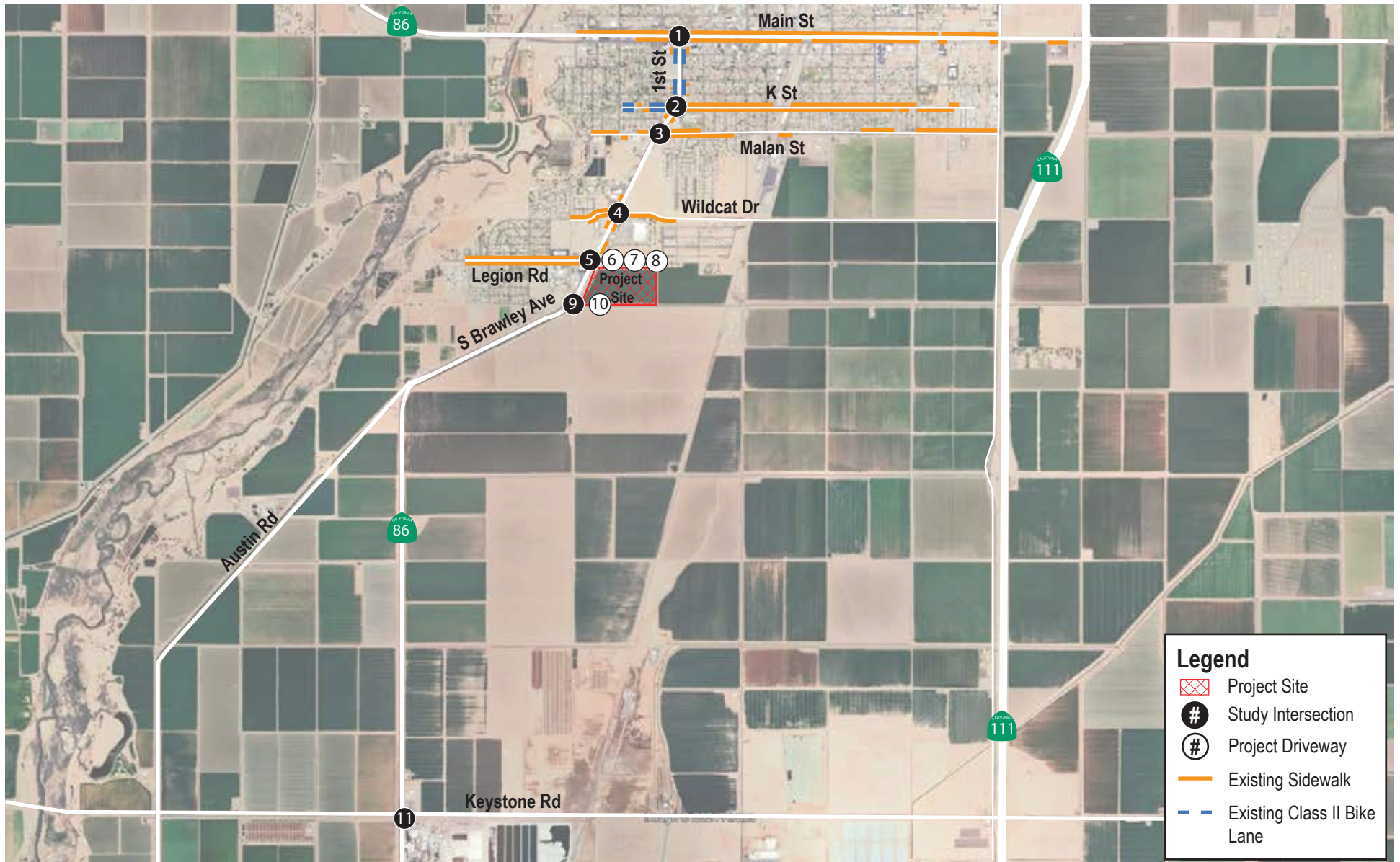
Exhibit 12 also shows the existing bicycle facilities within the project study area. As shown, there are currently Class II bicycle lanes provided on 1st Street and extend west along K Street.

6.3.2 Existing Transit Facilities

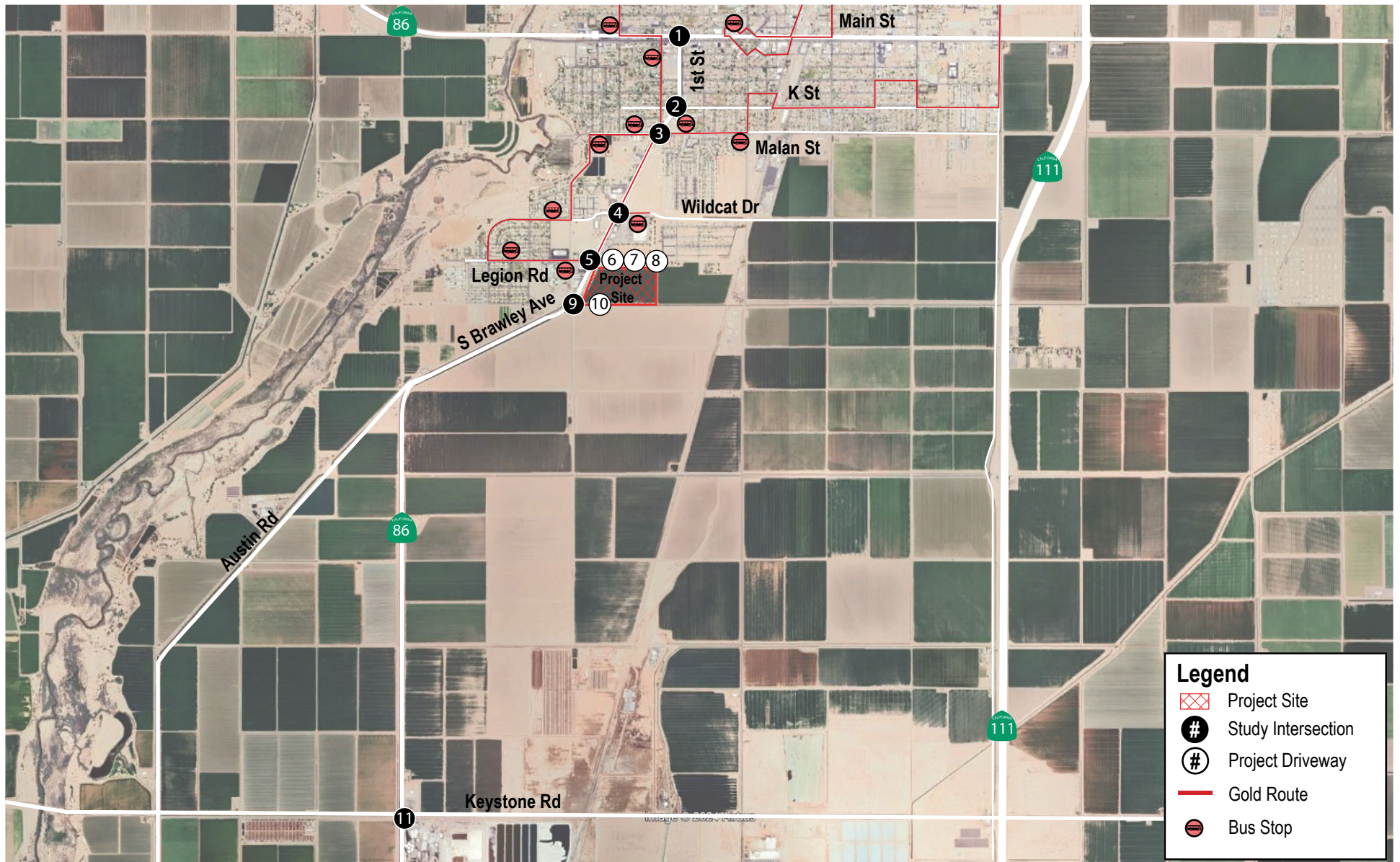
Imperial Valley Transit (IVT) operates the local bus service within the City of Brawley and provides access to employment centers, shopping centers, hospitals, the library, government offices, as well as other key locations in the region.

The Gold Line primarily serves Brawley and nearby communities and connects with other transit lines in the Imperial Valley Transit System. As shown in **Exhibit 13**, the closest bus stop to the project site is located on Legion Road approximately 1000' west of S Brawley Avenue.

According to the IVT Riders Guide, the Gold Line provides service between 8:17 AM and 5:12 PM Monday through Friday.



Not to Scale



Not to Scale

7 OPENING YEAR 2028 WITHOUT PROJECT CONDITIONS

7.1 OPENING YEAR 2028 WITHOUT PROJECT ANALYSIS

This scenario evaluates study intersections and roadway segments under the Opening Year 2028 Without Project conditions which represents existing plus cumulative (pending or approved projects) traffic. This analysis assumes the project will be constructed and occupied by Year 2028.

7.1.1 Cumulative Traffic

Based on coordination with City staff, one cumulative project was determined to add sufficient traffic to the study area for inclusion within the analysis, as noted below.

- 1.) **Brawley Travel Center** is located on the northwest corner of the Highway 111 & Highway 78 intersection in Brawley. The project consists of a new 26,102 square foot travel center/convenience store, a 16-pump (8 position) gasoline fueling area, a 5,085 square foot fuel tank area, an RV dump station, 10 RV parking spaces and 94 vehicle parking spaces on the eastern portion of the site fronting both Highway 111 and Main Street (Highway 78). The western portion of the site would be dedicated to heavy truck use. This project is expected to generate approximately 3,354 daily vehicle trips with 262 AM and 262 PM peak hour trips.

The Brawley Travel Center project will be complete and in operation by 2025. The location of this cumulative project is identified in **Exhibit 14** and **Exhibit 15**.

Table 9 provides a trip generation summary of the cumulative project traffic.

TABLE 9 – CUMULATIVE PROJECTS TRIP GENERATION SUMMARY

Project	Land Use	Intensity	ADT	AM Peak Hour			PM Peak Hour		
				Total	Inbound	Outbound	Total	Inbound	Outbound
Travel America - Travel Center	Tire Store (848)	14.000 KSF	388	37	24	13	53	23	30
	Convenience Store/Gas Station (945)	16.000 VFP	5,532	506	253	253	430	215	215
	Truck Stop (950)	10 VFP	2,240	140	69	71	154	82	72
	Total:		3,354	262	136	126	262	132	130

Notes:

VFP = Vehicle Fueling Position

KSF = Thousand Square Feet

7.1.2 Opening Year 2028 Without Project Intersection Evaluation

The Opening Year 2028 Without Project scenario accounts for the addition of cumulative traffic volumes onto the existing traffic volumes. **Exhibit 14** shows the Opening Year 2024 Without Project daily and AM/PM peak hour volumes within the study area.

Table 10 summarizes Opening Year 2028 Without Project AM/PM peak hour level of service for all study intersections. Detailed HCM analysis worksheets are contained in **Appendix D**.

TABLE 10 – OPENING YEAR 2028 WITHOUT PROJECT AM/PM PEAK HOUR INTERSECTION LOS

Study Intersection	Traffic Control	Opening Year 2028 Without Project			
		AM		PM	
		Delay ⁽¹⁾	LOS	Delay ⁽¹⁾	LOS
1 - 1st Street & Main Street	Signal	32.6	C	26.2	C
2 - Brawley Avenue & 1st Street	Signal	25.8	C	25.3	C
3 - S Brawley Avenue & Malan Street	Signal	34.2	C	32.7	C
4 - S Brawley Avenue & Wildcat Drive	Signal	37.6	D	30.5	C
5 - S Brawley Avenue & Legion Road	Signal	36.0	D	28.6	C
6 - Project Driveway #1 & Future Legion Road	N/A	Does Not Exist Without Project			
7 - Project Driveway #2 & Future Legion Road	N/A	Does Not Exist Without Project			
8 - Project Driveway #3 & Future Legion Road	N/A	Does Not Exist Without Project			
9 - S Brawley Avenue & Future Road	N/A	Does Not Exist Without Project			
10 - Project Driveway #4 & Future Road	N/A	Does Not Exist Without Project			
11 - SR-86 & Keystone Road	Signal	30.8	C	30.1	C

Note: Deficient intersection operation indicated in **bold**.

⁽¹⁾ Average seconds of delay per vehicle.

LOS = level of service.

As shown, all study intersections are forecast to operate LOS D or better during the AM/PM peak hours.

7.1.3 Opening Year 2028 Without Project Roadway Segment Evaluation

Table 11 summarizes Opening Year 2028 Without Project conditions average daily traffic level of service for all study roadway segments based on the ADT threshold table. As shown, all study roadway segments are forecast to operate at LOS C or better under Opening Year 2028 Without Project conditions.

TABLE 11 – OPENING YEAR 2028 WITHOUT PROJECT CONDITIONS ROADWAY SEGMENT LOS

Roadway	Segment	Classification	LOS E Capacity	Opening Year 2028 Without Project		
				ADT	V/C	LOS
1st Street	Main St. to K St.	4-Lane Divided Arterial	36,000	11,866	0.33	A
	K St. to Malan St.	4-Lane Undivided Arterial	27,000	12,791	0.47	A
S Brawley Avenue	Malan St. to Wildcat Dr.	4-Lane Undivided Arterial	27,000	21,281	0.79	C
	Wildcat Dr. to Legion Rd.	4-Lane Undivided Arterial	27,000	14,900	0.55	A

Note: Deficient roadway segment operations shown in **bold**.

ADT= Average Daily Traffic

LOS= Level of Service

V/C= Volume to Capacity Ratio

8 OPENING YEAR 2028 PLUS PROJECT CONDITIONS

Opening Year 2028 Plus Project traffic volumes were derived by adding trips forecast to be generated by the project to Opening Year 2028 Without Project traffic volumes. **Exhibit 15** shows the Opening Year 2024 Plus Project daily and AM/PM peak hour volumes within the study area.

8.1 OPENING YEAR 2028 PLUS PROJECT INTERSECTION EVALUATION

Table 12 compares Opening Year 2028 Without Project intersection operations to Opening Year 2028 Plus Project intersection operations for all study intersections. Detailed HCM analysis worksheets are contained in **Appendix E**.

**TABLE 12 – OPENING YEAR 2028 WITHOUT PROJECT & OPENING YEAR 2028 PLUS PROJECT
AM/PM PEAK HOUR INTERSECTION LOS**

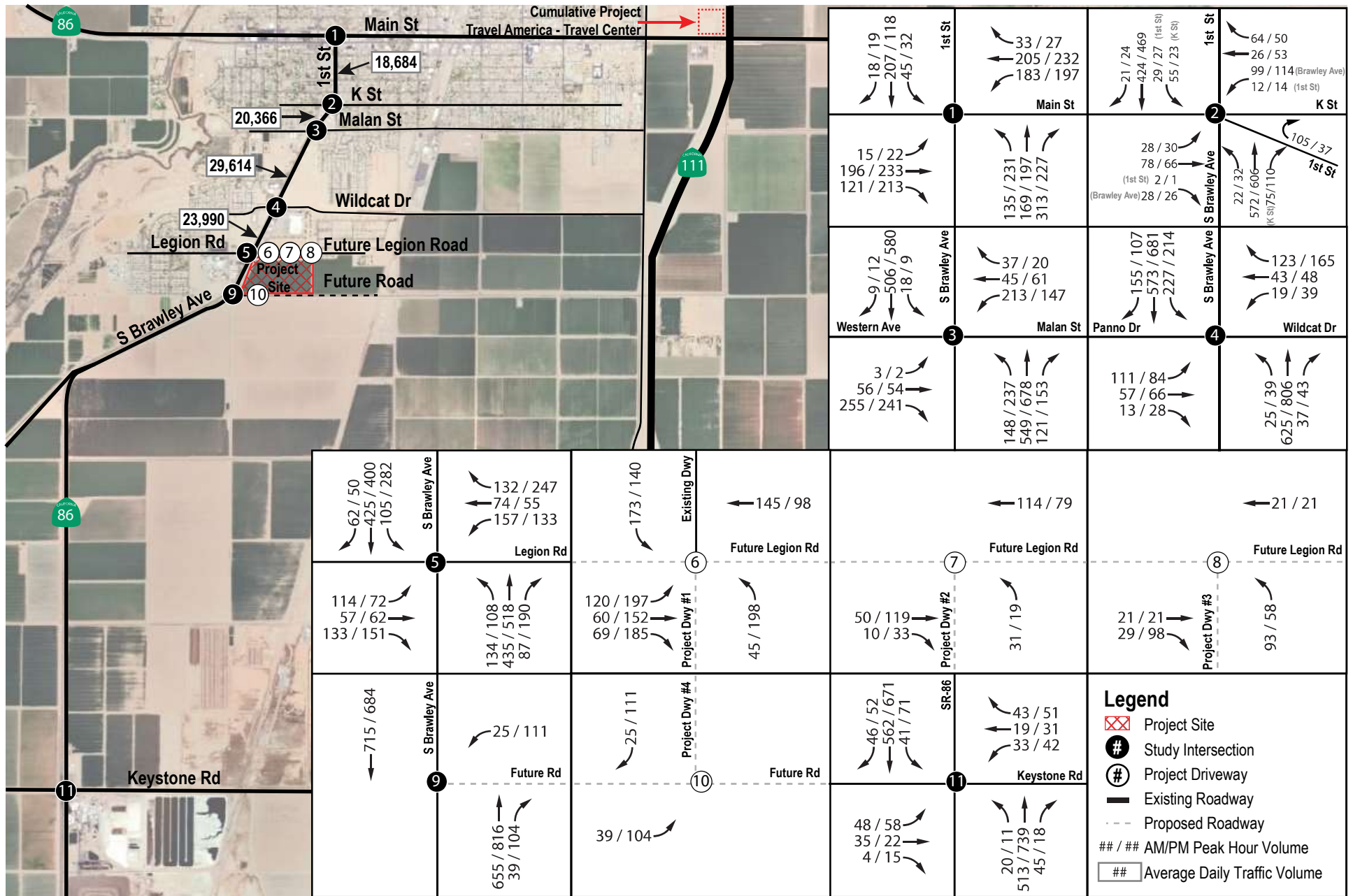
Study Intersection	Traffic Control	Opening Year 2028 Conditions Without Project			Opening Year 2028 Plus Project Conditions		
		AM		PM		AM	
		Delay ⁽¹⁾	LOS	Delay ⁽¹⁾	LOS	Delay ⁽¹⁾	LOS
1 - 1st Street & Main Street	Signal	32.6	C	26.2	C	45.9	D
2 - 1st Street & K Street	Signal	25.8	C	25.3	C	26.4	C
3 - S Brawley Avenue & Malan Street	Signal	34.2	C	32.7	C	35.5	D
4 - S Brawley Avenue & Wildcat Drive	Signal	37.6	D	30.5	C	39.8	D
5 - S Brawley Avenue & Legion Road	Signal	36.0	D	28.6	C	39.6	D
6 - Project Driveway #1 & Future Legion Road	Signal	Does Not Exist Without Project				21.0	C
7 - Project Driveway #2 & Future Legion Road	OWSC	Does Not Exist Without Project				9.6	A
8 - Project Driveway #3 & Future Legion Road	OWSC	Does Not Exist Without Project				9.2	A
9 - S Brawley Avenue & Future Mead Road	Signal	Does Not Exist Without Project				2.4	A
10 - Project Driveway #4 & Future Mead Road	OWSC	Does Not Exist Without Project				8.4	A
11 - SR-86 & Keystone Road	Signal	30.8	C	30.1	C	32.9	C

Note: Deficient intersection operation indicated in **bold**.

⁽¹⁾ Average seconds of delay per vehicle.

LOS = Level of Service. OWSC = One-Way Stop Control.

As shown, all study intersections are forecast to operate at acceptable LOS D or better. Therefore, no improvements are required. It may be noted that a new traffic signal is assumed at S Brawley Avenue & Future Road (Study Int. #9) and Project Driveway #1 & Future Legion Road (Study Int. #6) to be designed and constructed by the project. Coordination with City staff will be necessary to address permits, utilities, plans and construction of a new signal at these two locations.



8.1.1 Opening Year 2028 Plus Project Roadway Segment Evaluation

Table 13 provides a comparison of Opening Year 2028 Without Project and Opening Year 2028 Plus Project conditions average daily traffic LOS for all study roadway segments.

**TABLE 13 – OPENING YEAR 2028 WITHOUT PROJECT & OPENING YEAR 2028 PLUS PROJECT
ROADWAY SEGMENT LOS COMPARISON**

Roadway	Segment	Classification (No. Lanes)	LOS E Capacity	Opening Year 2028 Without Project			Opening Year 2028 Plus Project			Δ V/C	Improv. Warranted?
				ADT	V/C	LOS	ADT	V/C	LOS		
1st Street	Main St. to K St.	4-Lane Divided Arterial	36,000	11,866	0.33	A	18,684	0.52	A	0.189	No
	K St. to Malan St.	4-Lane Undivided Arterial	27,000	12,791	0.47	A	20,366	0.75	C	0.281	No
S Brawley Avenue	Malan St. to Wildcat Dr.	4-Lane Undivided Arterial	27,000	21,281	0.79	C	29,614	1.10	F	0.309	No
	Wildcat Dr. to Legion Rd.	4-Lane Undivided Arterial	27,000	14,900	0.55	A	23,990	0.89	D	0.337	No

Note: Deficient roadway segment operations shown in **bold**.

LOS = Level of Service

V/C = Volume to Capacity Ratio

Δ = Difference

As shown, S Brawley Avenue from Malan Street to Wildcat Drive is forecast to operate at LOS F under Opening Year 2028 Plus Project conditions. As discussed in Section 4.1.2 in this report, if traffic generated by the project causes a roadway to degrade to LOS E or below, the project shall build a roadway segment to its ultimate mobility element classification if not currently constructed as such. However, this section of S Brawley Avenue is built to its ultimate classification (i.e. 4-lane Arterial). In addition, the intersections at S Brawley Avenue & Malan Street and S Brawley Avenue & Wildcat Drive are forecast to operate at acceptable conditions (LOS C) during the AM and PM peak hour. Therefore, improvements are not recommended on S Brawley Avenue from Malan Street to Wildcat Drive.

9 SUMMARY & CONCLUSIONS

The approximately 66-acre project site is located in the northern portion of the City of Brawley in south-central Imperial County, California. The project proposes an amendment to the Brawley Gateway Specific Plan to subdivide the property and allow for future commercial and multi-family residential uses.

9.1 CEQA ANALYSIS SUMMARY

In December 2018, new California Environmental Quality Act (CEQA) guidelines were approved that shift transportation analysis from delay and operations to vehicle miles traveled (VMT) when evaluating transportation impacts under CEQA. This change in methodology is a result of Senate Bill 743 (SB 743), which was signed into law in September 2013. The Governor's Office of Planning and Research (OPR) released *Technical Advisory on Evaluating Transportation Impacts in CEQA* in December 2018 (Technical Advisory) that contains recommendations regarding assessment of VMT, screening criteria, thresholds of significance, and approach to mitigating impacts. Statewide implementation VMT as the metric for evaluating transportation impacts under CEQA occurred on July 1, 2020. The City of Brawley does not have VMT guidelines, and therefore, OPR's Technical Advisory was used to evaluate the project's transportation impacts based on VMT. The project is not screened out from needing a VMT analysis for both the residential and commercial components of the site. As such, a detailed VMT analysis is required and provided in this report.

9.1.1 VMT Impact Mitigation Options

As noted in section 5.3, for the residential component of the project, the total home-based VMT/capita for the project's TAZ is 12.55 which is slightly higher than Imperial County's total home-based VMT/capita (12.04). For the project to have a less-than-significant impact, the total VMT/capita would need to be 10.67 which is 15% below Imperial County's VMT/capita. As shown, an 11% reduction in VMT/capita is needed to mitigate the impact.

The recommended mitigation measure for the Project found in the CAPCOA Report is T-1 (Increase Residential Density). This measure accounts for the VMT reduction achieved by a project that is designed with a higher density of dwelling units compared to the average residential density in the U.S.

VMT Reduction Formula for T-1 is $A = (B - C)/C \times D$.

where,

A = percent reduction in GHG emissions from project VMT in study area (%)

B = residential density of Project development (du/acre)

C = residential density of typical development (9.1 du/acre per Ewing et al. 2007)

D = elasticity of VMT with respect to residential density (-0.22 per Stevens 2016)

Based on the Project description for the residential component which includes 408 units on approx. 29 acres, the CAPCOA T-1 formula was applied, as shown below:

$$A = (B - C)/C \times D = ((408/29) - 9.1)/9.1 \times -0.22 = 12\%$$

Based on the above calculation, the Project's VMT could be reduce by 12% which exceeds the 11% needed for the residential component of the Project. Therefore, in accordance with OPR Guidelines, the proposed Project is presumed to have a less than significant CEQA related transportation impact.

9.2 LOCAL MOBILITY ASSESSMENT (LEVEL OF SERVICE) SUMMARY

While transportation impacts are based on VMT, the City also requires analysis of intersection and roadway segment operating conditions for their Transportation Impact Analysis (TIA). For purposes of this analysis, level of service (LOS) D or better is considered acceptable operating conditions at study intersections and roadway segments. LOS E and F are considered deficient operating conditions.

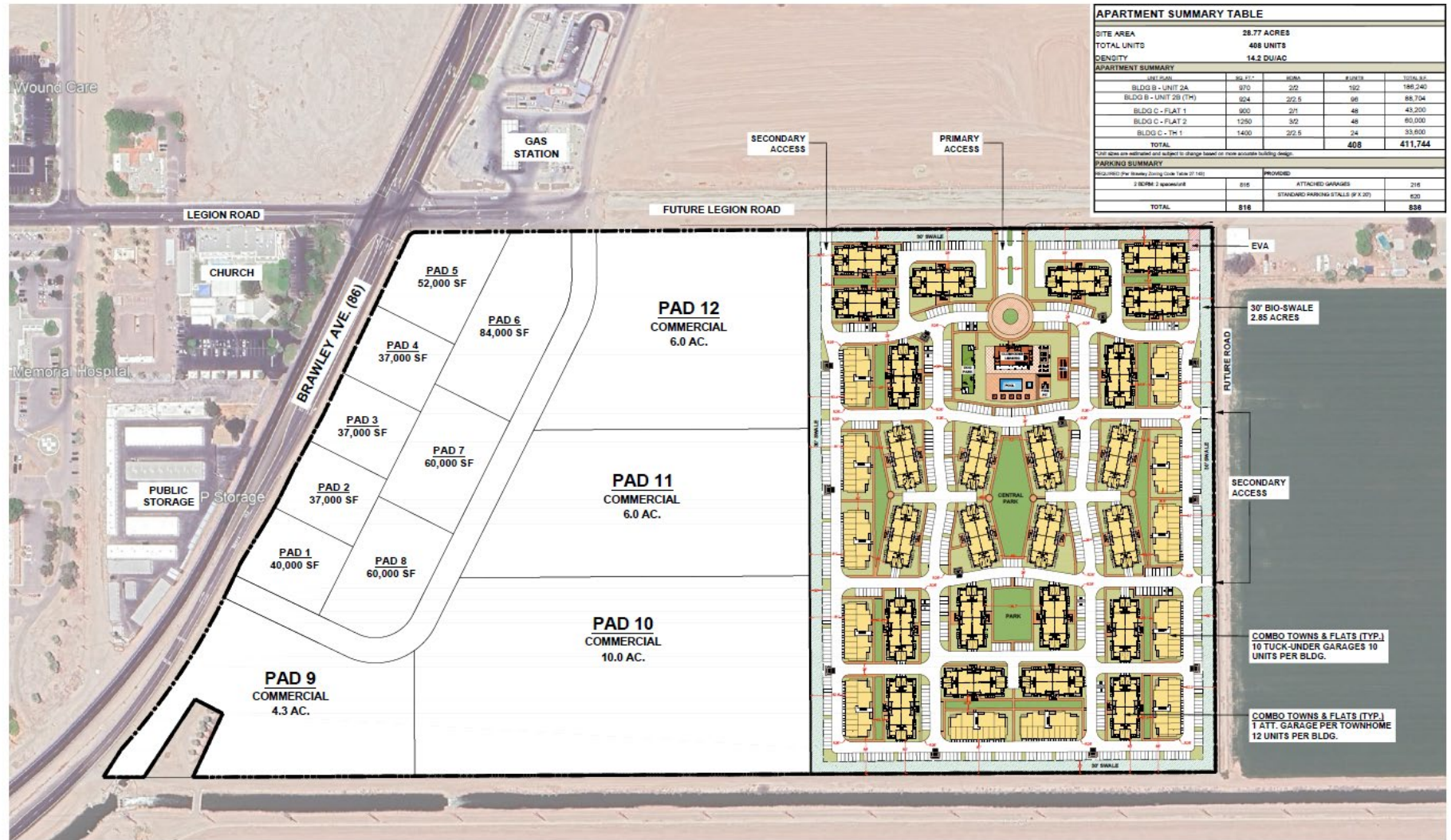
Under the Opening Year 2028 Without and With Project conditions, all study intersections are forecast to operate at acceptable LOS D or better. It may be noted that a new traffic signal is assumed at S Brawley Avenue & Future Road (Study Int. #9) and Project Driveway #1 & Future Legion Road (Study Int. #6) to be designed and constructed by the project. Coordination with City staff will be necessary to address permits, utilities, plans and construction of a new signal at these two locations.

S Brawley Avenue from Malan Street to Wildcat Drive is forecast to operate at LOS F under Opening Year 2028 Plus Project conditions. As discussed in Section 4.1.2 in this report, if traffic generated by the project causes a roadway to degrade to LOS E or below, the project shall build a roadway segment to its ultimate mobility element classification if not currently constructed as such. However, this section of S Brawley Avenue is built to its ultimate classification (i.e. 4-lane Arterial). In addition, the intersections at S Brawley Avenue & Malan Street and S Brawley Avenue & Wildcat Drive are forecast to operate at acceptable conditions (LOS C) during the AM and PM peak hour. Therefore, widening S Brawley Avenue from Malan Street to Wildcat Drive is not recommended.

Appendix A: TIA Scoping Memo

Brawley Mixed Use Development - Traffic Study Scoping Agreement - Attachments

Section 1 - Site Plan Exhibit 1: Site Plan



Brawley Mixed Use Development - Traffic Study Scoping Agreement - Attachments

Section 2 - Trip Generation Tables

Table 1: Trip Generation Rates

Land Use	ITE Code ¹	Daily Trip Rate	AM Peak Hour Rate		PM Peak Hour Rate	
			Total	In : Out	Total	In : Out
Multi-Family Residential	220	6.74 /DU	0.40 /DU	24% : 76%	0.51 /DU	63% : 37%
Shopping Plaza	821	67.52 /KSF	1.73 /KSF	62% : 38%	5.91 /KSF	49% : 51%
Shopping Center	820	37.01 /KSF	0.84 /KSF	62% : 38%	3.40 /KSF	48% : 52%
Hotel	310	7.99 /Room	0.46 /KSF	56% : 44%	0.59 /KSF	51% : 49%

¹ Source: ITE Trip Generation Manual, 11th Edition.

Table 2: Trip Generation (Vehicles)

Land Use	Pad	Intensity	Daily Trips	AM Peak Hour Trips		PM Peak Hour Trips	
				Total	In : Out	Total	In : Out
Multi-Family Residential	-	408 DU	2750	163	39 : 124	208	131 : 77
Shopping Plaza	1 thru 8	85 KSF	5739	147	91 : 56	441	216 : 225
Shopping Center	10 thru 12	240 KSF	8882	202	125 : 77	816	392 : 424
<i>Pass-By Trips Reduction (34%)¹</i>			-3020	-69	-43 : -26	-277	-133 : -144
<i>Sub-Total Shopping Center Trips</i>			5862	133	83 : 51	539	259 : 280
Hotel	9	100 Rooms	799	46	26 : 20	59	30 : 29
TOTAL TRIP GENERATION			15150	489	239 : 251	1247	636 : 611

Notes:

DU = Dwelling Unit

KSF = 1,000 Square Feet

¹ ITE Trip Generation Handbook

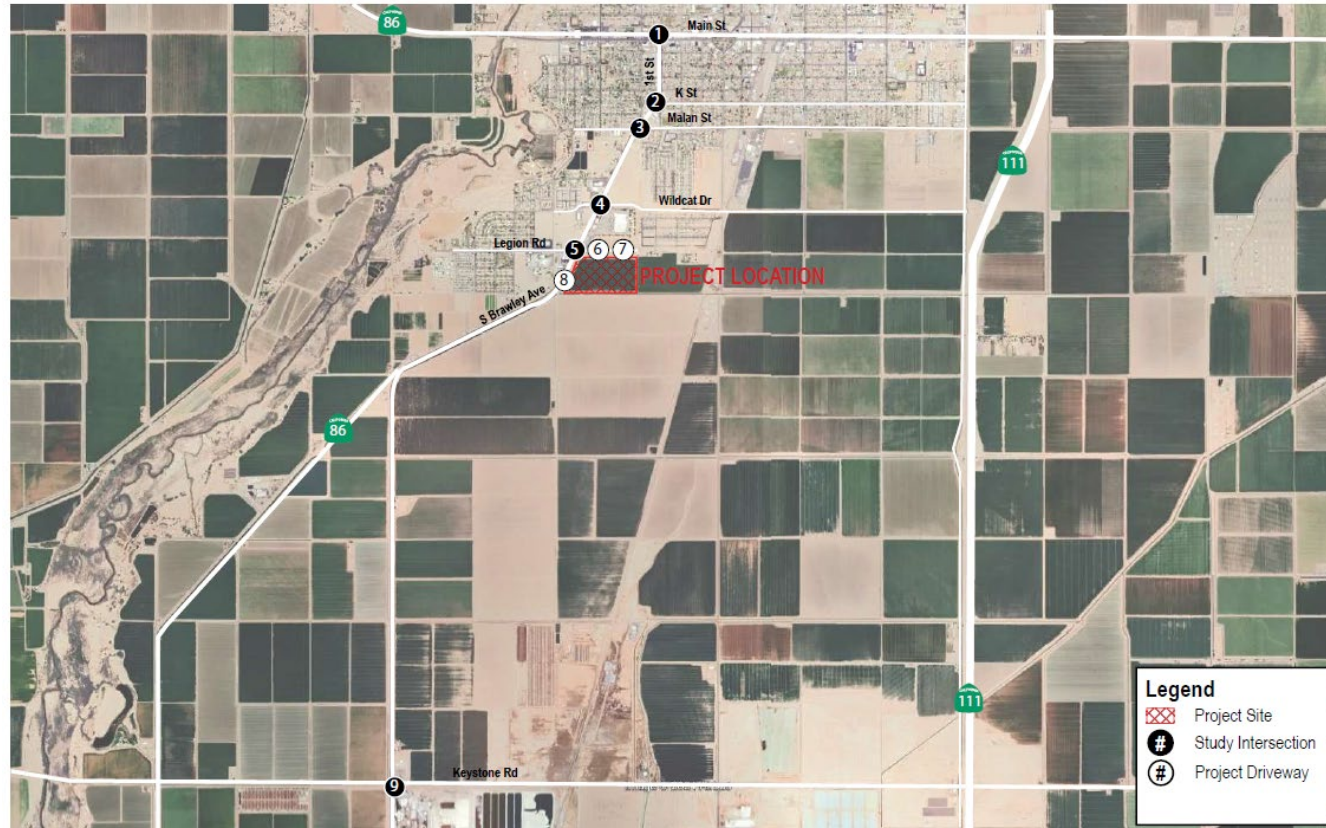
Brawley Mixed Use Development - Traffic Study Scoping Agreement - Attachments

Section 3 – Study Intersections

ID	Table 3 - Study Intersections		
1	1 st Street (SR-86) & Main Street	7	Legion Road (SR-86) & Project Driveway #2
2	1 st Street (SR-86) & K Street	8	Brawley Avenue (SR-86) & Project Driveway #3
3	1 st Street (SR-86) & Malan Street	9	SR-86 & Keystone Road
4	Brawley Avenue (SR-86) & Wildcat Drive		
5	Brawley Avenue (SR-86) & Legion Road		
6	Legion Road & Project Driveway #1		

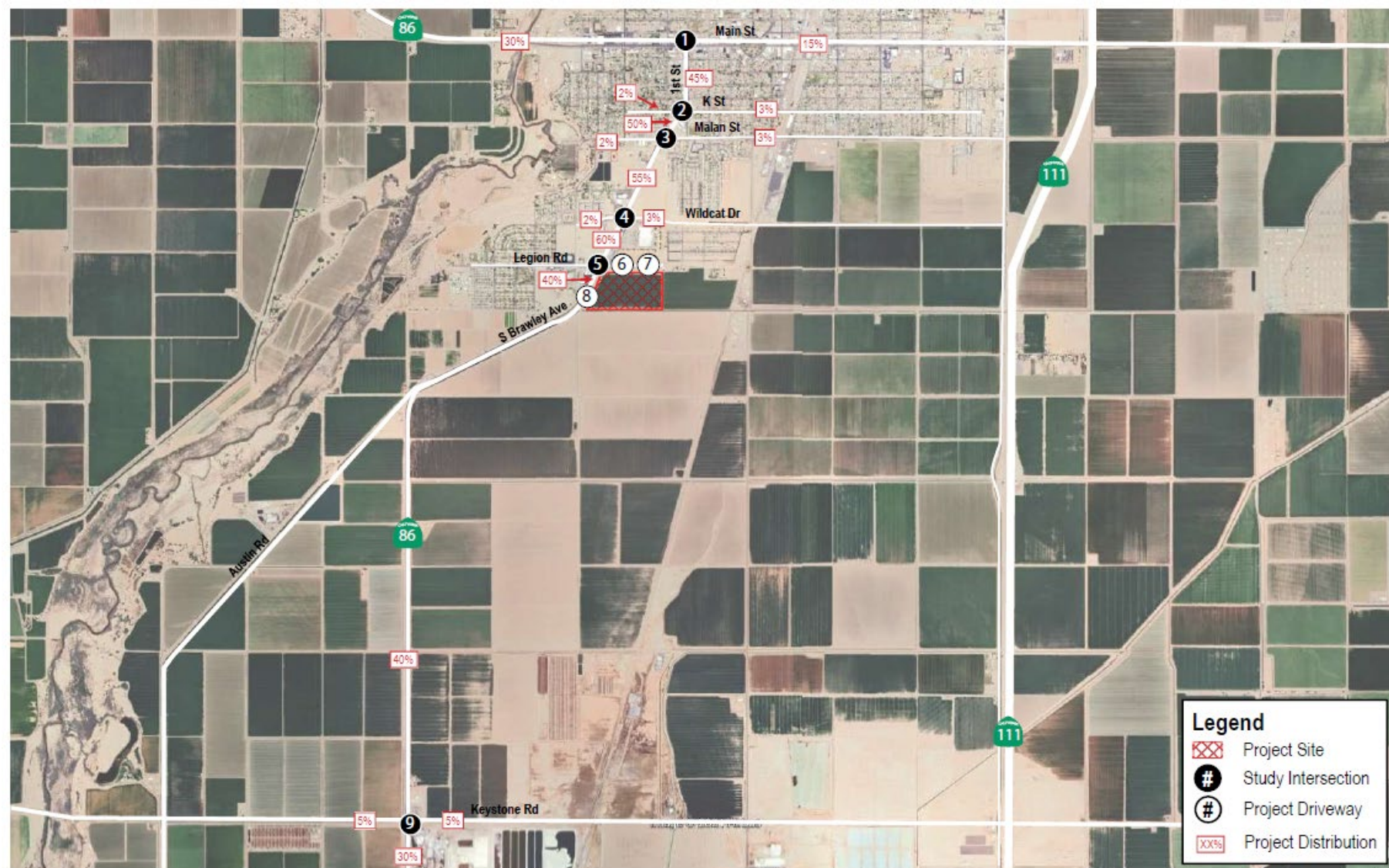
Section 4 - Study Area

Exhibit 2: Study Area



Section 5 - Trip Distribution

Exhibit 3: Study Area Trip Distribution Percentages



Brawley Mixed Use Development - Traffic Study Scoping Agreement - Attachments

Section 6 - Ambient Growth

Annual Ambient Growth Rate: 1.0% per year (linear)

The data listed below was reviewed in order to estimate a background ambient growth rate. The highest value was assumed in an effort to be conservative.

- 1) According to the American Community Survey, U.S. Census Bureau, Imperial County's population reduced from 179,215 in 2021 to 178,713 in 2022, which is a reduction of 0.3%.
- 2) To provide a conservative analysis and in anticipation of future growth in the next 3 to 5 years, this analysis will assume a growth rate of 1.0% per year in the Opening Year analysis scenarios.

Section 7 - Existing Conditions

Michael Baker will use a count vendor (NDS or Counts Unlimited) to collect new AM and PM peak hour traffic counts at the study intersections including pedestrian and bicyclists listed in Section 3. Data collection will occur on Tuesdays, Wednesdays, or Thursdays during non-holiday weeks when local schools are in session.

Section 8 - Analysis Scenarios

The proposed analysis scenarios are listed below.

1. Existing Conditions (E)
2. Forecast Opening Year (E + Ambient Growth, A)
3. Forecast Opening Year Plus Project (E + A + P)
4. Forecast Cumulative (E + A + Cumulative Projects, C)
5. Forecast Cumulative With Project (E + A + C + P)

Section 9 - Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guidelines)

- | |
|---|
| 1) Provide a Traffic Signal Warrant analysis at the intersection of Brawley Avenue (SR-86) & Project Driveway #3. |
| 2) |

Section 10 – Items which may be requested from City staff

- 1) Traffic signal timings.
- 2) Cumulative project information.
- 3) Recent traffic count data if available.

Section 11 – Vehicle Miles Traveled (VMT) Analysis

The City of Brawley requires the detailed VMT analysis. Screening criteria to determine if a project is anticipated to result in a less than significant impact along with VMT metrics and thresholds of significance are based on the Governors Office of Planning and Research (OPR) Guidelines. Projects that meet the screening criteria identified in **Table 4** are assumed to result in a less than significant transportation impact under CEQA and do not require a detailed quantitative VMT assessment. Michael Baker has

Brawley Mixed Use Development - Traffic Study Scoping Agreement - Attachments

conducted a preliminary assessment of the screening criteria and has determined that **the Project does not meet any of the Screening Criteria. Thus, a project specific VMT assessment would be required.**

In order to evaluate the Project's VMT, the Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP) / Sustainable Communities Strategy (SCS) Travel Demand Forecast Model will be used to determine the Project effects on VMT. Has the City of Brawley prepared any VMT models? If not, Michael Baker will coordinate with City staff and our subconsultant, Translutions, to run a VMT model in order to determine the project VMT. The modeling results will be reviewed and then used to determine if the project results in a significant VMT impact. If a significant VMT impact is identified, Michael Baker will determine appropriate mitigation measures to reduce the impact to below a level of significance. Potential mitigation measures may include Transportation Demand Managements (TDM) strategies effective in reducing VMT. Please let us know if the City concurs with this approach to the VMT analysis.

Table 4: Screening Criteria for Development Projects Exempt from VMT Calculation

Screening Criteria	Description of Screening Criteria	Project Evaluation	Result
Non-Retail Project Trip Generation Screening Criteria	Does the development project generate a net increase of 110 or more daily vehicle trips using the most recent edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual?	Project is anticipated to generate approximately 15,150 daily trips.	Does Not Meet Criteria
Retail Project Site Plan Screening Criteria	Does the project contain retail uses that exceed 50,000 square feet of gross floor area?	Project contains approximately 325,000 SF of retail uses which exceeds the 50,000 SF criteria.	Does Not Meet Criteria
Proximity to Transit Based Screening Criteria	Is the project located within a one-half mile radius of a major transit stop or an existing stop along a high-quality transit corridor?	The project is located within ½ mile of a major transit stop or existing stop along a high-quality transit corridor. There are additional criteria that need to apply such as: Does the project have a FAR less than 0.75? Yes. Does the project provide more parking than required by City Code? Yes. Is the project inconsistent with the SCAG RTP/SCS? Unknown.	Does Not Meet Criteria

Brawley Mixed Use Development - Traffic Study Scoping Agreement - Attachments

Residential Land Use Based Screening Criteria	Are 100% of the residential units, excluding manager's units, set aside for lower income households?	The residential portion of the Project is not 100% affordable housing.	Does Not Meet Criteria
---	--	---	------------------------------

MEMORANDUM

To: Juan Manuel Cabrera (jcabrera@brawley-ca.gov)
City of Brawley

From: BenJetta Johnson, PE, PTOE (benjetta.johnson@NV5.com)
cc: James Miller, PE (james.miller@NV5.com)

Date: September 25, 2024

Re: YK Master Plan – Brawley Mixed Use Development
Traffic Impact Analysis Scoping Agreement

NV5 Engineers and Consultants has reviewed the Traffic Impact Analysis (TIA) scoping documentation provided by Michael Baker International Inc., for the proposed Brawley Mixed Use development. The purpose of a TIA is to identify and disclose any potential transportation impacts associated with the project development on local area roadways and intersections. The scope and analyses approach provided is deemed sufficient to proceed with the formal TIA report and is consistent with the Local Mobility Analysis (LMA) criteria identified in the County of Imperial Department of Public Works Study and Report Policy. Based on our review, the scoping documentation includes the following:

X	Exhibit 1 : Site Plan
X	Trip Generation & Distribution – Daily, AM and PM peak hour trips (determined by the Institute of Transportation Engineers (ITE) Trip Generation manual, 11 th Edition or other pre-approved source)
X	Study Intersections and Site Driveway Locations
X	Ambient Growth Rate based on local census data
X	Operational Analysis of Peak-Hour (6-9 AM and 4-7 PM) conditions under the following scenarios: <ul style="list-style-type: none"> Existing Conditions Forecast Opening Year, Forecast Opening Year Plus Project, Forecast Cumulative, and Forecast Cumulative Plus Project
X	Vehicle Miles Traveled (VMT) Analysis and Screening Criteria

In addition to the above-mentioned information, we recommend that the final TIA submittal include the following data which will facilitate a prompt review of the development impacts:

- Full size Site Plan that identifies:
 - Driveway locations and access type (ex. Full access, partial access, right in/out only),
 - Pedestrian/bicycle access and on-site pedestrian circulation,
 - Location/distance of closest existing transit stop (measure as walking distance to project entrance/or middle of parcel).
 - Location of any planned trails within ¼ mile of the project location.
 - Parking: vehicle (including accessible spaces), bicycle (racks/secure storage), motorcycle.
- Land Use and Zoning (current and proposed rezoning, if required)
- Weekday 24-hour Average Daily Traffic (ADT) counts should be collected for all study roadway segments.
- VMT assessment as required by CEQA/Governors Office of Planning (OPR) Guidelines
 - Travel Demand Forecast and local VMT Model documentation
 - Transportation Demand Management (TDM) strategies
- Mitigation for Project impacts, if necessary

This page intentionally left blank

Appendix B: Traffic Count Data & Signal Timing Sheets

City of Brawley
N/S: 1st Street (SR-86)
E/W: Main Street (SR-86)
Weather: Clear

File Name : 01_BWY_1st_Main AM
Site Code : 12224889
Start Date : 10/16/2024
Page No : 1

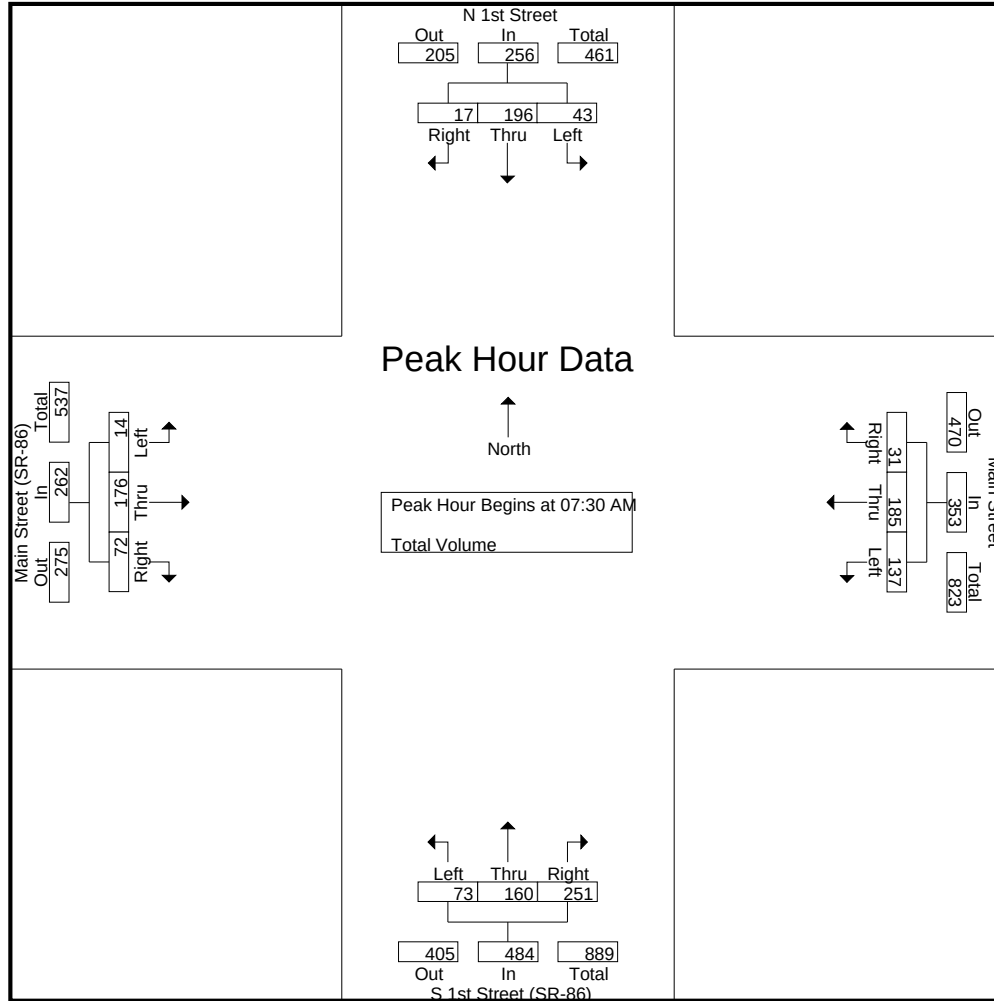
Groups Printed- Total Volume

	N 1st Street Southbound				Main Street Westbound				S 1st Street (SR-86) Northbound				Main Street (SR-86) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	3	29	1	33	13	36	3	52	11	15	24	50	3	32	4	39	174
07:15 AM	6	23	2	31	20	23	3	46	12	24	43	79	2	31	15	48	204
07:30 AM	4	41	3	48	27	31	7	65	18	45	72	135	0	45	9	54	302
07:45 AM	22	42	3	67	34	38	13	85	21	52	86	159	5	40	28	73	384
Total	35	135	9	179	94	128	26	248	62	136	225	423	10	148	56	214	1064
08:00 AM	11	77	8	96	54	67	7	128	19	37	54	110	2	53	19	74	408
08:15 AM	6	36	3	45	22	49	4	75	15	26	39	80	7	38	16	61	261
08:30 AM	8	38	7	53	20	35	4	59	16	21	26	63	5	40	13	58	233
08:45 AM	10	25	2	37	22	34	3	59	10	22	29	61	5	45	17	67	224
Total	35	176	20	231	118	185	18	321	60	106	148	314	19	176	65	260	1126
Grand Total	70	311	29	410	212	313	44	569	122	242	373	737	29	324	121	474	2190
Apprch %	17.1	75.9	7.1		37.3	55	7.7		16.6	32.8	50.6		6.1	68.4	25.5		
Total %	3.2	14.2	1.3	18.7	9.7	14.3	2	26	5.6	11.1	17	33.7	1.3	14.8	5.5	21.6	

	N 1st Street Southbound				Main Street Westbound				S 1st Street (SR-86) Northbound				Main Street (SR-86) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	4	41	3	48	27	31	7	65	18	45	72	135	0	45	9	54	302
07:45 AM	22	42	3	67	34	38	13	85	21	52	86	159	5	40	28	73	384
08:00 AM	11	77	8	96	54	67	7	128	19	37	54	110	2	53	19	74	408
08:15 AM	6	36	3	45	22	49	4	75	15	26	39	80	7	38	16	61	261
Total Volume	43	196	17	256	137	185	31	353	73	160	251	484	14	176	72	262	1355
% App. Total	16.8	76.6	6.6		38.8	52.4	8.8		15.1	33.1	51.9		5.3	67.2	27.5		
PHF	.489	.636	.531	.667	.634	.690	.596	.689	.869	.769	.730	.761	.500	.830	.643	.885	.830

City of Brawley
N/S: 1st Street (SR-86)
E/W: Main Street (SR-86)
Weather: Clear

File Name : 01_BWY_1st_Main AM
Site Code : 12224889
Start Date : 10/16/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:30 AM				07:30 AM				07:45 AM			
+0 mins.	22	42	3	67	27	31	7	65	18	45	72	135	5	40	28	73
+15 mins.	11	77	8	96	34	38	13	85	21	52	86	159	2	53	19	74
+30 mins.	6	36	3	45	54	67	7	128	19	37	54	110	7	38	16	61
+45 mins.	8	38	7	53	22	49	4	75	15	26	39	80	5	40	13	58
Total Volume	47	193	21	261	137	185	31	353	73	160	251	484	19	171	76	266
% App. Total	18	73.9	8		38.8	52.4	8.8		15.1	33.1	51.9		7.1	64.3	28.6	
PHF	.534	.627	.656	.680	.634	.690	.596	.689	.869	.769	.730	.761	.679	.807	.679	.899

City of Brawley
N/S: 1st Street (SR-86)
E/W: Main Street (SR-86)
Weather: Clear

File Name : 01_BWY_1st_Main PM
Site Code : 12224889
Start Date : 10/16/2024
Page No : 1

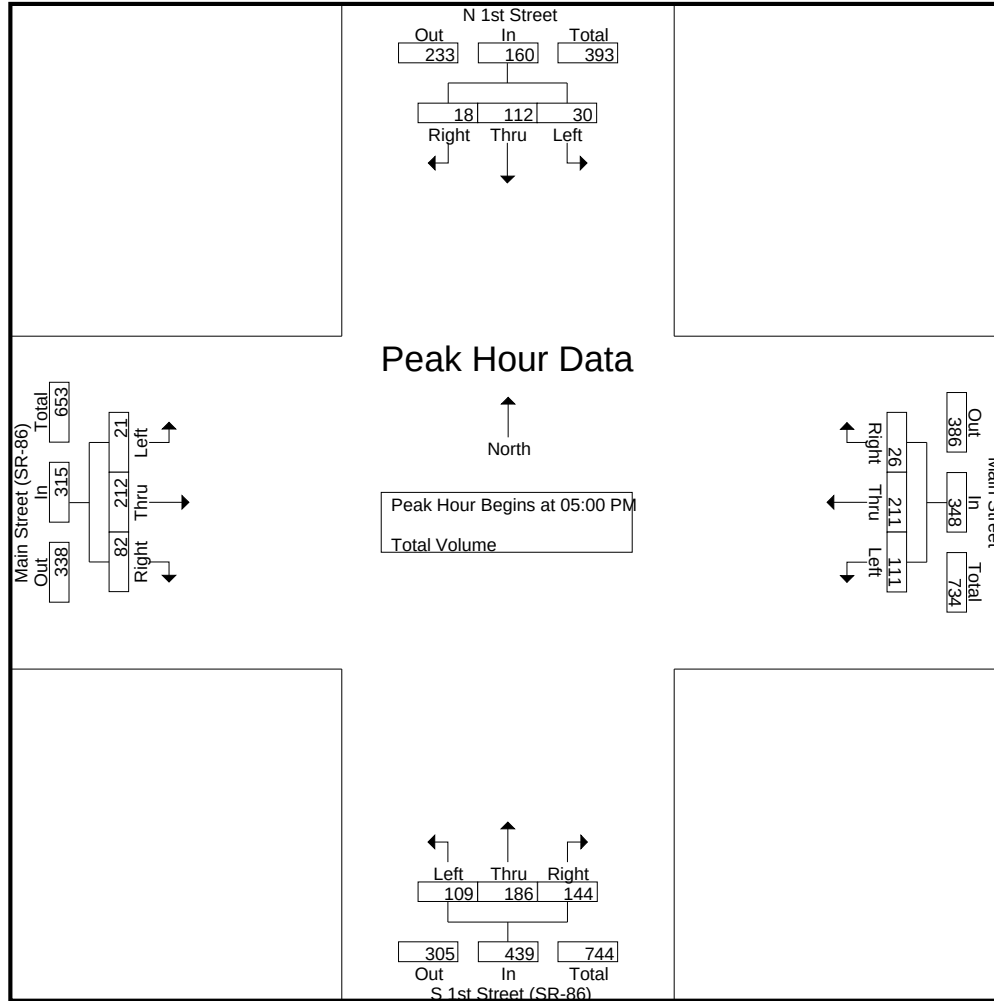
Groups Printed- Total Volume

	N 1st Street Southbound				Main Street Westbound				S 1st Street (SR-86) Northbound				Main Street (SR-86) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	11	27	5	43	31	58	8	97	37	42	32	111	8	52	17	77	328
04:15 PM	5	22	1	28	32	46	5	83	22	29	28	79	6	75	22	103	293
04:30 PM	5	27	2	34	38	59	5	102	33	32	33	98	8	48	26	82	316
04:45 PM	5	23	5	33	29	64	4	97	24	33	30	87	5	54	23	82	299
Total	26	99	13	138	130	227	22	379	116	136	123	375	27	229	88	344	1236
05:00 PM	4	27	2	33	45	56	6	107	29	32	33	94	2	55	31	88	322
05:15 PM	5	25	5	35	32	50	7	89	27	50	37	114	6	52	25	83	321
05:30 PM	12	26	5	43	28	60	7	95	22	45	40	107	6	47	16	69	314
05:45 PM	9	34	6	49	6	45	6	57	31	59	34	124	7	58	10	75	305
Total	30	112	18	160	111	211	26	348	109	186	144	439	21	212	82	315	1262
Grand Total	56	211	31	298	241	438	48	727	225	322	267	814	48	441	170	659	2498
Apprch %	18.8	70.8	10.4		33.1	60.2	6.6		27.6	39.6	32.8		7.3	66.9	25.8		
Total %	2.2	8.4	1.2	11.9	9.6	17.5	1.9	29.1	9	12.9	10.7	32.6	1.9	17.7	6.8	26.4	

	N 1st Street Southbound				Main Street Westbound				S 1st Street (SR-86) Northbound				Main Street (SR-86) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	4	27	2	33	45	56	6	107	29	32	33	94	2	55	31	88	322
05:15 PM	5	25	5	35	32	50	7	89	27	50	37	114	6	52	25	83	321
05:30 PM	12	26	5	43	28	60	7	95	22	45	40	107	6	47	16	69	314
05:45 PM	9	34	6	49	6	45	6	57	31	59	34	124	7	58	10	75	305
Total Volume	30	112	18	160	111	211	26	348	109	186	144	439	21	212	82	315	1262
% App. Total	18.8	70	11.2		31.9	60.6	7.5		24.8	42.4	32.8		6.7	67.3	26		
PHF	.625	.824	.750	.816	.617	.879	.929	.813	.879	.788	.900	.885	.750	.914	.661	.895	.980

City of Brawley
N/S: 1st Street (SR-86)
E/W: Main Street (SR-86)
Weather: Clear

File Name : 01_BWY_1st_Main PM
Site Code : 12224889
Start Date : 10/16/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:30 PM				05:00 PM				04:15 PM			
+0 mins.	4	27	2	33	38	59	5	102	29	32	33	94	6	75	22	103
+15 mins.	5	25	5	35	29	64	4	97	27	50	37	114	8	48	26	82
+30 mins.	12	26	5	43	45	56	6	107	22	45	40	107	5	54	23	82
+45 mins.	9	34	6	49	32	50	7	89	31	59	34	124	2	55	31	88
Total Volume	30	112	18	160	144	229	22	395	109	186	144	439	21	232	102	355
% App. Total	18.8	70	11.2		36.5	58	5.6		24.8	42.4	32.8		5.9	65.4	28.7	
PHF	.625	.824	.750	.816	.800	.895	.786	.923	.879	.788	.900	.885	.656	.773	.823	.862

Location: Brawley
 N/S: 1st Street
 E/W: Main Street



Date: 10/16/2024
 Day: Wednesday

PEDESTRIANS

	North Leg 1st Street	East Leg Main Street	South Leg 1st Street	West Leg Main Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	4	0	1	1	6
7:15 AM	0	2	1	0	3
7:30 AM	0	1	0	0	1
7:45 AM	0	0	0	0	0
8:00 AM	3	0	0	0	3
8:15 AM	2	0	0	0	2
8:30 AM	4	0	0	1	5
8:45 AM	2	0	1	0	3
TOTAL VOLUMES:	15	3	3	2	23

	North Leg 1st Street	East Leg Main Street	South Leg 1st Street	West Leg Main Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	2	4	0	0	6
4:15 PM	1	0	0	0	1
4:30 PM	0	0	0	0	0
4:45 PM	0	0	1	0	1
5:00 PM	2	1	0	1	4
5:15 PM	0	0	1	0	1
5:30 PM	4	1	0	0	5
5:45 PM	0	0	1	0	1
TOTAL VOLUMES:	9	6	3	1	19

Location: Brawley
N/S: 1st Street
E/W: Main Street



Date: 10/16/2024
Day: Wednesday

BICYCLES

		Southbound 1st Street			Westbound Main Street			Northbound 1st Street			Eastbound Main Street			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	1
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	1
TOTAL VOLUMES:		0	0	0	0	0	1	0	0	0	0	0	1	2

		Southbound 1st Street			Westbound Main Street			Northbound 1st Street			Eastbound Main Street			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
	4:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:		0	1	0	0	1	0	0	0	0	0	0	0	2

City of Brawley
N/S: 1st Street (SR-86)/Brawley Avenue
E/W: K Street/S 1st Street
Weather: Clear

File Name : 02_BWY_Braw_K AM
Site Code : 12224889
Start Date : 10/16/2024
Page No : 1

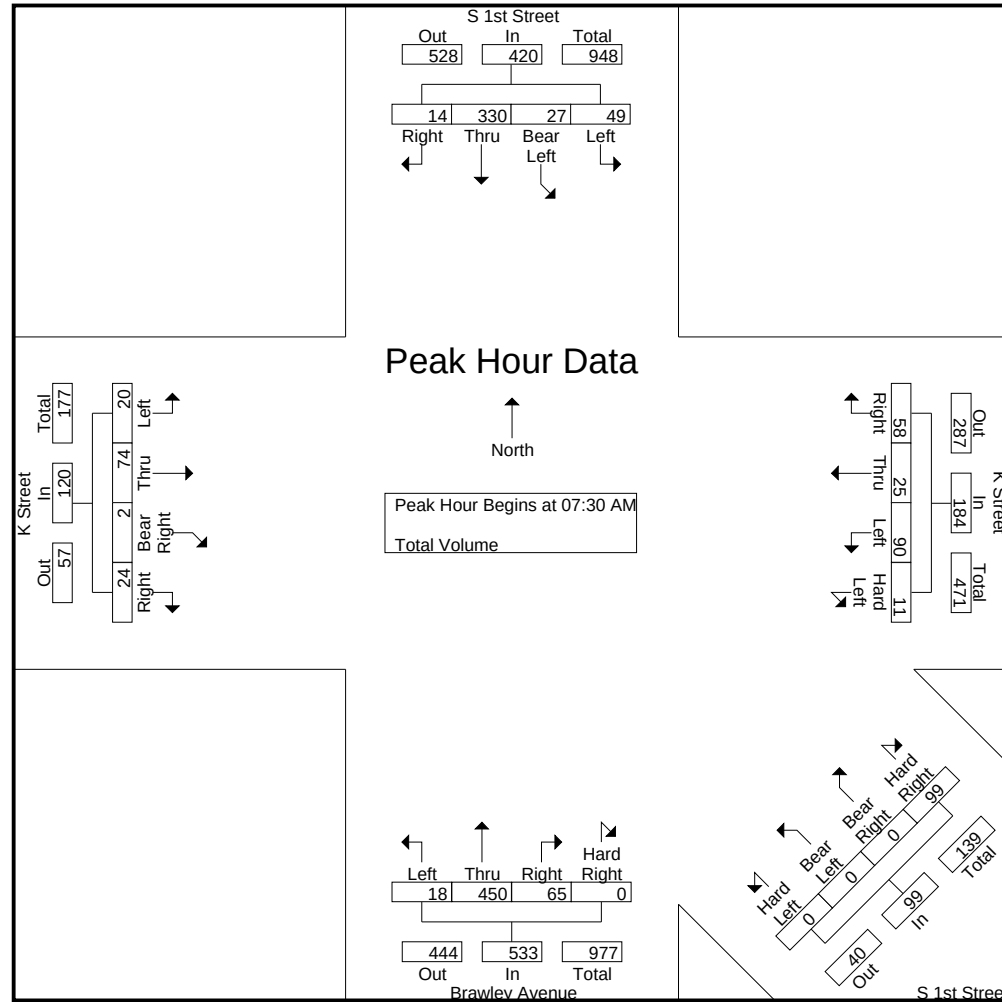
Groups Printed- Total Volume

	S 1st Street Southbound					K Street Westbound					S 1st Street Northwestbound					Brawley Avenue Northbound					K Street Eastbound					
Start Time	Left	Bear Left	Thru	Right	App. Total	Hard Left	Left	Thru	Right	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	App. Total	Left	Thru	Right	Hard Right	App. Total	Left	Thru	Bear Right	Right	App. Total	Int. Total
07:00 AM	2	3	42	1	48	3	13	4	2	22	0	0	0	1	1	0	46	17	0	63	0	5	1	1	7	141
07:15 AM	2	6	52	2	62	1	14	6	4	25	0	0	0	3	3	11	84	3	0	98	4	8	1	2	15	203
07:30 AM	11	6	55	4	76	1	12	5	7	25	0	0	0	20	20	3	120	22	0	145	4	23	1	3	31	297
07:45 AM	14	6	90	3	113	1	23	5	25	54	0	0	0	27	27	4	165	21	0	190	2	29	0	7	38	422
Total	29	21	239	10	299	6	62	20	38	126	0	0	0	51	51	18	415	63	0	496	10	65	3	13	91	1063
08:00 AM	17	6	115	6	144	3	28	5	15	51	0	0	0	33	33	8	89	12	0	109	8	13	1	9	31	368
08:15 AM	7	9	70	1	87	6	27	10	11	54	0	0	0	19	19	3	76	10	0	89	6	9	0	5	20	269
08:30 AM	4	9	60	6	79	1	8	11	9	29	0	0	0	3	3	0	56	17	0	73	4	7	0	0	11	195
08:45 AM	1	3	59	2	65	0	13	8	4	25	0	0	0	3	3	1	57	6	0	64	1	30	0	4	35	192
Total	29	27	304	15	375	10	76	34	39	159	0	0	0	58	58	12	278	45	0	335	19	59	1	18	97	1024
Grand Total	58	48	543	25	674	16	138	54	77	285	0	0	0	109	109	30	693	108	0	831	29	124	4	31	188	2087
Apprch %	8.6	7.1	80.6	3.7		5.6	48.4	18.9	27		0	0	0	100		3.6	83.4	13	0		15.4	66	2.1	16.5		
Total %	2.8	2.3	26	1.2	32.3	0.8	6.6	2.6	3.7	13.7	0	0	0	5.2	5.2	1.4	33.2	5.2	0	39.8	1.4	5.9	0.2	1.5	9	

	S 1st Street Southbound					K Street Westbound					S 1st Street Northwestbound					Brawley Avenue Northbound					K Street Eastbound					
Start Time	Left	Bear Left	Thru	Right	App. Total	Hard Left	Left	Thru	Right	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	App. Total	Left	Thru	Right	Hard Right	App. Total	Left	Thru	Bear Right	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 07:30 AM																										
07:30 AM	11	6	55	4	76	1	12	5	7	25	0	0	0	20	20	3	120	22	0	145	4	23	1	3	31	297
07:45 AM	14	6	90	3	113	1	23	5	25	54	0	0	0	27	27	4	165	21	0	190	2	29	0	7	38	422
08:00 AM	17	6	115	6	144	3	28	5	15	51	0	0	0	33	33	8	89	12	0	109	8	13	1	9	31	368
08:15 AM	7	9	70	1	87	6	27	10	11	54	0	0	0	19	19	3	76	10	0	89	6	9	0	5	20	269
Total Volume	49	27	330	14	420	11	90	25	58	184	0	0	0	99	99	18	450	65	0	533	20	74	2	24	120	1356
% App. Total	11.7	6.4	78.6	3.3		6	48.9	13.6	31.5		0	0	0	100		3.4	84.4	12.2	0		16.7	61.7	1.7	20		
PHF	.721	.750	.717	.583	.729	.458	.804	.625	.580	.852	.000	.000	.000	.750	.750	.563	.682	.739	.000	.701	.625	.638	.500	.667	.789	.803

City of Brawley
N/S: 1st Street (SR-86)/Brawley Avenue
E/W: K Street/S 1st Street
Weather: Clear

File Name : 02_BWY_Braw_K AM
Site Code : 12224889
Start Date : 10/16/2024
Page No : 2



City of Brawley
N/S: 1st Street (SR-86)/Brawley Avenue
E/W: K Street/S 1st Street
Weather: Clear

File Name : 02_BWY_Braw_K AM
Site Code : 12224889
Start Date : 10/16/2024
Page No : 3

	S 1st Street Southbound					K Street Westbound					S 1st Street Northwestbound					Brawley Avenue Northbound					K Street Eastbound					
Start Time	Left	Bear Left	Thru	Right	App. Total	Hard Left	Left	Thru	Right	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	App. Total	Left	Thru	Right	Hard Right	App. Total	Left	Thru	Bear Right	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																										
Peak Hour for Each Approach Begins at:																										
	07:45 AM					07:45 AM					07:30 AM					07:15 AM					07:30 AM					
+0 mins.	14	6	90	3	113	1	23	5	25	54	0	0	0	20	20	11	84	3	0	98	4	23	1	3	31	
+15 mins.	17	6	115	6	144	3	28	5	15	51	0	0	0	27	27	3	120	22	0	145	2	29	0	7	38	
+30 mins.	7	9	70	1	87	6	27	10	11	54	0	0	0	33	33	4	165	21	0	190	8	13	1	9	31	
+45 mins.	4	9	60	6	79	1	8	11	9	29	0	0	0	19	19	8	89	12	0	109	6	9	0	5	20	
Total Volume	42	30	335	16	423	11	86	31	60	188	0	0	0	99	99	26	458	58	0	542	20	74	2	24	120	
% App. Total	9.9	7.1	79.2	3.8		5.9	45.7	16.5	31.9		0	0	0	100		4.8	84.5	10.7	0		16.7	61.7	1.7	20		
PHF	.618	.833	.728	.667	.734	.458	.768	.705	.600	.870	.000	.000	.000	.750	.750	.591	.694	.659	.000	.713	.625	.638	.500	.667	.789	

City of Brawley
N/S: 1st Street (SR-86)/Brawley Avenue
E/W: K Street/S 1st Street
Weather: Clear

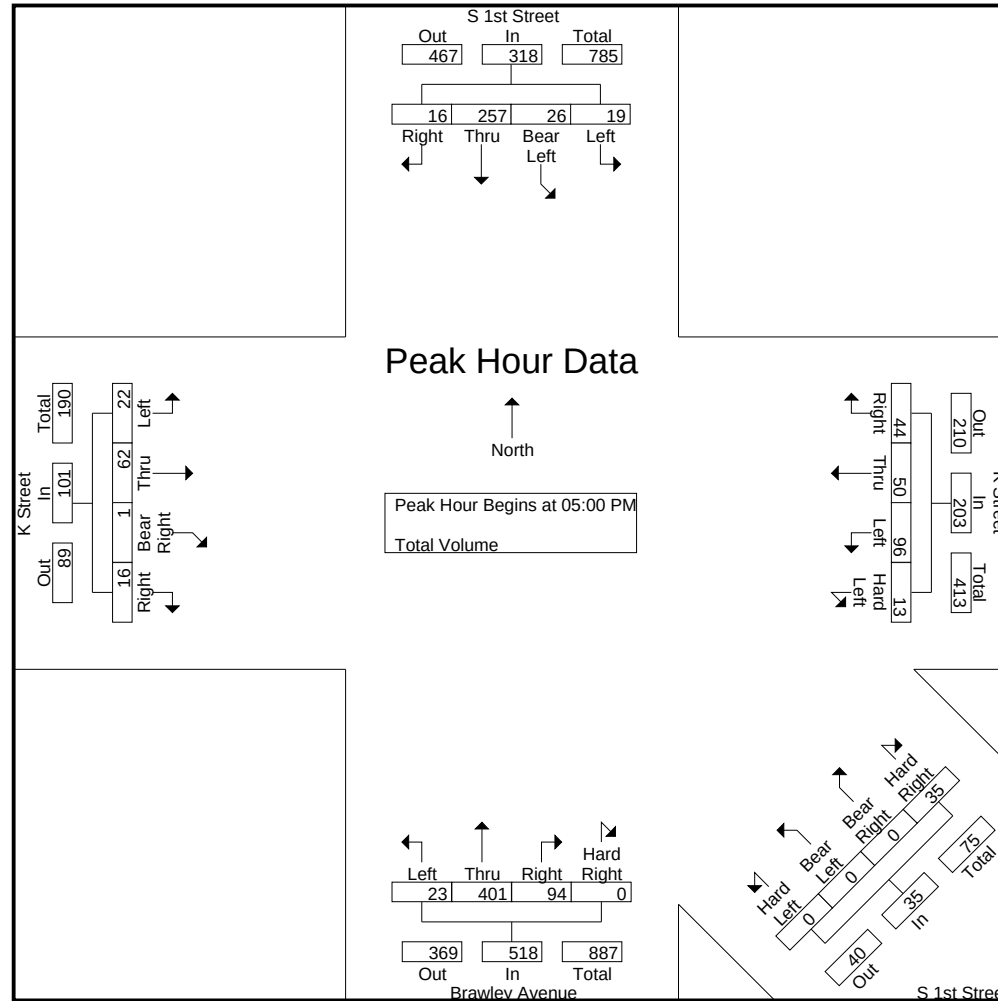
Groups Printed- Total Volume

	S 1st Street Southbound					K Street Westbound					S 1st Street Northwestbound					Brawley Avenue Northbound					K Street Eastbound					
Start Time	Left	Bear Left	Thru	Right	App. Total	Hard Left	Left	Thru	Right	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	App. Total	Left	Thru	Right	Hard Right	App. Total	Left	Thru	Bear Right	Right	App. Total	Int. Total
04:00 PM	4	5	64	5	78	2	23	9	9	43	0	0	0	10	10	8	80	17	0	105	2	18	0	8	28	264
04:15 PM	6	3	51	4	64	2	25	4	9	40	0	0	0	6	6	8	71	12	0	91	1	12	0	2	15	216
04:30 PM	7	5	68	4	84	2	22	18	6	48	0	0	0	8	8	1	83	22	0	106	1	10	1	3	15	261
04:45 PM	4	6	67	3	80	1	19	8	6	34	0	0	0	13	13	2	71	28	0	101	7	18	1	2	28	256
Total	21	19	250	16	306	7	89	39	30	165	0	0	0	37	37	19	305	79	0	403	11	58	2	15	86	997
05:00 PM	11	5	86	3	105	1	33	9	7	50	0	0	0	7	7	8	82	30	0	120	4	9	1	4	18	300
05:15 PM	5	3	63	7	78	6	20	11	15	52	0	0	0	13	13	8	101	24	0	133	5	17	0	3	25	301
05:30 PM	2	8	57	2	69	0	23	19	7	49	0	0	0	8	8	5	98	20	0	123	7	21	0	6	34	283
05:45 PM	1	10	51	4	66	6	20	11	15	52	0	0	0	7	7	2	120	20	0	142	6	15	0	3	24	291
Total	19	26	257	16	318	13	96	50	44	203	0	0	0	35	35	23	401	94	0	518	22	62	1	16	101	1175
Grand Total	40	45	507	32	624	20	185	89	74	368	0	0	0	72	72	42	706	173	0	921	33	120	3	31	187	2172
Apprch %	6.4	7.2	81.2	5.1		5.4	50.3	24.2	20.1		0	0	0	100		4.6	76.7	18.8	0		17.6	64.2	1.6	16.6		
Total %	1.8	2.1	23.3	1.5	28.7	0.9	8.5	4.1	3.4	16.9	0	0	0	3.3	3.3	1.9	32.5	8	0	42.4	1.5	5.5	0.1	1.4	8.6	

	S 1st Street Southbound					K Street Westbound					S 1st Street Northwestbound					Brawley Avenue Northbound					K Street Eastbound					
Start Time	Left	Bear Left	Thru	Right	App. Total	Hard Left	Left	Thru	Right	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	App. Total	Left	Thru	Right	Hard Right	App. Total	Left	Thru	Bear Right	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 05:00 PM																										
05:00 PM	11	5	86	3	105	1	33	9	7	50	0	0	0	7	7	8	82	30	0	120	4	9	1	4	18	300
05:15 PM	5	3	63	7	78	6	20	11	15	52	0	0	0	13	13	8	101	24	0	133	5	17	0	3	25	301
05:30 PM	2	8	57	2	69	0	23	19	7	49	0	0	0	8	8	5	98	20	0	123	7	21	0	6	34	283
05:45 PM	1	10	51	4	66	6	20	11	15	52	0	0	0	7	7	2	120	20	0	142	6	15	0	3	24	291
Total Volume	19	26	257	16	318	13	96	50	44	203	0	0	0	35	35	23	401	94	0	518	22	62	1	16	101	1175
% App. Total	6	8.2	80.8	5		6.4	47.3	24.6	21.7		0	0	0	100		4.4	77.4	18.1	0		21.8	61.4	1	15.8		
PHF	.432	.650	.747	.571	.757	.542	.727	.658	.733	.976	.000	.000	.000	.673	.673	.719	.835	.783	.000	.912	.786	.738	.250	.667	.743	.976

City of Brawley
N/S: 1st Street (SR-86)/Brawley Avenue
E/W: K Street/S 1st Street
Weather: Clear

File Name : 02_BWY_Braw_K PM
Site Code : 12224889
Start Date : 10/16/2024
Page No : 2



City of Brawley
N/S: 1st Street (SR-86)/Brawley Avenue
E/W: K Street/S 1st Street
Weather: Clear

File Name : 02_BWY_Braw_K PM
Site Code : 12224889
Start Date : 10/16/2024
Page No : 3

	S 1st Street Southbound					K Street Westbound					S 1st Street Northwestbound					Brawley Avenue Northbound					K Street Eastbound						
Start Time	Left	Bear Left	Thru	Right	App. Total	Hard Left	Left	Thru	Right	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	App. Total	Left	Thru	Right	Hard Right	App. Total	Left	Thru	Bear Right	Right	App. Total	Int. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																											
Peak Hour for Each Approach Begins at:																											
	04:30 PM					05:00 PM					04:30 PM					05:00 PM					04:45 PM						
+0 mins.	7	5	68	4	84	1	33	9	7	50	0	0	0	8	8	8	82	30	0	120	7	18	1	2	28		
+15 mins.	4	6	67	3	80	6	20	11	15	52	0	0	0	13	13	8	101	24	0	133	4	9	1	4	18		
+30 mins.	11	5	86	3	105	0	23	19	7	49	0	0	0	7	7	5	98	20	0	123	5	17	0	3	25		
+45 mins.	5	3	63	7	78	6	20	11	15	52	0	0	0	13	13	2	120	20	0	142	7	21	0	6	34		
Total Volume	27	19	284	17	347	13	96	50	44	203	0	0	0	41	41	23	401	94	0	518	23	65	2	15	105		
% App. Total	7.8	5.5	81.8	4.9		6.4	47.3	24.6	21.7		0	0	0	100		4.4	77.4	18.1	0		21.9	61.9	1.9	14.3			
PHF	.614	.792	.826	.607	.826	.542	.727	.658	.733	.976	.000	.000	.000	.788	.788	.719	.835	.783	.000	.912	.821	.774	.500	.625	.772		

Location: Brawley
 N/S: Brawley Avenue
 E/W: K Street
 NWB: S 1st Street



Date: 10/16/2024
 Day: Wednesday

PEDESTRIANS

	North Leg S 1st Street	East Leg K Street	Southeast Leg S 1st Street	South Leg Brawley Avenue	West Leg K Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	1	0	0	0	0	1
7:15 AM	1	0	0	0	0	1
7:30 AM	0	6	1	0	0	7
7:45 AM	0	0	0	0	0	0
8:00 AM	8	0	5	3	0	16
8:15 AM	0	0	0	0	0	0
8:30 AM	0	0	0	2	2	4
8:45 AM	0	0	1	2	0	3
TOTAL VOLUMES:	10	6	7	7	2	32

	North Leg S 1st Street	East Leg K Street	Southeast Leg S 1st Street	South Leg Brawley Avenue	West Leg K Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	2	2
4:15 PM	0	2	1	0	0	3
4:30 PM	0	1	0	0	2	3
4:45 PM	0	0	0	0	1	1
5:00 PM	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0
5:30 PM	0	0	0	0	1	1
5:45 PM	0	0	0	0	1	1
TOTAL VOLUMES:	0	3	1	0	7	11

Location: Brawley
N/S: Brawley Avenue
E/W: K Street
NWB: S 1st Street



Date: 10/16/2024
Day: Wednesday

BICYCLES

		Southbound S 1st Street				Westbound K Street				Northwestbound S 1st Street				Northbound Brawley Avenue				Eastbound K Street				
		Left	B Left	Thru	Right	H Left	Left	Thru	Right	H Left	B Left	B Right	H Right	Left	Thru	Right	H Right	Left	Thru	B Right	Right	
7:00 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES:		0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2

		Southbound S 1st Street				Westbound K Street				Northwestbound S 1st Street				Northbound Brawley Avenue				Eastbound K Street				
		Left	B Left	Thru	Right	H Left	Left	Thru	Right	H Left	B Left	B Right	H Right	Left	Thru	Right	H Right	Left	Thru	B Right	Right	
4:00 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
4:15 PM		0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
4:30 PM		0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	1	0	0	4
4:45 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
5:00 PM		0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM		0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
5:45 PM		0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES:		0	0	0	0	1	0	1	0	0	0	0	4	0	2	0	0	0	2	1	0	11

City of Brawley
N/S: S Brawley Avenue
E/W: W Malan Street
Weather: Clear

File Name : 03_BWY_Braw_Malan AM
Site Code : 12224889
Start Date : 10/16/2024
Page No : 1

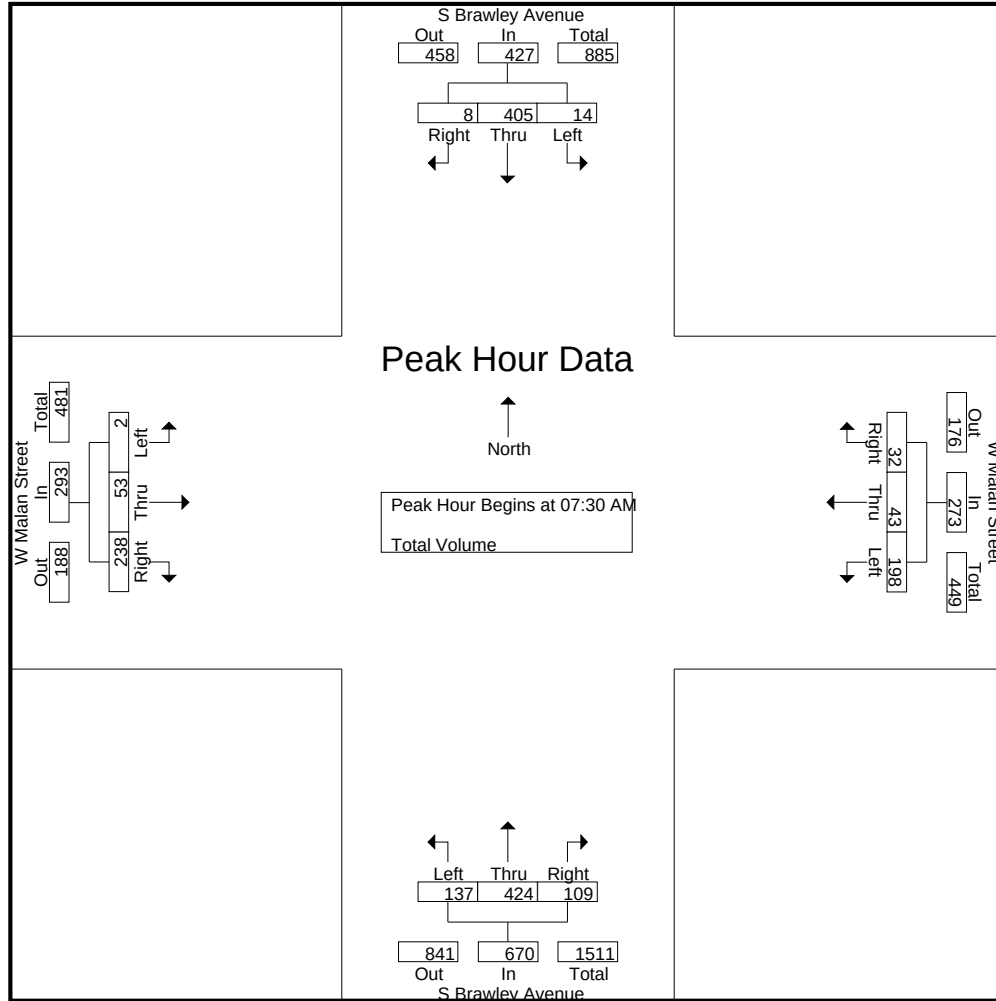
Groups Printed- Total Volume

	S Brawley Avenue Southbound				W Malan Street Westbound				S Brawley Avenue Northbound				W Malan Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	59	1	61	25	6	1	32	28	65	13	106	0	5	34	39	238
07:15 AM	1	70	0	71	27	10	2	39	24	97	22	143	1	14	47	62	315
07:30 AM	3	67	1	71	39	10	10	59	35	115	31	181	1	10	63	74	385
07:45 AM	2	102	2	106	51	7	14	72	29	141	35	205	1	20	54	75	458
Total	7	298	4	309	142	33	27	202	116	418	101	635	3	49	198	250	1396
08:00 AM	7	135	2	144	57	16	3	76	39	83	32	154	0	12	61	73	447
08:15 AM	2	101	3	106	51	10	5	66	34	85	11	130	0	11	60	71	373
08:30 AM	2	73	0	75	22	10	3	35	24	65	15	104	0	8	48	56	270
08:45 AM	2	74	1	77	33	8	0	41	29	60	15	104	1	7	48	56	278
Total	13	383	6	402	163	44	11	218	126	293	73	492	1	38	217	256	1368
Grand Total	20	681	10	711	305	77	38	420	242	711	174	1127	4	87	415	506	2764
Apprch %	2.8	95.8	1.4		72.6	18.3	9		21.5	63.1	15.4		0.8	17.2	82		
Total %	0.7	24.6	0.4	25.7	11	2.8	1.4	15.2	8.8	25.7	6.3	40.8	0.1	3.1	15	18.3	

	S Brawley Avenue Southbound				W Malan Street Westbound				S Brawley Avenue Northbound				W Malan Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	3	67	1	71	39	10	10	59	35	115	31	181	1	10	63	74	385
07:45 AM	2	102	2	106	51	7	14	72	29	141	35	205	1	20	54	75	458
08:00 AM	7	135	2	144	57	16	3	76	39	83	32	154	0	12	61	73	447
08:15 AM	2	101	3	106	51	10	5	66	34	85	11	130	0	11	60	71	373
Total Volume	14	405	8	427	198	43	32	273	137	424	109	670	2	53	238	293	1663
% App. Total	3.3	94.8	1.9		72.5	15.8	11.7		20.4	63.3	16.3		0.7	18.1	81.2		
PHF	.500	.750	.667	.741	.868	.672	.571	.898	.878	.752	.779	.817	.500	.663	.944	.977	.908

City of Brawley
N/S: S Brawley Avenue
E/W: W Malan Street
Weather: Clear

File Name : 03_BWY_Braw_Malan AM
Site Code : 12224889
Start Date : 10/16/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:30 AM				07:15 AM				07:30 AM			
+0 mins.	2	102	2	106	39	10	10	59	24	97	22	143	1	10	63	74
+15 mins.	7	135	2	144	51	7	14	72	35	115	31	181	1	20	54	75
+30 mins.	2	101	3	106	57	16	3	76	29	141	35	205	0	12	61	73
+45 mins.	2	73	0	75	51	10	5	66	39	83	32	154	0	11	60	71
Total Volume	13	411	7	431	198	43	32	273	127	436	120	683	2	53	238	293
% App. Total	3	95.4	1.6		72.5	15.8	11.7		18.6	63.8	17.6		0.7	18.1	81.2	
PHF	.464	.761	.583	.748	.868	.672	.571	.898	.814	.773	.857	.833	.500	.663	.944	.977

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Brawley
N/S: S Brawley Avenue
E/W: W Malan Street
Weather: Clear

File Name : 03_BWY_Braw_Malan PM
Site Code : 12224889
Start Date : 10/16/2024
Page No : 1

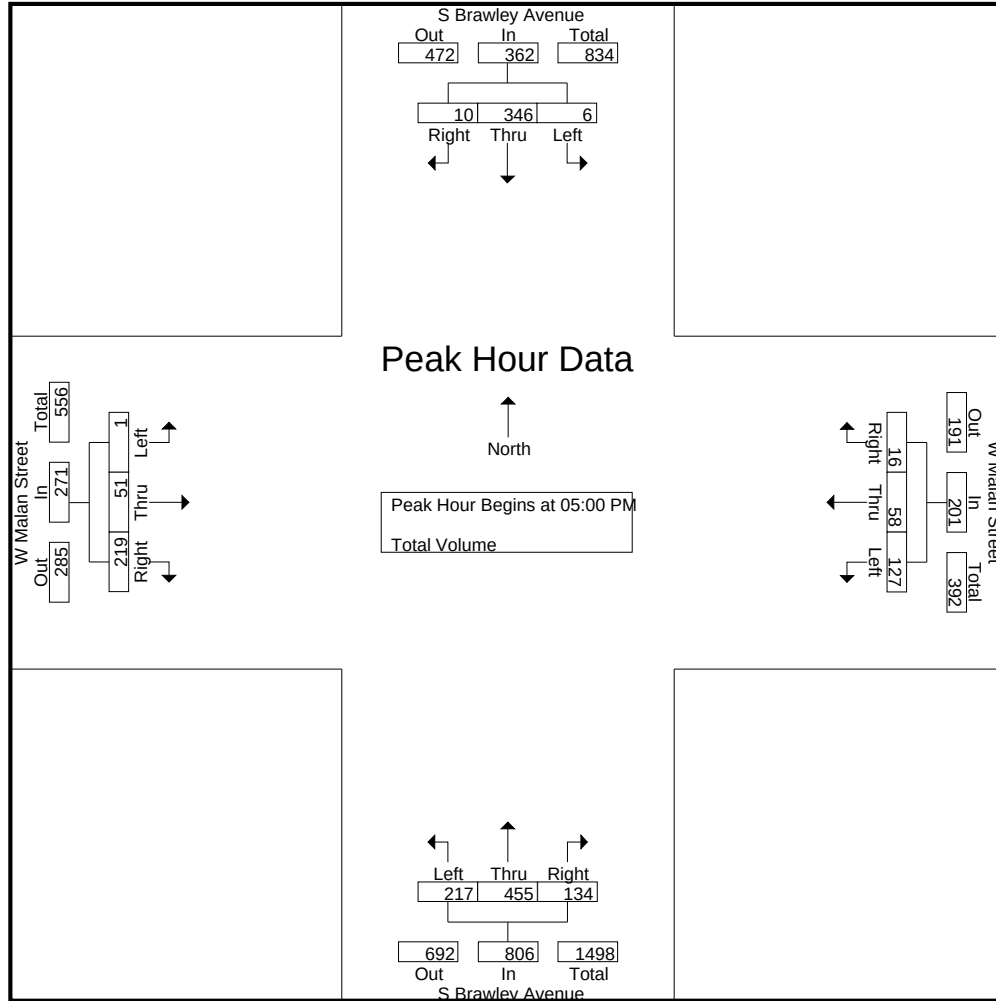
Groups Printed- Total Volume

	S Brawley Avenue Southbound				W Malan Street Westbound				S Brawley Avenue Northbound				W Malan Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	3	80	5	88	37	11	4	52	53	91	26	170	2	7	54	63	373
04:15 PM	1	79	4	84	36	9	2	47	45	85	26	156	0	14	57	71	358
04:30 PM	5	88	2	95	32	6	1	39	56	107	39	202	3	10	42	55	391
04:45 PM	0	85	4	89	39	20	4	63	49	82	21	152	2	6	47	55	359
Total	9	332	15	356	144	46	11	201	203	365	112	680	7	37	200	244	1481
05:00 PM	3	114	3	120	45	13	3	61	48	114	38	200	0	12	57	69	450
05:15 PM	1	85	3	89	30	14	3	47	61	115	35	211	0	8	64	72	419
05:30 PM	1	82	4	87	27	17	3	47	65	117	29	211	1	13	49	63	408
05:45 PM	1	65	0	66	25	14	7	46	43	109	32	184	0	18	49	67	363
Total	6	346	10	362	127	58	16	201	217	455	134	806	1	51	219	271	1640
Grand Total	15	678	25	718	271	104	27	402	420	820	246	1486	8	88	419	515	3121
Apprch %	2.1	94.4	3.5		67.4	25.9	6.7		28.3	55.2	16.6		1.6	17.1	81.4		
Total %	0.5	21.7	0.8	23	8.7	3.3	0.9	12.9	13.5	26.3	7.9	47.6	0.3	2.8	13.4	16.5	

	S Brawley Avenue Southbound				W Malan Street Westbound				S Brawley Avenue Northbound				W Malan Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	3	114	3	120	45	13	3	61	48	114	38	200	0	12	57	69	450
05:15 PM	1	85	3	89	30	14	3	47	61	115	35	211	0	8	64	72	419
05:30 PM	1	82	4	87	27	17	3	47	65	117	29	211	1	13	49	63	408
05:45 PM	1	65	0	66	25	14	7	46	43	109	32	184	0	18	49	67	363
Total Volume	6	346	10	362	127	58	16	201	217	455	134	806	1	51	219	271	1640
% App. Total	1.7	95.6	2.8		63.2	28.9	8		26.9	56.5	16.6		0.4	18.8	80.8		
PHF	.500	.759	.625	.754	.706	.853	.571	.824	.835	.972	.882	.955	.250	.708	.855	.941	.911

City of Brawley
N/S: S Brawley Avenue
E/W: W Malan Street
Weather: Clear

File Name : 03_BWY_Braw_Malan PM
Site Code : 12224889
Start Date : 10/16/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:45 PM				05:00 PM				05:00 PM			
+0 mins.	5	88	2	95	39	20	4	63	48	114	38	200	0	12	57	69
+15 mins.	0	85	4	89	45	13	3	61	61	115	35	211	0	8	64	72
+30 mins.	3	114	3	120	30	14	3	47	65	117	29	211	1	13	49	63
+45 mins.	1	85	3	89	27	17	3	47	43	109	32	184	0	18	49	67
Total Volume	9	372	12	393	141	64	13	218	217	455	134	806	1	51	219	271
% App. Total	2.3	94.7	3.1		64.7	29.4	6		26.9	56.5	16.6		0.4	18.8	80.8	
PHF	.450	.816	.750	.819	.783	.800	.813	.865	.835	.972	.882	.955	.250	.708	.855	.941

Location: Brawley
 N/S: S Brawley Avenue
 E/W: W Malan Street



Date: 10/16/2024
 Day: Wednesday

PEDESTRIANS

		North Leg S Brawley Avenue	East Leg W Malan Street	South Leg S Brawley Avenue	West Leg W Malan Street		
		Pedestrians	Pedestrians	Pedestrians	Pedestrians		
	7:00 AM	0	0	0	0		0
	7:15 AM	0	0	0	0		0
	7:30 AM	0	1	0	0		1
	7:45 AM	0	0	0	0		0
	8:00 AM	0	0	0	0		0
	8:15 AM	0	0	0	0		0
	8:30 AM	0	0	0	0		0
	8:45 AM	0	1	0	0		1
	TOTAL VOLUMES:	0	2	0	0		2

		North Leg S Brawley Avenue	East Leg W Malan Street	South Leg S Brawley Avenue	West Leg W Malan Street		
		Pedestrians	Pedestrians	Pedestrians	Pedestrians		
	4:00 PM	0	0	0	0		0
	4:15 PM	0	1	1	1		3
	4:30 PM	0	0	0	0		0
	4:45 PM	0	0	0	0		0
	5:00 PM	0	1	1	0		2
	5:15 PM	0	0	0	0		0
	5:30 PM	0	0	0	0		0
	5:45 PM	0	0	0	0		0
	TOTAL VOLUMES:	0	2	2	1		5

Location: Brawley
 N/S: S Brawley Avenue
 E/W: W Malan Street



Date: 10/16/2024
 Day: Wednesday

BICYCLES

		Southbound S Brawley Avenue			Westbound W Malan Street			Northbound S Brawley Avenue			Eastbound W Malan Street			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
	7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:		0	1	0	0	0	0	0	0	2	0	0	0	3

		Southbound S Brawley Avenue			Westbound W Malan Street			Northbound S Brawley Avenue			Eastbound W Malan Street			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
	4:15 PM	0	0	0	0	0	0	0	1	0	0	0	1	2
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	1	0	0	0	1	0	2
	5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:		0	2	0	0	0	0	1	1	0	0	1	1	6

City of Brawley
N/S: S Brawley Avenue
E/W: Panno Drive/Wildcat Drive
Weather: Clear

File Name : 04_BWY_Braw_Panno AM
Site Code : 12224889
Start Date : 10/16/2024
Page No : 1

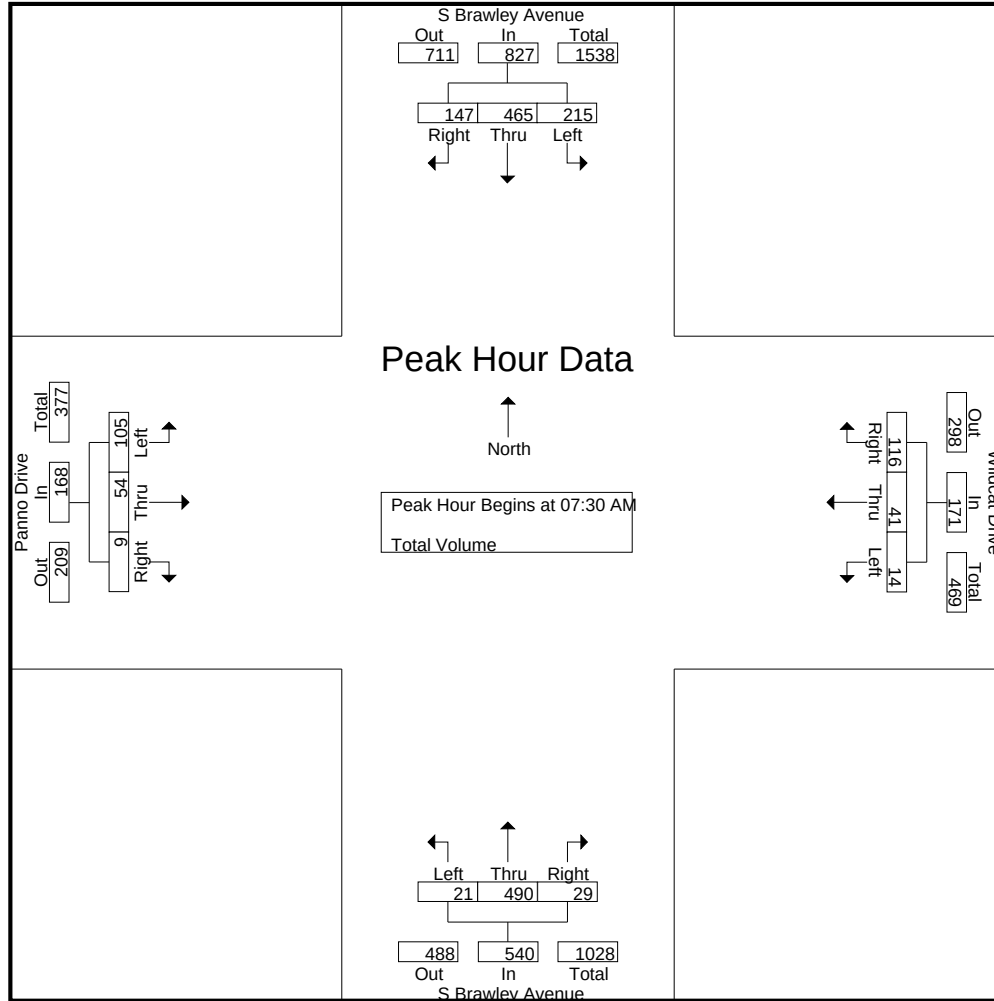
Groups Printed- Total Volume

	S Brawley Avenue Southbound				Wildcat Drive Westbound				S Brawley Avenue Northbound				Panno Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	26	82	9	117	1	8	19	28	2	82	2	86	3	9	7	19	250
07:15 AM	33	108	8	149	0	2	27	29	5	106	6	117	22	12	6	40	335
07:30 AM	36	122	14	172	3	12	27	42	2	133	7	142	35	16	3	54	410
07:45 AM	40	104	41	185	5	18	34	57	4	163	12	179	40	17	2	59	480
Total	135	416	72	623	9	40	107	156	13	484	27	524	100	54	18	172	1475
08:00 AM	71	127	46	244	2	6	25	33	9	106	7	122	19	11	2	32	431
08:15 AM	68	112	46	226	4	5	30	39	6	88	3	97	11	10	2	23	385
08:30 AM	35	84	21	140	3	17	28	48	3	71	3	77	11	10	4	25	290
08:45 AM	35	72	17	124	2	8	23	33	5	82	8	95	8	9	4	21	273
Total	209	395	130	734	11	36	106	153	23	347	21	391	49	40	12	101	1379
Grand Total	344	811	202	1357	20	76	213	309	36	831	48	915	149	94	30	273	2854
Apprch %	25.4	59.8	14.9		6.5	24.6	68.9		3.9	90.8	5.2		54.6	34.4	11		
Total %	12.1	28.4	7.1	47.5	0.7	2.7	7.5	10.8	1.3	29.1	1.7	32.1	5.2	3.3	1.1	9.6	

	S Brawley Avenue Southbound				Wildcat Drive Westbound				S Brawley Avenue Northbound				Panno Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	36	122	14	172	3	12	27	42	2	133	7	142	35	16	3	54	410
07:45 AM	40	104	41	185	5	18	34	57	4	163	12	179	40	17	2	59	480
08:00 AM	71	127	46	244	2	6	25	33	9	106	7	122	19	11	2	32	431
08:15 AM	68	112	46	226	4	5	30	39	6	88	3	97	11	10	2	23	385
Total Volume	215	465	147	827	14	41	116	171	21	490	29	540	105	54	9	168	1706
% App. Total	26	56.2	17.8		8.2	24	67.8		3.9	90.7	5.4		62.5	32.1	5.4		
PHF	.757	.915	.799	.847	.700	.569	.853	.750	.583	.752	.604	.754	.656	.794	.750	.712	.889

City of Brawley
N/S: S Brawley Avenue
E/W: Panno Drive/Wildcat Drive
Weather: Clear

File Name : 04_BWY_Braw_Panno AM
Site Code : 12224889
Start Date : 10/16/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:45 AM				07:15 AM				07:15 AM			
+0 mins.	36	122	14	172	5	18	34	57	5	106	6	117	22	12	6	40
+15 mins.	40	104	41	185	2	6	25	33	2	133	7	142	35	16	3	54
+30 mins.	71	127	46	244	4	5	30	39	4	163	12	179	40	17	2	59
+45 mins.	68	112	46	226	3	17	28	48	9	106	7	122	19	11	2	32
Total Volume	215	465	147	827	14	46	117	177	20	508	32	560	116	56	13	185
% App. Total	26	56.2	17.8		7.9	26	66.1		3.6	90.7	5.7		62.7	30.3	7	
PHF	.757	.915	.799	.847	.700	.639	.860	.776	.556	.779	.667	.782	.725	.824	.542	.784

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Brawley
N/S: S Brawley Avenue
E/W: Panno Drive/Wildcat Drive
Weather: Clear

File Name : 04_BWY_Braw_Panno PM
Site Code : 12224889
Start Date : 10/16/2024
Page No : 1

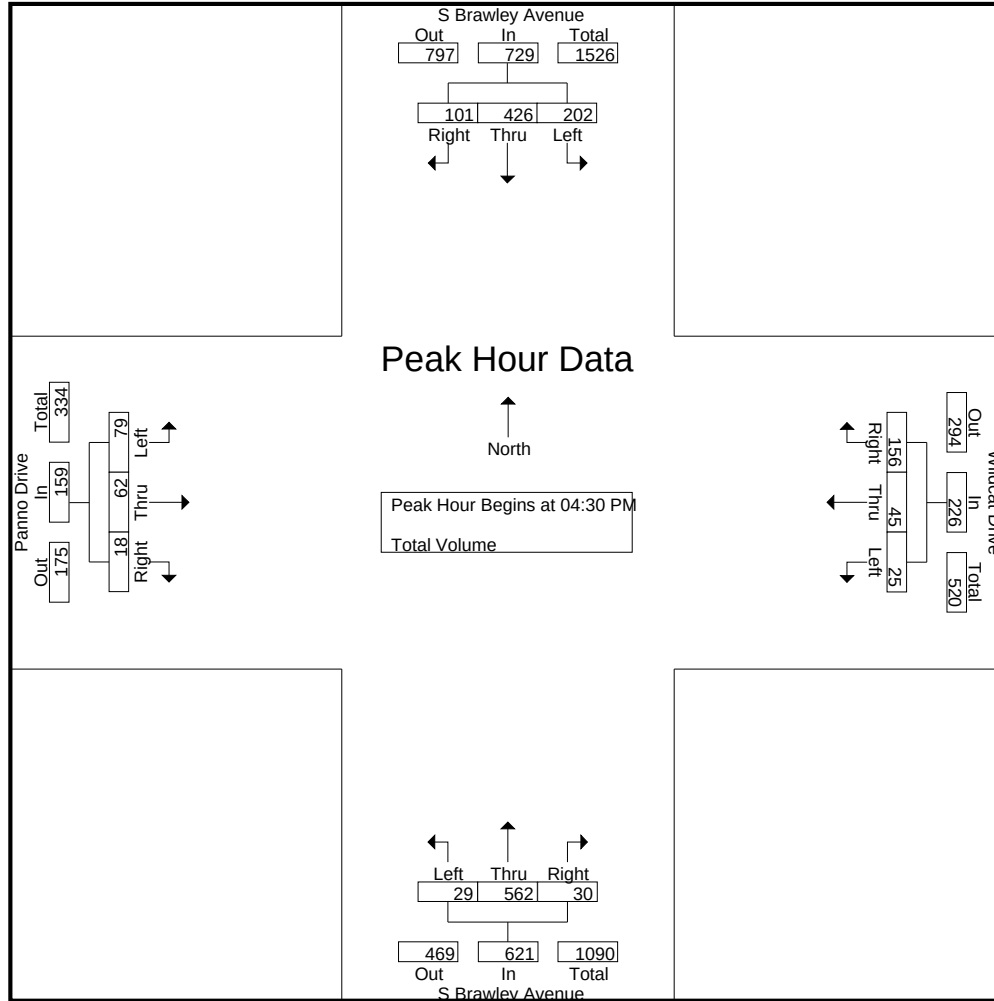
Groups Printed- Total Volume

	S Brawley Avenue Southbound				Wildcat Drive Westbound				S Brawley Avenue Northbound				Panno Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	61	97	26	184	8	10	31	49	6	144	3	153	11	14	5	30	416
04:15 PM	49	86	35	170	4	8	42	54	4	101	9	114	13	15	4	32	370
04:30 PM	52	96	25	173	6	11	42	59	10	138	13	161	18	22	4	44	437
04:45 PM	52	102	25	179	8	14	38	60	4	117	3	124	15	10	4	29	392
Total	214	381	111	706	26	43	153	222	24	500	28	552	57	61	17	135	1615
05:00 PM	46	120	21	187	3	9	36	48	10	139	6	155	30	24	7	61	451
05:15 PM	52	108	30	190	8	11	40	59	5	168	8	181	16	6	3	25	455
05:30 PM	58	80	21	159	5	12	58	75	12	143	7	162	15	9	4	28	424
05:45 PM	35	72	22	129	1	7	29	37	6	154	8	168	24	8	1	33	367
Total	191	380	94	665	17	39	163	219	33	604	29	666	85	47	15	147	1697
Grand Total	405	761	205	1371	43	82	316	441	57	1104	57	1218	142	108	32	282	3312
Apprch %	29.5	55.5	15		9.8	18.6	71.7		4.7	90.6	4.7		50.4	38.3	11.3		
Total %	12.2	23	6.2	41.4	1.3	2.5	9.5	13.3	1.7	33.3	1.7	36.8	4.3	3.3	1	8.5	

	S Brawley Avenue Southbound				Wildcat Drive Westbound				S Brawley Avenue Northbound				Panno Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	52	96	25	173	6	11	42	59	10	138	13	161	18	22	4	44	437
04:45 PM	52	102	25	179	8	14	38	60	4	117	3	124	15	10	4	29	392
05:00 PM	46	120	21	187	3	9	36	48	10	139	6	155	30	24	7	61	451
05:15 PM	52	108	30	190	8	11	40	59	5	168	8	181	16	6	3	25	455
Total Volume	202	426	101	729	25	45	156	226	29	562	30	621	79	62	18	159	1735
% App. Total	27.7	58.4	13.9		11.1	19.9	69		4.7	90.5	4.8		49.7	39	11.3		
PHF	.971	.888	.842	.959	.781	.804	.929	.942	.725	.836	.577	.858	.658	.646	.643	.652	.953

City of Brawley
N/S: S Brawley Avenue
E/W: Panno Drive/Wildcat Drive
Weather: Clear

File Name : 04_BWY_Braw_Panno PM
Site Code : 12224889
Start Date : 10/16/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:45 PM				05:00 PM				04:15 PM			
+0 mins.	52	96	25	173	8	14	38	60	10	139	6	155	13	15	4	32
+15 mins.	52	102	25	179	3	9	36	48	5	168	8	181	18	22	4	44
+30 mins.	46	120	21	187	8	11	40	59	12	143	7	162	15	10	4	29
+45 mins.	52	108	30	190	5	12	58	75	6	154	8	168	30	24	7	61
Total Volume	202	426	101	729	24	46	172	242	33	604	29	666	76	71	19	166
% App. Total	27.7	58.4	13.9		9.9	19	71.1		5	90.7	4.4		45.8	42.8	11.4	
PHF	.971	.888	.842	.959	.750	.821	.741	.807	.688	.899	.906	.920	.633	.740	.679	.680

Location: Brawley
 N/S: S Brawley Avenue
 E/W: Panno Drive/Wildcat Drive



Date: 10/16/2024
 Day: Wednesday

PEDESTRIANS

		North Leg S Brawley Avenue	East Leg Wildcat Drive	South Leg S Brawley Avenue	West Leg Panno Drive		
		Pedestrians	Pedestrians	Pedestrians	Pedestrians		
	7:00 AM	0	0	0	0		0
	7:15 AM	0	1	0	0		1
	7:30 AM	0	0	0	0		0
	7:45 AM	0	0	0	0		0
	8:00 AM	0	2	3	1		6
	8:15 AM	0	0	0	0		0
	8:30 AM	0	0	0	0		0
	8:45 AM	0	0	0	0		0
TOTAL VOLUMES:		0	3	3	1		7

		North Leg S Brawley Avenue	East Leg Wildcat Drive	South Leg S Brawley Avenue	West Leg Panno Drive		
		Pedestrians	Pedestrians	Pedestrians	Pedestrians		
	4:00 PM	0	0	0	0		0
	4:15 PM	0	0	0	0		0
	4:30 PM	0	0	0	0		0
	4:45 PM	0	0	0	0		0
	5:00 PM	0	0	0	0		0
	5:15 PM	0	0	1	0		1
	5:30 PM	0	0	1	0		1
	5:45 PM	0	0	0	0		0
TOTAL VOLUMES:		0	0	2	0		2

Location: Brawley
N/S: S Brawley Avenue
E/W: Panno Drive/Wildcat Drive



Date: 10/16/2024
Day: Wednesday

BICYCLES

		Southbound S Brawley Avenue			Westbound Wildcat Drive			Northbound S Brawley Avenue			Eastbound Panno Drive			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	7:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	1
	7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
	7:30 AM	1	0	0	0	0	0	0	0	0	0	0	0	1
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:		1	0	0	0	0	1	0	0	0	0	1	0	3

		Southbound S Brawley Avenue			Westbound Wildcat Drive			Northbound S Brawley Avenue			Eastbound Panno Drive			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	4:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
	4:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	1
	4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
	5:15 PM	0	0	0	0	1	0	0	0	0	0	1	0	2
	5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:		1	0	0	0	1	1	0	1	0	0	3	0	7

City of Brawley
N/S: S Brawley Avenue
E/W: Legion Road
Weather: Clear

File Name : 05_BWY_Braw_Leg AM
Site Code : 12224889
Start Date : 10/16/2024
Page No : 1

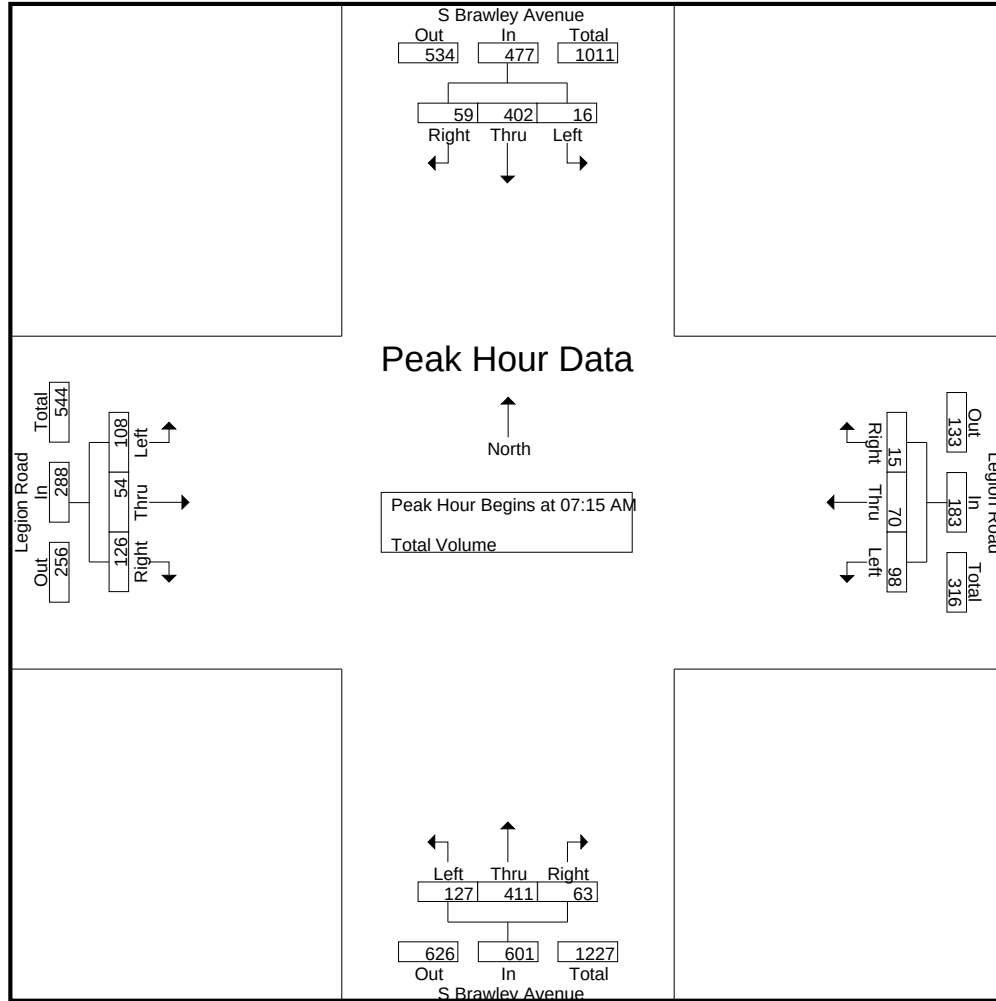
Groups Printed- Total Volume

	S Brawley Avenue Southbound				Legion Road Westbound				S Brawley Avenue Northbound				Legion Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	5	77	8	90	19	6	0	25	23	71	19	113	8	8	30	46	274
07:15 AM	3	91	7	101	31	11	3	45	21	90	16	127	16	10	34	60	333
07:30 AM	4	119	11	134	25	12	6	43	30	110	16	156	32	14	34	80	413
07:45 AM	3	97	24	124	25	25	3	53	36	117	16	169	38	22	35	95	441
Total	15	384	50	449	100	54	12	166	110	388	67	565	94	54	133	281	1461
08:00 AM	6	95	17	118	17	22	3	42	40	94	15	149	22	8	23	53	362
08:15 AM	8	105	17	130	23	19	4	46	30	67	18	115	7	12	16	35	326
08:30 AM	7	78	11	96	23	18	6	47	20	53	9	82	11	9	22	42	267
08:45 AM	11	70	9	90	21	7	6	34	34	66	9	109	17	14	23	54	287
Total	32	348	54	434	84	66	19	169	124	280	51	455	57	43	84	184	1242
Grand Total	47	732	104	883	184	120	31	335	234	668	118	1020	151	97	217	465	2703
Apprch %	5.3	82.9	11.8		54.9	35.8	9.3		22.9	65.5	11.6		32.5	20.9	46.7		
Total %	1.7	27.1	3.8	32.7	6.8	4.4	1.1	12.4	8.7	24.7	4.4	37.7	5.6	3.6	8	17.2	

	S Brawley Avenue Southbound				Legion Road Westbound				S Brawley Avenue Northbound				Legion Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	3	91	7	101	31	11	3	45	21	90	16	127	16	10	34	60	333
07:30 AM	4	119	11	134	25	12	6	43	30	110	16	156	32	14	34	80	413
07:45 AM	3	97	24	124	25	25	3	53	36	117	16	169	38	22	35	95	441
08:00 AM	6	95	17	118	17	22	3	42	40	94	15	149	22	8	23	53	362
Total Volume	16	402	59	477	98	70	15	183	127	411	63	601	108	54	126	288	1549
% App. Total	3.4	84.3	12.4		53.6	38.3	8.2		21.1	68.4	10.5		37.5	18.8	43.8		
PHF	.667	.845	.615	.890	.790	.700	.625	.863	.794	.878	.984	.889	.711	.614	.900	.758	.878

City of Brawley
N/S: S Brawley Avenue
E/W: Legion Road
Weather: Clear

File Name : 05_BWY_Braw_Leg AM
Site Code : 12224889
Start Date : 10/16/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:45 AM				07:15 AM				07:15 AM			
+0 mins.	4	119	11	134	25	25	3	53	21	90	16	127	16	10	34	60
+15 mins.	3	97	24	124	17	22	3	42	30	110	16	156	32	14	34	80
+30 mins.	6	95	17	118	23	19	4	46	36	117	16	169	38	22	35	95
+45 mins.	8	105	17	130	23	18	6	47	40	94	15	149	22	8	23	53
Total Volume	21	416	69	506	88	84	16	188	127	411	63	601	108	54	126	288
% App. Total	4.2	82.2	13.6		46.8	44.7	8.5		21.1	68.4	10.5		37.5	18.8	43.8	
PHF	.656	.874	.719	.944	.880	.840	.667	.887	.794	.878	.984	.889	.711	.614	.900	.758

City of Brawley
N/S: S Brawley Avenue
E/W: Legion Road
Weather: Clear

File Name : 05_BWY_Braw_Leg PM
Site Code : 12224889
Start Date : 10/16/2024
Page No : 1

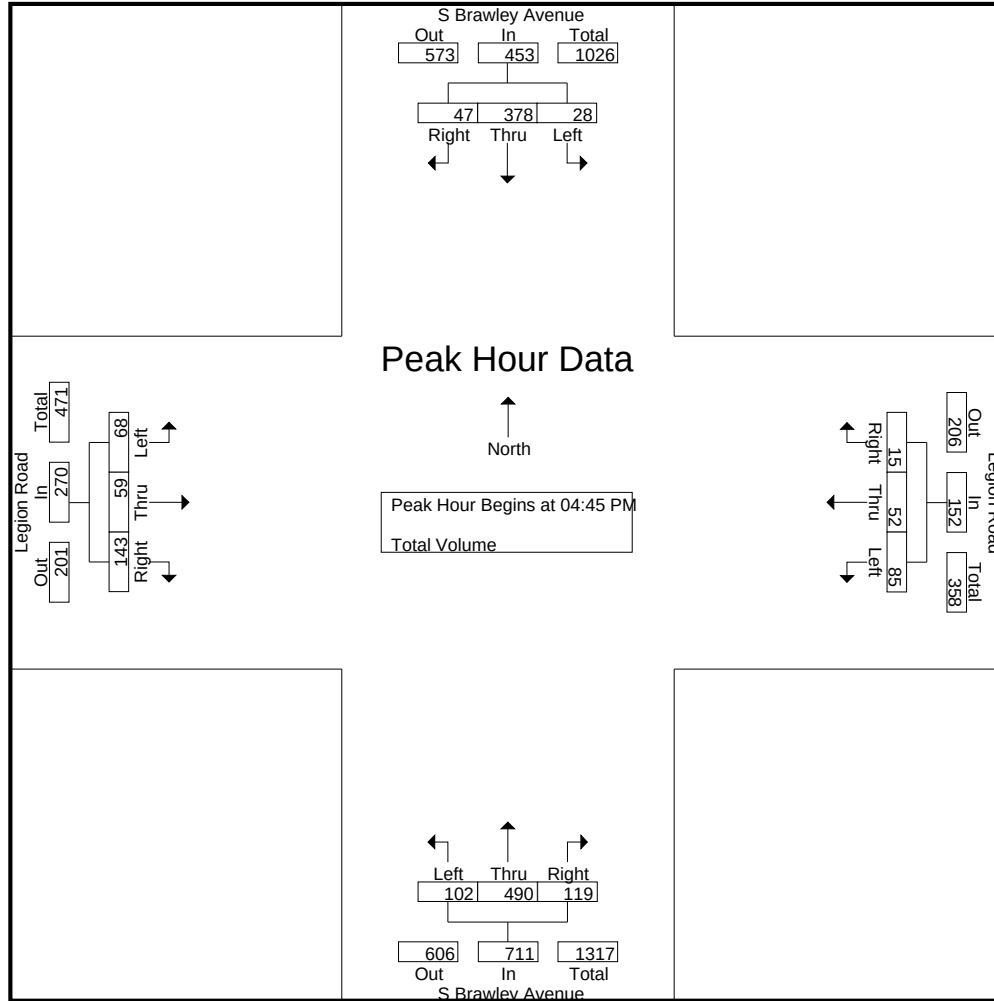
Groups Printed- Total Volume

	S Brawley Avenue Southbound				Legion Road Westbound				S Brawley Avenue Northbound				Legion Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	4	89	11	104	32	9	4	45	30	117	24	171	12	15	36	63	383
04:15 PM	6	90	8	104	20	13	1	34	20	97	29	146	18	10	28	56	340
04:30 PM	3	83	11	97	24	15	1	40	16	117	26	159	25	15	49	89	385
04:45 PM	5	94	12	111	25	14	4	43	27	92	21	140	14	10	35	59	353
Total	18	356	42	416	101	51	10	162	93	423	100	616	69	50	148	267	1461
05:00 PM	7	119	14	140	28	13	4	45	22	109	34	165	22	24	44	90	440
05:15 PM	7	94	8	109	13	14	3	30	27	140	35	202	13	12	36	61	402
05:30 PM	9	71	13	93	19	11	4	34	26	149	29	204	19	13	28	60	391
05:45 PM	7	64	9	80	20	14	3	37	35	105	29	169	21	9	16	46	332
Total	30	348	44	422	80	52	14	146	110	503	127	740	75	58	124	257	1565
Grand Total	48	704	86	838	181	103	24	308	203	926	227	1356	144	108	272	524	3026
Apprch %	5.7	84	10.3		58.8	33.4	7.8		15	68.3	16.7		27.5	20.6	51.9		
Total %	1.6	23.3	2.8	27.7	6	3.4	0.8	10.2	6.7	30.6	7.5	44.8	4.8	3.6	9	17.3	

	S Brawley Avenue Southbound				Legion Road Westbound				S Brawley Avenue Northbound				Legion Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	5	94	12	111	25	14	4	43	27	92	21	140	14	10	35	59	353
05:00 PM	7	119	14	140	28	13	4	45	22	109	34	165	22	24	44	90	440
05:15 PM	7	94	8	109	13	14	3	30	27	140	35	202	13	12	36	61	402
05:30 PM	9	71	13	93	19	11	4	34	26	149	29	204	19	13	28	60	391
Total Volume	28	378	47	453	85	52	15	152	102	490	119	711	68	59	143	270	1586
% App. Total	6.2	83.4	10.4		55.9	34.2	9.9		14.3	68.9	16.7		25.2	21.9	53		
PHF	.778	.794	.839	.809	.759	.929	.938	.844	.944	.822	.850	.871	.773	.615	.813	.750	.901

City of Brawley
N/S: S Brawley Avenue
E/W: Legion Road
Weather: Clear

File Name : 05_BWY_Braw_Leg PM
Site Code : 12224889
Start Date : 10/16/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:00 PM				05:00 PM				04:30 PM			
+0 mins.	3	83	11	97	32	9	4	45	22	109	34	165	25	15	49	89
+15 mins.	5	94	12	111	20	13	1	34	27	140	35	202	14	10	35	59
+30 mins.	7	119	14	140	24	15	1	40	26	149	29	204	22	24	44	90
+45 mins.	7	94	8	109	25	14	4	43	35	105	29	169	13	12	36	61
Total Volume	22	390	45	457	101	51	10	162	110	503	127	740	74	61	164	299
% App. Total	4.8	85.3	9.8		62.3	31.5	6.2		14.9	68	17.2		24.7	20.4	54.8	
PHF	.786	.819	.804	.816	.789	.850	.625	.900	.786	.844	.907	.907	.740	.635	.837	.831

Location: Brawley
 N/S: S Brawley Avenue
 E/W: Legion Road



Date: 10/16/2024
 Day: Wednesday

PEDESTRIANS

		North Leg S Brawley Avenue	East Leg Legion Road	South Leg S Brawley Avenue	West Leg Legion Road	
		Pedestrians	Pedestrians	Pedestrians	Pedestrians	
	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	2	0	0	0	2
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	0	0	0
	TOTAL VOLUMES:	2	0	0	0	2

		North Leg S Brawley Avenue	East Leg Legion Road	South Leg S Brawley Avenue	West Leg Legion Road	
		Pedestrians	Pedestrians	Pedestrians	Pedestrians	
	4:00 PM	0	0	0	0	0
	4:15 PM	2	0	0	0	2
	4:30 PM	0	0	0	0	0
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	0	0	0
	5:15 PM	0	0	0	0	0
	5:30 PM	2	0	0	0	2
	5:45 PM	1	0	0	0	1
	TOTAL VOLUMES:	5	0	0	0	5

Location: Brawley
N/S: S Brawley Avenue
E/W: Legion Road



Date: 10/16/2024
Day: Wednesday

BICYCLES

		Southbound S Brawley Avenue			Westbound Legion Road			Northbound S Brawley Avenue			Eastbound Legion Road			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:		0	0	0	0	0	0	0	0	0	0	0	0	0

		Southbound S Brawley Avenue			Westbound Legion Road			Northbound S Brawley Avenue			Eastbound Legion Road			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:		0	0	0	0	1	0	0	0	0	1	0	0	2

County of Imperial
N/S: Imperial Avenue (SR-86)
E/W: W Keystone Road
Weather: Clear

File Name : 06_CIM_Imp_Key AM
Site Code : 12224889
Start Date : 10/16/2024
Page No : 1

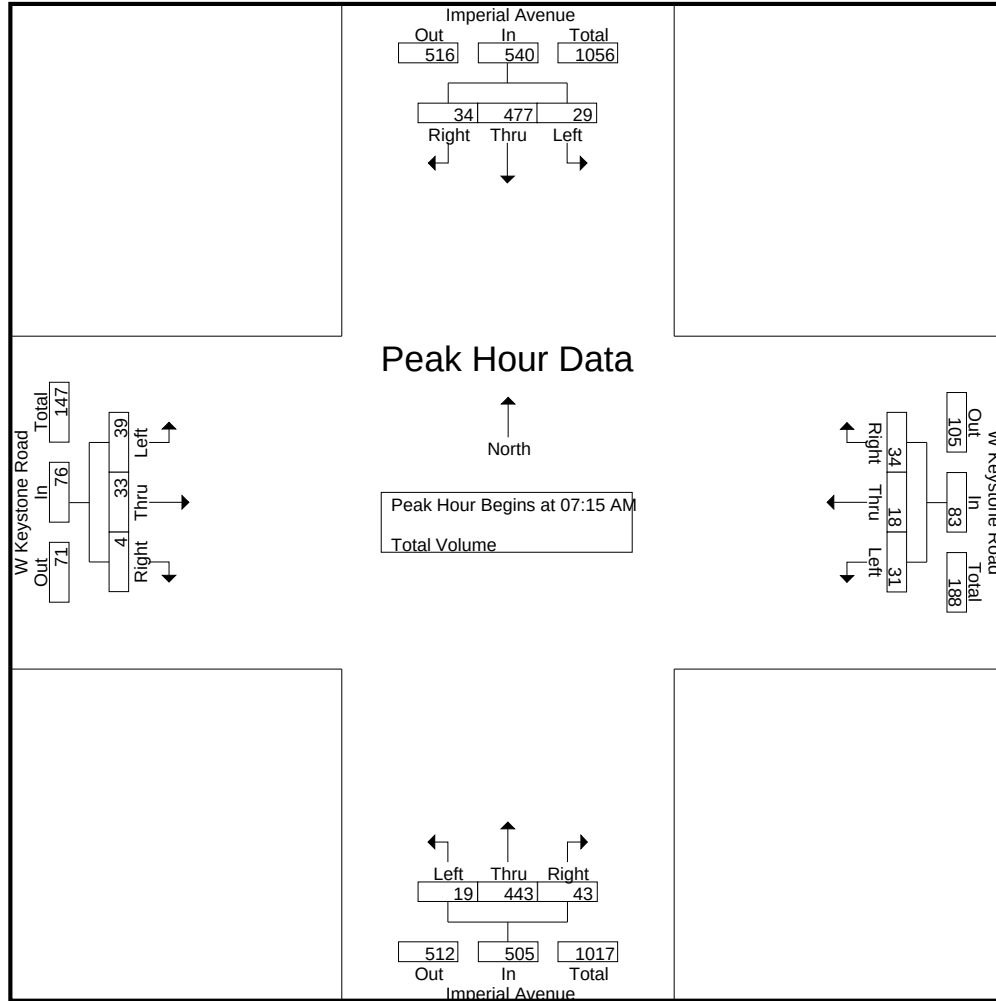
Groups Printed- Total Volume

	Imperial Avenue Southbound				W Keystone Road Westbound				Imperial Avenue Northbound				W Keystone Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	6	95	8	109	4	6	7	17	8	72	6	86	4	5	2	11	223
07:15 AM	1	113	4	118	4	2	6	12	4	89	7	100	15	9	2	26	256
07:30 AM	10	125	15	150	4	5	9	18	3	119	5	127	8	11	1	20	315
07:45 AM	13	125	8	146	15	5	6	26	8	126	16	150	11	7	0	18	340
Total	30	458	35	523	27	18	28	73	23	406	34	463	38	32	5	75	1134
08:00 AM	5	114	7	126	8	6	13	27	4	109	15	128	5	6	1	12	293
08:15 AM	6	113	8	127	8	4	7	19	2	80	9	91	6	8	3	17	254
08:30 AM	2	93	6	101	8	5	2	15	3	57	5	65	6	6	2	14	195
08:45 AM	7	110	4	121	2	4	7	13	5	91	8	104	4	4	1	9	247
Total	20	430	25	475	26	19	29	74	14	337	37	388	21	24	7	52	989
Grand Total	50	888	60	998	53	37	57	147	37	743	71	851	59	56	12	127	2123
Apprch %	5	89	6		36.1	25.2	38.8		4.3	87.3	8.3		46.5	44.1	9.4		
Total %	2.4	41.8	2.8	47	2.5	1.7	2.7	6.9	1.7	35	3.3	40.1	2.8	2.6	0.6	6	

	Imperial Avenue Southbound				W Keystone Road Westbound				Imperial Avenue Northbound				W Keystone Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	1	113	4	118	4	2	6	12	4	89	7	100	15	9	2	26	256
07:30 AM	10	125	15	150	4	5	9	18	3	119	5	127	8	11	1	20	315
07:45 AM	13	125	8	146	15	5	6	26	8	126	16	150	11	7	0	18	340
08:00 AM	5	114	7	126	8	6	13	27	4	109	15	128	5	6	1	12	293
Total Volume	29	477	34	540	31	18	34	83	19	443	43	505	39	33	4	76	1204
% App. Total	5.4	88.3	6.3		37.3	21.7	41		3.8	87.7	8.5		51.3	43.4	5.3		
PHF	.558	.954	.567	.900	.517	.750	.654	.769	.594	.879	.672	.842	.650	.750	.500	.731	.885

County of Imperial
N/S: Imperial Avenue (SR-86)
E/W: W Keystone Road
Weather: Clear

File Name : 06_CIM_Imp_Key AM
Site Code : 12224889
Start Date : 10/16/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:15 AM				07:15 AM			
+0 mins.	10	125	15	150	4	5	9	18	4	89	7	100	15	9	2	26
+15 mins.	13	125	8	146	15	5	6	26	3	119	5	127	8	11	1	20
+30 mins.	5	114	7	126	8	6	13	27	8	126	16	150	11	7	0	18
+45 mins.	6	113	8	127	8	4	7	19	4	109	15	128	5	6	1	12
Total Volume	34	477	38	549	35	20	35	90	19	443	43	505	39	33	4	76
% App. Total	6.2	86.9	6.9		38.9	22.2	38.9		3.8	87.7	8.5		51.3	43.4	5.3	
PHF	.654	.954	.633	.915	.583	.833	.673	.833	.594	.879	.672	.842	.650	.750	.500	.731

County of Imperial
N/S: Imperial Avenue (SR-86)
E/W: W Keystone Road
Weather: Clear

File Name : 06_CIM_Imp_Key PM
Site Code : 12224889
Start Date : 10/16/2024
Page No : 1

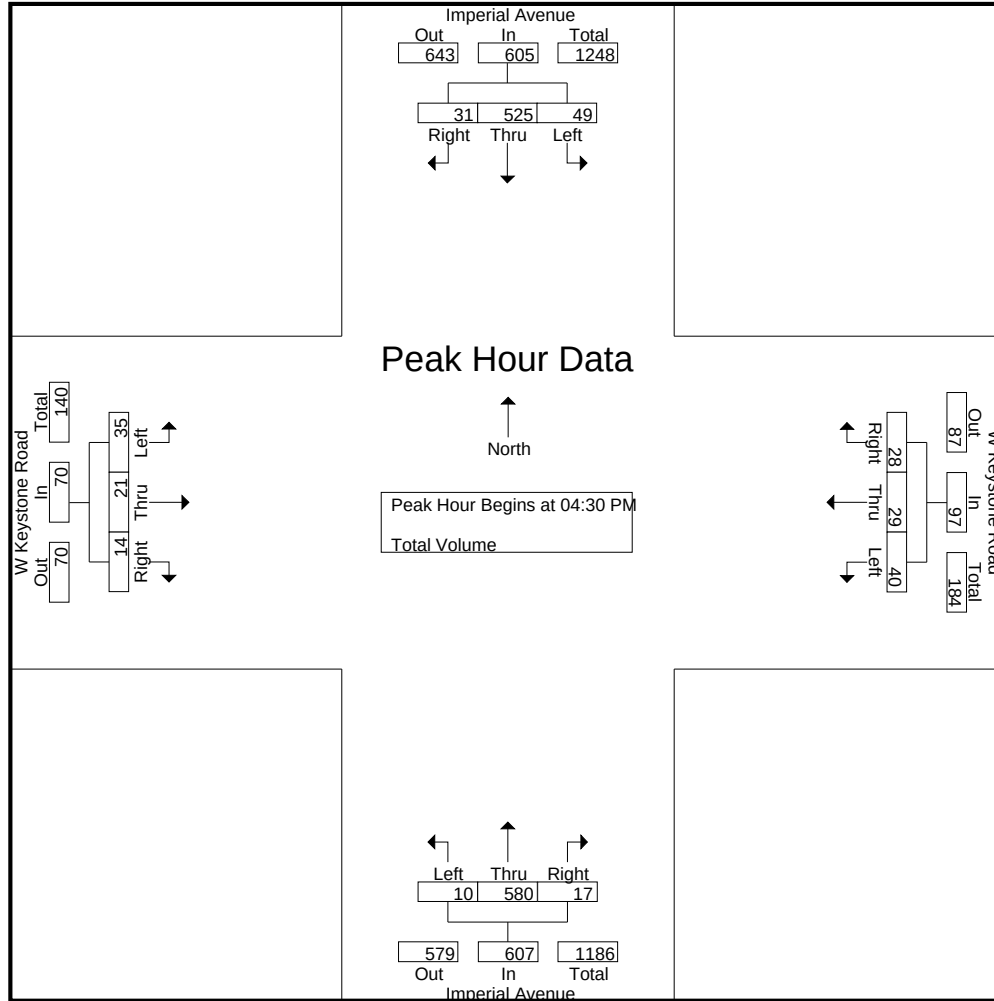
Groups Printed- Total Volume

	Imperial Avenue Southbound				W Keystone Road Westbound				Imperial Avenue Northbound				W Keystone Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	9	130	4	143	4	9	4	17	2	109	5	116	10	4	6	20	296
04:15 PM	10	101	8	119	5	11	7	23	5	112	8	125	12	2	4	18	285
04:30 PM	11	128	12	151	12	6	5	23	5	143	6	154	4	1	5	10	338
04:45 PM	13	125	8	146	4	8	8	20	0	117	5	122	12	6	4	22	310
Total	43	484	32	559	25	34	24	83	12	481	24	517	38	13	19	70	1229
05:00 PM	12	130	5	147	15	9	6	30	3	138	3	144	8	6	3	17	338
05:15 PM	13	142	6	161	9	6	9	24	2	182	3	187	11	8	2	21	393
05:30 PM	5	93	5	103	11	5	6	22	3	169	4	176	7	0	3	10	311
05:45 PM	7	88	5	100	10	4	11	25	1	134	2	137	4	1	3	8	270
Total	37	453	21	511	45	24	32	101	9	623	12	644	30	15	11	56	1312
Grand Total	80	937	53	1070	70	58	56	184	21	1104	36	1161	68	28	30	126	2541
Apprch %	7.5	87.6	5		38	31.5	30.4		1.8	95.1	3.1		54	22.2	23.8		
Total %	3.1	36.9	2.1	42.1	2.8	2.3	2.2	7.2	0.8	43.4	1.4	45.7	2.7	1.1	1.2	5	

	Imperial Avenue Southbound				W Keystone Road Westbound				Imperial Avenue Northbound				W Keystone Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	11	128	12	151	12	6	5	23	5	143	6	154	4	1	5	10	338
04:45 PM	13	125	8	146	4	8	8	20	0	117	5	122	12	6	4	22	310
05:00 PM	12	130	5	147	15	9	6	30	3	138	3	144	8	6	3	17	338
05:15 PM	13	142	6	161	9	6	9	24	2	182	3	187	11	8	2	21	393
Total Volume	49	525	31	605	40	29	28	97	10	580	17	607	35	21	14	70	1379
% App. Total	8.1	86.8	5.1		41.2	29.9	28.9		1.6	95.6	2.8		50	30	20		
PHF	.942	.924	.646	.939	.667	.806	.778	.808	.500	.797	.708	.811	.729	.656	.700	.795	.877

County of Imperial
N/S: Imperial Avenue (SR-86)
E/W: W Keystone Road
Weather: Clear

File Name : 06_CIM_Imp_Key PM
Site Code : 12224889
Start Date : 10/16/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				05:00 PM				05:00 PM				04:00 PM			
+0 mins.	11	128	12	151	15	9	6	30	3	138	3	144	10	4	6	20
+15 mins.	13	125	8	146	9	6	9	24	2	182	3	187	12	2	4	18
+30 mins.	12	130	5	147	11	5	6	22	3	169	4	176	4	1	5	10
+45 mins.	13	142	6	161	10	4	11	25	1	134	2	137	12	6	4	22
Total Volume	49	525	31	605	45	24	32	101	9	623	12	644	38	13	19	70
% App. Total	8.1	86.8	5.1		44.6	23.8	31.7		1.4	96.7	1.9		54.3	18.6	27.1	
PHF	.942	.924	.646	.939	.750	.667	.727	.842	.750	.856	.750	.861	.792	.542	.792	.795

Location: County of Imperial
 N/S: Imperial Avenue
 E/W: W Keystone Road



Date: 10/16/2024
 Day: Wednesday

PEDESTRIANS

		North Leg Imperial Avenue	East Leg W Keystone Road	South Leg Imperial Avenue	West Leg W Keystone Road		
		Pedestrians	Pedestrians	Pedestrians	Pedestrians		
	7:00 AM	0	0	0	0		0
	7:15 AM	0	0	0	0		0
	7:30 AM	0	0	0	0		0
	7:45 AM	0	0	0	0		0
	8:00 AM	0	0	0	0		0
	8:15 AM	0	0	0	0		0
	8:30 AM	0	0	0	0		0
	8:45 AM	0	0	0	0		0
	TOTAL VOLUMES:	0	0	0	0		0

		North Leg Imperial Avenue	East Leg W Keystone Road	South Leg Imperial Avenue	West Leg W Keystone Road		
		Pedestrians	Pedestrians	Pedestrians	Pedestrians		
	4:00 PM	0	0	0	0		0
	4:15 PM	0	0	0	0		0
	4:30 PM	0	0	0	0		0
	4:45 PM	0	0	0	0		0
	5:00 PM	0	0	0	0		0
	5:15 PM	0	0	0	0		0
	5:30 PM	0	0	0	0		0
	5:45 PM	0	0	0	0		0
	TOTAL VOLUMES:	0	0	0	0		0

Location: County of Imperial
N/S: Imperial Avenue
E/W: W Keystone Road



Date: 10/16/2024
Day: Wednesday

BICYCLES

		Southbound Imperial Avenue			Westbound W Keystone Road			Northbound Imperial Avenue			Eastbound W Keystone Road			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:		0	0	0	0	0	0	0	0	0	0	0	0	0

		Southbound Imperial Avenue			Westbound W Keystone Road			Northbound Imperial Avenue			Eastbound W Keystone Road			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
TOTAL VOLUMES:		0	0	0	0	1	0	0	0	0	0	0	0	1

Counts Unlimited, Inc.

City of Brawley
Brawley Avenue
B/ Main Street - K Street
24 Hour Directional Volume Count

PO Box 1178
Corona, CA 92878
(951) 268-6268
email: counts@countsunlimited.com

BWY001
Site Code: 122-24889

Start Time	10/16/24 Wed	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		15	116			12	69				
12:15		6	99			8	75				
12:30		7	82			8	76				
12:45		3	86	31	383	9	77	37	297	68	680
01:00		8	81			6	68				
01:15		6	82			1	73				
01:30		3	90			6	66				
01:45		3	110	20	363	1	71	14	278	34	641
02:00		3	81			3	124				
02:15		3	115			0	102				
02:30		3	97			3	81				
02:45		6	128	15	421	4	97	10	404	25	825
03:00		4	129			8	121				
03:15		7	79			5	115				
03:30		6	99			7	76				
03:45		9	102	26	409	7	85	27	397	53	806
04:00		9	91			9	78				
04:15		17	81			9	64				
04:30		18	90			18	84				
04:45		26	84	70	346	18	80	54	306	124	652
05:00		19	93			25	105				
05:15		53	121			31	78				
05:30		40	112			32	69				
05:45		56	141	168	467	20	66	108	318	276	785
06:00		26	98			30	78				
06:15		34	80			32	84				
06:30		40	100			54	73				
06:45		44	108	144	386	55	67	171	302	315	688
07:00		48	92			48	57				
07:15		92	80			62	46				
07:30		131	79			76	77				
07:45		192	65	463	316	113	51	299	231	762	547
08:00		112	67			144	57				
08:15		93	65			87	53				
08:30		69	70			79	63				
08:45		62	51	336	253	65	68	375	241	711	494
09:00		50	53			54	35				
09:15		65	44			62	39				
09:30		75	49			73	47				
09:45		62	35	252	181	67	34	256	155	508	336
10:00		70	45			62	23				
10:15		70	23			61	28				
10:30		65	33			59	23				
10:45		74	21	279	122	63	17	245	91	524	213
11:00		77	18			68	15				
11:15		83	27			51	9				
11:30		77	18			85	16				
11:45		109	12	346	75	71	12	275	52	621	127
Total		2150	3722	2150	3722	1871	3072	1871	3072	4021	6794
Combined Total		5872		5872		4943		4943		10815	
AM Peak	-	07:30	-	-	-	07:45	-	-	-	-	-
Vol.	-	528	-	-	-	423	-	-	-	-	-
P.H.F.		0.688				0.734					
PM Peak	-	-	05:15	-	-	-	02:30	-	-	-	-
Vol.	-	-	472	-	-	-	414	-	-	-	-
P.H.F.			0.837				0.855				
Percentage		36.6%	63.4%			37.9%	62.1%				
ADT/AADT		ADT 10,815	AADT 10,815								

Counts Unlimited, Inc.

City of Brawley
Brawley Avenue
B/ K Street - Malan Street
24 Hour Directional Volume Count

PO Box 1178
Corona, CA 92878
(951) 268-6268
email: counts@countsunlimited.com

BWY002
Site Code: 122-24889

Start Time	10/16/24 Wed	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		15	126			7	84				
12:15		11	111			9	87				
12:30		9	86			7	89				
12:45		6	104	41	427	8	77	31	337	72	764
01:00		10	99			7	88				
01:15		7	109			2	80				
01:30		6	102			6	80				
01:45		2	112	25	422	1	75	16	323	41	745
02:00		4	88			1	125				
02:15		4	110			0	102				
02:30		4	95			3	97				
02:45		9	129	21	422	6	109	10	433	31	855
03:00		8	127			8	126				
03:15		10	84			6	116				
03:30		10	115			6	89				
03:45		8	117	36	443	10	95	30	426	66	869
04:00		12	105			8	95				
04:15		18	91			10	78				
04:30		22	106			21	93				
04:45		25	101	77	403	18	88	57	354	134	757
05:00		24	120			28	123				
05:15		60	133			34	86				
05:30		54	123			38	86				
05:45		55	142	193	518	30	74	130	369	323	887
06:00		31	106			38	85				
06:15		40	87			36	86				
06:30		55	101			73	79				
06:45		59	112	185	406	60	66	207	316	392	722
07:00		63	84			56	60				
07:15		98	89			68	50				
07:30		145	83			70	85				
07:45		190	66	496	322	120	58	314	253	810	575
08:00		109	81			152	60				
08:15		89	73			102	48				
08:30		73	73			68	56				
08:45		64	54	335	281	76	63	398	227	733	508
09:00		57	61			52	38				
09:15		78	47			82	33				
09:30		86	52			89	45				
09:45		65	37	286	197	78	37	301	153	587	350
10:00		71	45			78	30				
10:15		88	24			79	34				
10:30		70	34			79	19				
10:45		93	22	322	125	73	16	309	99	631	224
11:00		88	18			84	8				
11:15		88	21			66	6				
11:30		85	21			103	18				
11:45		110	13	371	73	90	10	343	42	714	115
Total		2388	4039	2388	4039	2146	3332	2146	3332	4534	7371
Combined Total		6427		6427		5478		5478		11905	
AM Peak	-	07:15	-	-	-	07:30	-	-	-	-	-
Vol.	-	542	-	-	-	444	-	-	-	-	-
P.H.F.		0.713				0.730					
PM Peak	-	-	05:00	-	-	-	02:30	-	-	-	-
Vol.	-	-	518	-	-	-	448	-	-	-	-
P.H.F.			0.912				0.889				
Percentage		37.2%	62.8%			39.2%	60.8%				
ADT/AADT		ADT 11,905	AADT 11,905								

Counts Unlimited, Inc.

Page 1

City of Brawley
Brawley Avenue
B/ Malan Street - Wildcat Drive
24 Hour Directional Volume Count

PO Box 1178
Corona, CA 92878
(951) 268-6268
email: counts@countsunlimited.com

BWY003
Site Code: 122-24889

Start Time	10/16/24 Wed	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		17	179			11	160				
12:15		16	161			11	154				
12:30		13	147			9	165				
12:45		10	172	56	659	12	147	43	626	99	1285
01:00		8	153			7	160				
01:15		12	160			7	153				
01:30		4	181			8	158				
01:45		5	166	29	660	3	142	25	613	54	1273
02:00		6	153			3	202				
02:15		4	179			0	177				
02:30		7	163			6	196				
02:45		7	196	24	691	8	204	17	779	41	1470
03:00		12	162			14	209				
03:15		9	150			16	210				
03:30		11	200			8	186				
03:45		14	177	46	689	11	180	49	785	95	1474
04:00		15	186			13	184				
04:15		17	156			14	170				
04:30		26	198			30	173				
04:45		35	170	93	710	36	179	93	706	186	1416
05:00		30	205			48	187				
05:15		80	224			64	190				
05:30		69	216			76	159				
05:45		62	207	241	852	80	129	268	665	509	1517
06:00		49	177			59	153				
06:15		63	175			71	163				
06:30		99	160			137	127				
06:45		119	145	330	657	128	120	395	563	725	1220
07:00		104	137			117	103				
07:15		155	134			149	103				
07:30		195	126			172	116				
07:45		237	109	691	506	185	99	623	421	1314	927
08:00		150	115			244	99				
08:15		129	112			226	81				
08:30		110	117			140	75				
08:45		113	83	502	427	124	81	734	336	1236	763
09:00		118	103			132	72				
09:15		126	72			122	66				
09:30		133	74			169	66				
09:45		117	59	494	308	132	51	555	255	1049	563
10:00		126	58			138	48				
10:15		130	52			154	48				
10:30		117	47			136	34				
10:45		155	33	528	190	148	33	576	163	1104	353
11:00		148	27			153	16				
11:15		162	26			140	13				
11:30		126	28			158	17				
11:45		161	20	597	101	157	12	608	58	1205	159
Total		3631	6450	3631	6450	3986	5970	3986	5970	7617	12420
Combined Total		10081		10081		9956		9956		20037	
AM Peak	-	07:15	-	-	-	07:30	-	-	-	-	-
Vol.	-	737	-	-	-	827	-	-	-	-	-
P.H.F.		0.777				0.847					
PM Peak	-	-	05:00	-	-	-	02:30	-	-	-	-
Vol.	-	-	852	-	-	-	819	-	-	-	-
P.H.F.			0.951				0.975				
Percentage		36.0%	64.0%			40.0%	60.0%				
ADT/AADT		ADT 20,037	AADT 20,037								

Counts Unlimited, Inc.

Page 1

City of Brawley
Brawley Avenue
B/ Wildcat Drive - Legion Road
24 Hour Directional Volume Count

PO Box 1178
Corona, CA 92878
(951) 268-6268
email: counts@countsunlimited.com

BWY004
Site Code: 122-24889

Start Time	10/16/24 Wed	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		14	119			9	86				
12:15		16	128			10	100				
12:30		13	115			9	95				
12:45		10	133	53	495	9	85	37	366	90	861
01:00		9	116			5	98				
01:15		8	123			4	97				
01:30		4	135			6	95				
01:45		4	132	25	506	4	100	19	390	44	896
02:00		5	108			1	123				
02:15		4	145			0	110				
02:30		7	121			5	105				
02:45		5	141	21	515	6	124	12	462	33	977
03:00		9	129			12	151				
03:15		6	121			15	147				
03:30		11	162			8	121				
03:45		14	144	40	556	5	108	40	527	80	1083
04:00		13	153			9	110				
04:15		15	114			13	94				
04:30		19	161			27	106				
04:45		31	124	78	552	30	114	79	424	157	976
05:00		27	155			39	130				
05:15		72	181			57	119				
05:30		57	162			68	89				
05:45		58	168	214	666	61	74	225	412	439	1078
06:00		52	142			41	101				
06:15		57	126			57	95				
06:30		74	116			111	69				
06:45		107	108	290	492	93	64	302	329	592	821
07:00		86	102			90	58				
07:15		117	99			114	55				
07:30		142	99			128	63				
07:45		179	83	524	383	111	42	443	218	967	601
08:00		122	85			131	49				
08:15		97	87			118	41				
08:30		77	98			91	41				
08:45		95	65	391	335	78	45	418	176	809	511
09:00		84	74			86	38				
09:15		92	55			76	33				
09:30		108	56			109	44				
09:45		86	42	370	227	83	30	354	145	724	372
10:00		83	48			93	29				
10:15		102	35			112	34				
10:30		85	34			81	20				
10:45		112	25	382	142	84	22	370	105	752	247
11:00		111	17			103	15				
11:15		133	21			93	10				
11:30		93	26			107	13				
11:45		123	17	460	81	87	11	390	49	850	130
Total		2848	4950	2848	4950	2689	3603	2689	3603	5537	8553
Combined Total		7798		7798		6292		6292		14090	
AM Peak	-	07:15	-	-	-	07:30	-	-	-	-	-
Vol.	-	560	-	-	-	488	-	-	-	-	-
P.H.F.		0.782				0.931					
PM Peak	-	-	05:00	-	-	-	02:45	-	-	-	-
Vol.	-	-	666	-	-	-	543	-	-	-	-
P.H.F.			0.920				0.899				
Percentage		36.5%	63.5%			42.7%	57.3%				
ADT/AADT		ADT 14,090	AADT 14,090								

Location: Rte 86 @ 1st / Main St (Jct 78)

System:

District: 11

Designed By:

Master At: Rte 86 @ Western Ave

I/C: Western

Installed By:

Service Info:

Timing Change:

Date Start:

Date End:

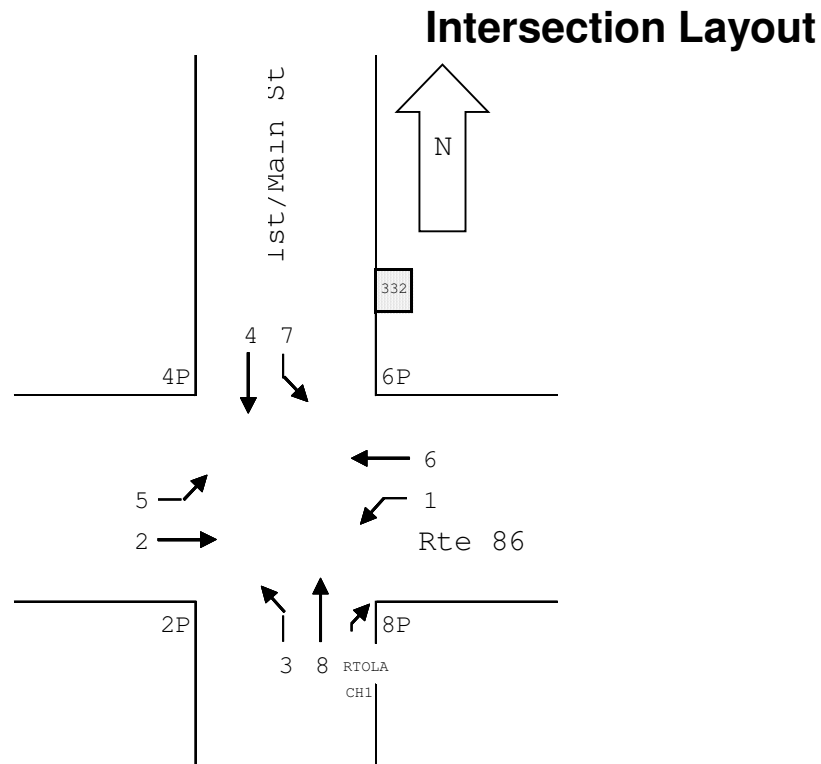
Designed:

Installed:

4/1/2021

9/30/2021

		FLASH
	1) SB left from Rte 86 to 1st St	[]
P	2) NB Thru at Rte 86	[]
H	3) WB left from 1st St to Rte 86	[]
A	4) EB Thru at 1st St /Main St	[]
S	5) NB left from Rte 86 to 1st St	[]
E	6) SB Thru at Rte 86	[]
	7) EB left from 1st St to Rte 86	[]
	8) WB Thru at 1st St /Main St	[]
O	A)	[]
V	B)	[]
E	C)	[]
R	D)	[]
L	E)	[]
A	F)	[]
P		[]

**Comments and Notes:**

FZ 2 PED 88', FZ 4 PED 80', FZ 6 PED 58', FZ 8 PED 81'

FZ 1 BIKE 90', FZ 2 BIKE 85', FZ 3 BIKE 80', FZ 4 BIKE 85', FZ 5 BIKE 80', FZ 6 BIKE 70', FZ 7 BIKE 90', FZ 8 BIKE 90'

RTOLA = FZ1

RAM Checksum

Page 2: 573C	Page 8: AA38
Page 3: BF93	Page 9: FE08
Page 4: 87B4	Page 10: 3ED4
Page 5: 191A	Page 11: 33DF
Page 6: 191A	Page 12: D68F
Page 7: DB38	Page 13: 80C7

Post Mile: PM 20.628 Rte 86 @ 1st St/ Main St (JCT 78)**Printed: 12/9/2021**

CONFIGURATION PHASE FLAGS

Cabinet (9-3)
332
Configuration
CALTRANS

Phases (2-1-1-1)								
Permitted	1	2	3	4	5	6	7	8
Restricted								

Phase Recalls (2-1-1-2)	
Vehicle Min	. 2 . . . 6 . .
Vehicle Max	
Pedestrian	
Bicycle	

Phase Locks (2-1-1-3)	
Red	
Yellow	
Force/Max	

Phase Features (2-1-1-4)	
Double Entry	
Rest In Walk	
Rest In Red	
Walk 2	... 4 ... 8
Max Green 2	
Max Green 3	

Startup (2-1-1-5)	
First Green Phases	. 2 . . . 6 . .
Yellow Start Phases	
Vehicle Calls	1 2 3 4 5 6 7 8
Pedestrian Calls	. 2 . 4 . 6 . 8
Yellow Start Overlaps	
Startup All-Red	6.0

Call To Phase (2-1-2-1)	Omit On Green
1	
2	
3	
4	
5	
6	
7	
8	

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	
Yellow Flash Overlap	
Flash In Red Phases	
Flash In Red Overlaps	

Special Operation (2-1-2-3)	
Single Exit Phase	
Driveway Signal Phases	
Driveway Signal Overlaps	
Leading Ped Phases	

Protected Permissive (2-1-2-4)	
Protected Permissive	

Pedestrian (2-1-3)	
P1	
P2	. 2
P3	
P4	... 4 ...
P5	
P6	 6 ..
P7	
P8	 8

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
A				
B				
C				
D				
E				
F				

P H A S E T I M I N G

Phase (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	10	0	10	0	10	0	10
Flash Don't Walk	0	25	0	23	0	17	0	23
Minimum Green	8	6	8	8	8	6	8	6
Det Limit	0	0	0	0	0	0	0	0
Max Initial	0	30	0	0	0	30	0	0
Max Green 1	20	40	30	25	20	40	15	25
Max Green 2	0	0	0	0	0	0	0	0
Max Green 3	0	0	0	0	0	0	0	0
Extension	2.0	5.5	3.0	3.0	2.0	6.0	3.0	6.0
Maximum Gap	2.0	5.5	3.0	3.0	2.0	6.0	3.0	6.0
Minimum Gap	2.0	3.0	3.0	3.0	2.0	3.0	3.0	3.0
Add Per Vehicle	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0
Reduce Gap By	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1
Reduce Every	1.0	0.8	1.0	1.0	1.0	0.8	1.0	0.8
Yellow	3.7	4.4	3.7	3.7	3.7	3.7	3.7	4.4
All-Red	1.0	2.0	2.0	1.0	1.0	2.0	1.0	2.0
Ped/Bike (2-3)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 2 ---	0	0	0	10	0	0	0	10
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A	B	C	D	E	F
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert

Red Revert (2-5)	
Time	5.0
All-Red Sec/Min (2-6)	
All-Red Sec/Min:	OFF

Max 2 Extension

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

		[Offsets]			Green Factors or Press [F] to Select Force-Off											
		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	
Plan 1	Green Factor	110			48			15	33	18	20	15	32	13	20	
Plan 2	Green Factor	110			51			16	30	20	20	15	30	13	20	
Plan 3	Green Factor	130						25	41	20	20	20	45	13	20	
Plan 4	Green Factor															
Plan 5	Green Factor															
Plan 6	Green Factor															
Plan 7	Green Factor															
Plan 8	Green Factor															
Plan 9	Green Factor															

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	. 2 3 . 5 . . 8	. 2 . . . 6 . .			 5 . .			
Plan 2	. 2 3 . 5 . . 8	. 2 . . . 6 . .			 5 . .			
Plan 3	. 2 3 . 5 . . 8	. 2 . . . 6 . .			 5 . .			
Plan 4								
Plan 5								
Plan 6								
Plan 7								
Plan 8								
Plan 9								

Master Timer Sync (7-A)

Enable in Plans	
1-9	
11-19	
21-29	

Master Sub Master	
Input	
Output	

FREE PLAN PHASE FLAGS

(7-E) Free	
Lag	Omit
. 2 . 4 . 6 . 8	
Veh Min	Veh Max
. 2 . . . 6 . .	
Ped	Bike
.....	
Cond	Cond Grn
.....	10

MANUAL COMMANDS

Manual Plan (4-1)		Plan: 1-29
Plan	OffSet	254 = Flash
	A	255 = Free
		Offset A, B, or C

Special Function Override (4-2)			
#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

Local Plan 11...19 (7-2) TIMING DATA

COORDINATION

[Offsets]

Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 11	Green Factor														
Plan 12	Green Factor														
Plan 13	Green Factor														
Plan 14	Green Factor														
Plan 15	Green Factor														
Plan 16	Green Factor														
Plan 17	Green Factor														
Plan 18	Green Factor														
Plan 19	Green Factor														

Local Plan 11...19 (7-2) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 11								
Plan 12								
Plan 13								
Plan 14								
Plan 15								
Plan 16								
Plan 17								
Plan 18								
Plan 19								

Local Plan 21...29 (7-3) TIMING DATA

COORDINATION

[Offsets]

Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 21	Green Factor														
Plan 22	Green Factor														
Plan 23	Green Factor														
Plan 24	Green Factor														
Plan 25	Green Factor														
Plan 26	Green Factor														
Plan 27	Green Factor														
Plan 28	Green Factor														
Plan 29	Green Factor														

Local Plan 21...29 (7-3) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 21								
Plan 22								
Plan 23								
Plan 24								
Plan 25								
Plan 26								
Plan 27								
Plan 28								
Plan 29								

DETECTORS

Detector Attributes (5-1)				Slot	Detector Configuration (5-2)				
Det	Type	Phases	Lock		Det	Delay	Extend	Recall	Port
1	COUNT+CALL+EXTEND	1	NO	I1U	1			10	3.2
2	COUNT+CALL+EXTEND	1	NO	I1L	2			10	7.2
3	CALL+EXTEND	. 2	NO	I2U	3			10	1.1
4	COUNT+CALL+EXTEND	. 2	NO	I2L	4			10	1.5
5	COUNT+CALL+EXTEND	. 2	NO	I3U	5			10	4.5
6	CALL+EXTEND	. 2	NO	I3L	6			10	6.2
7	LIMITED	. 2	NO	I4U	7			10	2.1
8	COUNT+CALL+EXTEND	. 2	NO	I4L	8			10	7.4
9	COUNT+CALL+EXTEND	.. 3	NO	I5U	9			10	3.4
10	COUNT+CALL+EXTEND	.. 3	NO	I5L	10			10	7.6
11	COUNT+CALL+EXTEND	... 4	NO	I6U	11			10	1.3
12	COUNT+CALL+EXTEND	... 4	NO	I6L	12			10	1.7
13	COUNT+CALL+EXTEND	... 4	NO	I7U	13			10	4.7
14	CALL+EXTEND	... 4	NO	I7L	14			10	6.4
15	LIMITED	... 4	NO	I8U	15			10	2.3
16	COUNT+CALL+EXTEND	... 4	NO	I8L	16			10	7.8
17	COUNT+CALL+EXTEND	1	NO	I9U	17			10	3.6
18	COUNT+CALL+EXTEND	.. 3	NO	I9L	18			10	3.8
19	COUNT+CALL+EXTEND	. 2	NO	I10U	19			10	4.1
20	COUNT+CALL+EXTEND	... 4	NO	I10L	20			10	4.2
21	COUNT+CALL+EXTEND	 5 ...	NO	J1U	21			10	3.1
22	COUNT+CALL+EXTEND	 5 ...	NO	J1L	22			10	7.1
23	CALL+EXTEND	 6 ..	NO	J2U	23			10	1.2
24	COUNT+CALL+EXTEND	 6 ..	NO	J2L	24			10	1.6
25	COUNT+CALL+EXTEND	 6 ..	NO	J3U	25			10	4.6
26	CALL+EXTEND	 6 ..	NO	J3L	26			10	6.3
27	LIMITED	 6 ..	NO	J4U	27			10	2.2
28	COUNT+CALL+EXTEND	 6 ..	NO	J4L	28			10	7.3
29	COUNT+CALL+EXTEND	 7 .	NO	J5U	29			10	3.3
30	COUNT+CALL+EXTEND	 7 .	NO	J5L	30			10	7.5
31	COUNT+CALL+EXTEND	1	NO	J6U	31			10	1.4
32	COUNT+CALL+EXTEND	 8	NO	J6L	32			10	1.8
33	CALL+EXTEND	1	NO	J7U	33			10	4.8
34	CALL+EXTEND	 8	NO	J7L	34			10	6.5
35	LIMITED	 8	NO	J8U	35			10	2.4
36	COUNT+CALL+EXTEND	 8	NO	J8L	36			10	7.7
37	COUNT+CALL+EXTEND	 5 ...	NO	J9U	37			10	3.5
38	COUNT+CALL+EXTEND	 7 .	NO	J9L	38			10	3.7
39	COUNT+CALL+EXTEND	 6 ..	NO	J10U	39			10	4.3
40	COUNT+CALL+EXTEND	 8	NO	J10L	40			10	4.4
41	PEDESTRIAN	. 2	NO	I12U	41			10	5.1
42	PEDESTRIAN	... 4	NO	I12L	42			10	5.3
43	PEDESTRIAN	 6 ..	NO	I13U	43			10	5.2
44	PEDESTRIAN	 8	NO	I13L	44			10	5.4

Failure Times(5-3)	Minutes
Maximum On Time	
Fail Reset Time	

Failure Override (5-4)	
Detectors 1-8	
Detectors 9-16	
Detectors 17-24	
Detectors 25-32	
Detectors 33-40	
Detectors 41-44	

System Detector Assignment (5-5)								
Sys Det	1	2	3	4	5	6	7	8
Det Num								
Sys Det	9	10	11	12	13	14	15	16
Det Num								

CIC Operation (5-6-1)	
Enable in Plans	

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.00	

Detector-to-Phase Assignment (5-6-3)								
Sys Det	1	2	3	4	5	6	7	8
Phase								
Sys Det	9	10	11	12	13	14	15	16
Phase								

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1)			Table 2 (8-2-2)			Table 3 (8-2-3)			Table 4 (8-2-4)			Table 5 (8-2-5)			Table 6 (8-2-6)		
Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS
0700	2	A			A			A			A			A			A
1000	3	A			A			A			A			A			A
1830	255	A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	1	1

HOLIDAY TABLES

Floating Holiday Table (8-2-8)

#	Mnth	Week	DOW	Table
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

Daylight Saving (8-1)

Enabl	YES	Month	Sunday
		Start	MAR 2nd
		End	NOV 1st

Solar Clock Data (8-4)

North Latitude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)

Hebrew	Ped Recall
Sabbath	
Holiday	

TOD FUNCTIONS

TOD Functions (8-3)

#	Start	End	DOW	Action	Phases
1	0700	1830	MTWTFSS	16	... 4 ... 8
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Action Codes:

- 0. None
- 1. Permitted
- 2. Restricted
- 4. Veh Min Recall
- 5. Veh Max Recall
- 6. Ped Recall
- 7. Bike Recall
- 8. Red Lock
- 9. Yellow Lock
- 10. Force/Max Lock
- 11. Double Entry
- 12. Y-Coord C
- 13. Y-Coord D
- 14. Free
- 15. Flashing
- 16. Walk 2
- 17. Max Green 2

- 18. Max Green 3
- 19. Rest in Walk
- 20. Rest in Red
- 21. Free Lag Phases
- 22. Special Functions
- 23. Truck Preempt
- 24. Conditional Service
- 25. Conditional Service
- 26. Leading Ped
- 27. Traffic Actuated Max 2
- 41. Protected Permissive
- 42. Protected Permissive

Action Code = Phases added to normal setting

100+Action Code = Phases removed

200+Action Code = Phases replaced

COMMUNICATIONS

C2 (6-1-1)	
Address	2
Protocol	AB3418
Access Level	0
Baud	9600
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C20 (6-1-2)	
Address	
Protocol	AB3418
Access Level	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C21 (6-1-3)	
Address	
Protocol	AB3418
Access Level	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

Access Levels:

- 0-Full Access
- 1-Status Only
- 2-Status, Set Pattern, Time
- 3-Status, Set Pattern, Time, Manual Plan
- 4-Reserved
- 5-Full Access with No Set Pattern
- 6-Full Access with No Set Time
- 7-Full Access with No Set Pattern, Manual Plan
- 8-Full Access with No Set Time, Pattern, Manual Plan

SOFT LOGIC

Soft Logic (6-2)							
#	Data	OP	Data	OP	Data	OP	Data
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

*Refer to User's Manual for Data and OP Codes

CALLBACK NUMBERS

Callback Numbers (6-3...3)	
Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

NETWORK

Network (6-4)	
Address	
Protocol	AB3418
Port	27000
Type	STATIC
Central Access	0
Field Access	0

IP Address	0	.	0	.	0	.	0
Netmask	255	.	255	.	255	.	0
Broadcast	0	.	0	.	0	.	255
Gateway	0	.	0	.	0	.	254

RAILROAD PREEMPTION

RR 1	(3-1-1)	Timing	Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
	Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
	Clear 1	10	. 2 . . 5 . .					. 2 . 4 . 6 . 8			
	Clear 2										
	Clear 3										
	Hold				1 2 3 4 5 6 7 8						A B C D E F
	Exit	5	Exit Parameters (3-1-5)				Configuration (3-1-6)				
	Min Grn		Phase Green	Overlap Green	Vehicle Call	Ped Call	PR 1	PR 2	Latching	Power-Up	
	Ped Clr				1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8	2.5	0.0	YES	FLASHING	

RR 2	(3-2-1)	Timing	Phase Flags (3-2-2)			Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
	Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
	Clear 1	10	. . . 4 . . 7 .					. 2 . 4 . 6 . 8			
	Clear 2										
	Clear 3										
	Hold		1 2 3 . . 6 . .			. 2 . . . 6 . .		. . . 4 . . . 8			
	Exit		Exit Parameters (3-2-5)				Configuration (3-2-6)				
	Min Grn		Phase Green	Overlap Green	Vehicle Call	Ped Call	PR 1	PR 2	Latching	Power-up	
	Ped Clr				. . . 4 . . 7 .		2.6	0.0	YES	DARK	

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		5	255	. 2 . . 5 . .	
	Port	Latching	Phase Termination		
	5.5	NO	ADVANCE		

EVB (3-B)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		5	255	. . . 4 . . 7 .	
	Port	Latching	Phase Termination		
	5.6	NO	ADVANCE		

EVC (3-C)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		5	255	1 6 . .	
	Port	Latching	Phase Termination		
	5.7	NO	ADVANCE		

EVD (3-D)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		5	255	. . 3 8	
	Port	Latching	Phase Termination		
	5.8	NO	ADVANCE		

INPUTS

		7 Wire I/C (2-1-5-1)			
		Input	Port	Input	Port
Enable	NO	R1	3.8	Free	3.6
Max ON		R2	3.5	D2	2.8
Max OFF		R3	3.7	D3	6.1

Manual Control (2-1-5-2)	
Input	Port
Manual Advance	
Advance Enable	

Battery Backup (2-1-5-5)	
Port	Operation
2.7	FLASHING

Y-Coordination (2-1-5-6)	
Port C	Port D
6.1	2.8

Cabinet Status (2-1-5-3)	
Input	Port
Flash Bus	
Door Ajar	
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	
2	
3	
4	

OUTPUTS

Loadswitch Assignments (2-1-6)								+
A	1	2	22	3	4	24	9	
B	5	6	26	7	8	28	10	
X	13	14	0	11	12	0	0	

Loadswitch Codes:

0 Unused (no output)

1-8 Vehicle 1-8

9-14 Overlap A-F

21-28 Ped 1-8

41-47 Special Functions

41 Protected Permissive Flashing Phase 1

43 Protected Permissive Flashing Phase 3

45 Protected Permissive Flashing Phase 5

47 Protected Permissive Flashing Phase 7

51-57 Special Functions

71-72 Seven Wire I/C

+ middle output of
loadswitches 3 and 6
Channel 9 and 10

TRANSIT PRIORITY

Local Plans (3-E) 1...9 11...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor											
Plan 2	Green Factor											
Plan 3	Green Factor											
Plan 4	Green Factor											
Plan 5	Green Factor											
Plan 6	Green Factor											
Plan 7	Green Factor											
Plan 8	Green Factor											
Plan 9	Green Factor											
Plan 11	Green Factor											
Plan 12	Green Factor											
Plan 13	Green Factor											
Plan 14	Green Factor											
Plan 15	Green Factor											
Plan 16	Green Factor											
Plan 17	Green Factor											
Plan 18	Green Factor											
Plan 19	Green Factor											

Transit Priority Configuration (3-E-A)		Indicator Output			
Enable in Plans	Input	Type	Stop	Go	
Plan 1-9		0.0	NONE	0	0
Plan 11-19		0.0	NONE	0	0

Queue Jump (3-E-B)	
Grn Hold	Hold Phase
	
	

Free Plans (3-E-E)	
Max Grn Hold	Hold Phase
	

Access Utilities (9-5)	
Password	***
Timeout	120

YELLOW YIELD COORDINATION

					Force-Offs											
Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	Coord	Lag	Min Recall	Restricted
Plan C													. 2 . . . 6 . .	. 2 . 4 . 6 . 8		
Plan D													. 2 . . . 6 . .	. 2 . 4 . 6 . 8		

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
						0.0	0.0	0.0	0	0.0	0

Location: Rte 86 @ K Street

System:

District: 11

Designed By:

Master At: N/A STANDALONE CTSCP

I/C: 1st, Malan

Installed By:

Service Info:

Timing Change:

Date Start:

Date End:

Designed:

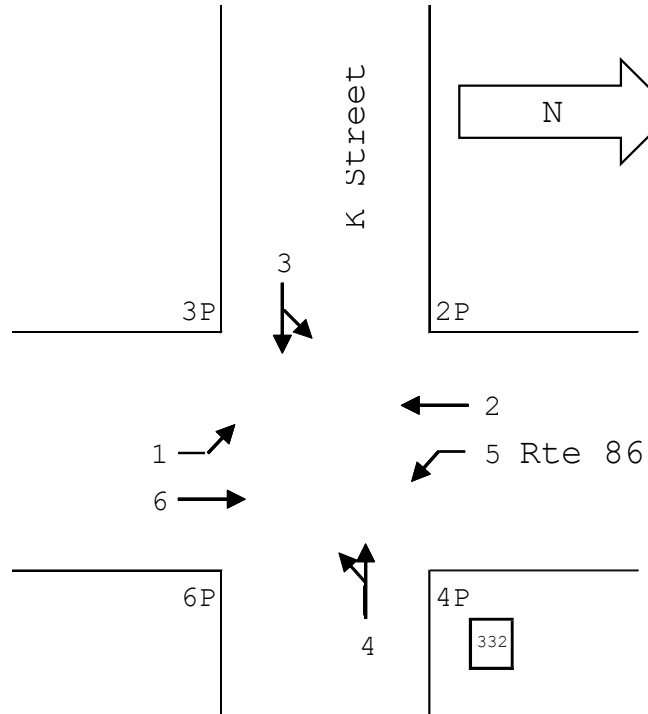
Installed:

3/22/2021

3/31/2021

		FLASH
1) NB Left from Rte 86 to K St	[]	
P 2) SB Thru at Rte 86	[]	
H 3) EB thru & left from K St to Rte 86	[]	
A 4) WB thru & left from K St to Rte 86	[]	
S 5) SB Left from Rte 86 to K St	[]	
E 6) NB Thru at Rte 86	[]	
7)	[]	
8)	[]	
O A)	[]	
V B)	[]	
E C)	[]	
R D)	[]	
L E)	[]	
A F)	[]	
P		

Intersection Layout



Comments and Notes:

FZ 2 PED 72', FZ 3 PED 97', FZ 4 PED 96', FZ 6 PED 58'

FZ 1 BIKE 70', FZ 2 BIKE 95', FZ 3 BIKE 105', FZ 4 BIKE 100', FZ 5 BIKE 60', FZ 6 BIKE 70'

RAM Checksum

Page 2: E564	Page 8: 85AF
Page 3: 3CD3	Page 9: D2FD
Page 4: F29E	Page 10: 97CC
Page 5: 191A	Page 11: 7D1C
Page 6: 191A	Page 12: 7F42
Page 7: 6181	Page 13: 80C7

CONFIGURATION PHASE FLAGS

Cabinet (9-3)
332
Configuration
CALTRANS

Phases (2-1-1-1)							
Permitted	1	2	3	4	5	6	..
Restricted	..	..	..	..	..	..	..

Phase Features (2-1-1-4)	
Double Entry	
Rest In Walk	
Rest In Red	
Walk 2	
Max Green 2	
Max Green 3	

Startup (2-1-1-5)	
First Green Phases	. 2 . . . 6 . .
Yellow Start Phases	
Vehicle Calls	1 2 3 4 5 6 . .
Pedestrian Calls	. 2 3 4 . 6 . .
Yellow Start Overlaps	
Startup All-Red	6.0

Phase Recalls (2-1-1-2)	
Vehicle Min	. 2 . . . 6 . .
Vehicle Max	
Pedestrian	
Bicycle	

Phase Locks (2-1-1-3)	
Red	. . . 4
Yellow	
Force/Max	

Call To Phase (2-1-2-1)		Omit On Green	
1		1	
2		2	
3		3	
4		4	
5		5	
6		6	
7		7	
8		8	

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	
Yellow Flash Overlap	
Flash In Red Phases	
Flash In Red Overlaps	

Special Operation (2-1-2-3)	
Single Exit Phase	
Driveway Signal Phases	
Driveway Signal Overlaps	
Leading Ped Phases	

Protected Permissive (2-1-2-4)	
Protected Permissive	

Pedestrian (2-1-3)	
P1	
P2	. 2
P3	. . 3
P4	. . . 4
P5	
P6	 6 . .
P7	
P8	

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
A				
B				
C				
D				
E				
F				

P H A S E T I M I N G

Phase (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	12	12	12	0	12	0	10
Flash Don't Walk	0	21	28	27	0	17	0	10
Minimum Green	7	8	8	8	6	6	10	10
Det Limit	0	0	0	0	0	0	10	10
Max Initial	0	30	0	0	0	30	10	10
Max Green 1	20	50	28	28	20	50	50	50
Max Green 2	0	0	0	0	0	0	50	50
Max Green 3	0	0	0	0	0	0	50	50
Extension	2.0	6.0	4.0	4.0	2.0	6.0	5.0	5.0
Maximum Gap	2.0	6.0	4.0	4.0	2.0	6.0	5.0	5.0
Minimum Gap	2.0	3.0	4.0	4.0	2.0	3.0	5.0	5.0
Add Per Vehicle	0.0	2.0	0.0	0.0	0.0	2.0	1.0	1.0
Reduce Gap By	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
Reduce Every	1.0	0.8	1.0	1.0	1.0	0.8	1.0	1.0
Yellow	3.7	4.4	3.7	3.7	3.7	4.4	5.0	5.0
All-Red	1.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0
Ped/Bike (2-3)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A	B	C	D	E	F
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert

Red Revert (2-5)	
Time	5.0
All-Red Sec/Min (2-6)	
All-Red Sec/Min:	OFF

Max 2 Extension

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets]

Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor														
Plan 2	Green Factor														
Plan 3	Green Factor														
Plan 4	Green Factor														
Plan 5	Green Factor														
Plan 6	Green Factor														
Plan 7	Green Factor														
Plan 8	Green Factor														
Plan 9	Green Factor														

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1								
Plan 2								
Plan 3								
Plan 4								
Plan 5								
Plan 6								
Plan 7								
Plan 8								
Plan 9								

Master Timer Sync (7-A)

Enable in Plans

1-9	
11-19	
21-29	

Master Sub Master

Input

Output

FREE PLAN PHASE FLAGS

(7-E) Free	
Lag	Omit
. 2 . 4 . 6 . 8	
Veh Min	Veh Max
. 2 ... 6 ..	
Ped	Bike
.....	
Cond	Cond Grn
.....	10

MANUAL COMMANDS

Manual Plan (4-1)		Plan: 1-29
Plan	Offset	254 = Flash
		255 = Free
	A	Offset A, B, or C

Special Function Override (4-2)			
#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset (4-3)

Local Manual (4-4) OFF

Local Plan 11...19 (7-2) TIMING DATA**COORDINATION**

[Offsets]

Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 11	Green Factor														
Plan 12	Green Factor														
Plan 13	Green Factor														
Plan 14	Green Factor														
Plan 15	Green Factor														
Plan 16	Green Factor														
Plan 17	Green Factor														
Plan 18	Green Factor														
Plan 19	Green Factor														

Local Plan 11...19 (7-2) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 11								
Plan 12								
Plan 13								
Plan 14								
Plan 15								
Plan 16								
Plan 17								
Plan 18								
Plan 19								

Local Plan 21...29 (7-3) TIMING DATA**COORDINATION**

[Offsets]

Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 21	Green Factor														
Plan 22	Green Factor														
Plan 23	Green Factor														
Plan 24	Green Factor														
Plan 25	Green Factor														
Plan 26	Green Factor														
Plan 27	Green Factor														
Plan 28	Green Factor														
Plan 29	Green Factor														

Local Plan 21...29 (7-3) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 21								
Plan 22								
Plan 23								
Plan 24								
Plan 25								
Plan 26								
Plan 27								
Plan 28								
Plan 29								

DETECTORS

Detector Attributes (5-1)				Slot	Detector Configuration (5-2)				
Det	Type	Phases	Lock		Det	Delay	Extend	Recall	Port
1	COUNT+CALL+EXTEND	1	NO	I1U	1			10	3.2
2	COUNT+CALL+EXTEND	1	NO	I1L	2			10	7.2
3	COUNT+CALL+EXTEND	. 2	NO	I2U	3			10	1.1
4	COUNT+CALL+EXTEND	. 2	NO	I2L	4			10	1.5
5	CALL+EXTEND	. 2	NO	I3U	5			10	4.5
6	CALL+EXTEND	. 2	NO	I3L	6			10	6.2
7	CALL+EXTEND	. 2	NO	I4U	7			10	2.1
8	CALL+EXTEND	. 2	NO	I4L	8			10	7.4
9	COUNT+CALL+EXTEND	.. 3	NO	I5U	9			10	3.4
10	COUNT+CALL+EXTEND	.. 3	NO	I5L	10			10	7.6
11	COUNT+CALL+EXTEND	... 4	NO	I6U	11			10	1.3
12	COUNT+CALL+EXTEND	... 4	NO	I6L	12	15		10	1.7
13	CALL+EXTEND	... 4	NO	I7U	13			10	4.7
14	CALL+EXTEND	... 4	NO	I7L	14			10	6.4
15	LIMITED	... 4	NO	I8U	15			10	2.3
16	COUNT+CALL+EXTEND	... 4	NO	I8L	16			10	7.8
17	COUNT+CALL+EXTEND	1	NO	I9U	17			10	3.6
18	CALL+EXTEND	1	NO	I9L	18			10	3.8
19	COUNT+CALL+EXTEND	. 2	NO	I10U	19			10	4.1
20	COUNT+CALL+EXTEND	... 4	NO	I10L	20			10	4.2
21	CALL+EXTEND	 6 ..	NO	J1U	21			10	3.1
22	CALL+EXTEND	 6 ..	NO	J1L	22			10	7.1
23	COUNT+CALL+EXTEND	 6 ..	NO	J2U	23			10	1.2
24	COUNT+CALL+EXTEND	 6 ..	NO	J2L	24			10	1.6
25	CALL+EXTEND	 6 ..	NO	J3U	25			10	4.6
26	CALL+EXTEND	 6 ..	NO	J3L	26			10	6.3
27	CALL+EXTEND	 6 ..	NO	J4U	27			10	2.2
28	CALL+EXTEND	 6 ..	NO	J4L	28			10	7.3
29	COUNT+CALL+EXTEND	 7 .	NO	J5U	29			10	3.3
30	COUNT+CALL+EXTEND	 7 .	NO	J5L	30			10	7.5
31	COUNT+CALL+EXTEND	.. 3	NO	J6U	31			10	1.4
32	COUNT+CALL+EXTEND	.. 3	NO	J6L	32			10	1.8
33	CALL+EXTEND	.. 3	NO	J7U	33			10	4.8
34	CALL+EXTEND	.. 3	NO	J7L	34			10	6.5
35	LIMITED	 8	NO	J8U	35			10	2.4
36	COUNT+CALL+EXTEND	 8	NO	J8L	36			10	7.7
37	COUNT+CALL+EXTEND	 5 ...	NO	J9U	37			10	3.5
38	CALL+EXTEND	 5 ...	NO	J9L	38			10	3.7
39	COUNT+CALL+EXTEND	 6 ..	NO	J10U	39			10	4.3
40	COUNT+CALL+EXTEND	 8	NO	J10L	40			10	4.4
41	PEDESTRIAN	. 2	NO	I12U	41			10	5.1
42	PEDESTRIAN	... 4	NO	I12L	42			10	5.3
43	PEDESTRIAN	 6 ..	NO	I13U	43			10	5.2
44	PEDESTRIAN	.. 3	NO	I13L	44			10	5.4

Failure Times(5-3)	Minutes
Maximum On Time	
Fail Reset Time	

Failure Override (5-4)	
Detectors 1-8	
Detectors 9-16	
Detectors 17-24	
Detectors 25-32	
Detectors 33-40	
Detectors 41-44	

System Detector Assignment (5-5)								
Sys Det	1	2	3	4	5	6	7	8
Det Num								
Sys Det	9	10	11	12	13	14	15	16
Det Num								

CIC Operation (5-6-1)	
Enable in Plans	

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.00	

Detector-to-Phase Assignment (5-6-3)								
Sys Det	1	2	3	4	5	6	7	8
Phase								
Sys Det	9	10	11	12	13	14	15	16
Phase								

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1)			Table 2 (8-2-2)			Table 3 (8-2-3)			Table 4 (8-2-4)			Table 5 (8-2-5)			Table 6 (8-2-6)		
Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

HOLIDAY TABLES**Floating Holiday Table (8-2-8)**

#	Mnth	Week	DOW	Table
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

Daylight Saving (8-1)

Enabl	YES	Month	Sunday
	Start	MAR	2nd
	End	NOV	1st

Solar Clock Data (8-4)

North Latitude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)

Hebrew	Ped Recall
Sabbath	
Holiday	

TOD FUNCTIONS**TOD Functions (8-3)**

#	Start	End	DOW	Action	Phases
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Action Codes:

- 0. None
- 1. Permitted
- 2. Restricted
- 4. Veh Min Recall
- 5. Veh Max Recall
- 6. Ped Recall
- 7. Bike Recall
- 8. Red Lock
- 9. Yellow Lock
- 10. Force/Max Lock
- 11. Double Entry
- 12. Y-Coord C
- 13. Y-Coord D
- 14. Free
- 15. Flashing
- 16. Walk 2
- 17. Max Green 2

- 18. Max Green 3
- 19. Rest in Walk
- 20. Rest in Red
- 21. Free Lag Phases
- 22. Special Functions
- 23. Truck Preempt
- 24. Conditional Service
- 25. Conditional Service
- 26. Leading Ped
- 27. Traffic Actuated Max 2
- 41. Protected Permissive
- 42. Protected Permissive

Action Code = Phases added to normal setting

100+Action Code = Phases removed

200+Action Code = Phases replaced

COMMUNICATIONS

C2 (6-1-1)	
Address	
Protocol	AB3418
Access Level	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C20 (6-1-2)	
Address	
Protocol	AB3418
Access Level	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C21 (6-1-3)	
Address	
Protocol	AB3418
Access Level	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

Access Levels:

- 0-Full Access
- 1-Status Only
- 2-Status, Set Pattern, Time
- 3-Status, Set Pattern, Time, Manual Plan
- 4-Reserved
- 5-Full Access with No Set Pattern
- 6-Full Access with No Set Time
- 7-Full Access with No Set Pattern, Manual Plan
- 8-Full Access with No Set Time, Pattern, Manual Plan

SOFT LOGIC

Soft Logic (6-2)							
#	Data	OP	Data	OP	Data	OP	Data
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

*Refer to User's Manual for Data and OP Codes

CALLBACK NUMBERS

Callback Numbers (6-3...3)	
Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	
Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	
Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

NETWORK

Network (6-4)	
Address	1
Protocol	AB3418
Port	27000
Type	STATIC
Central Access	0
Field Access	0

IP Address	10	253	93	83
Netmask	255	255	255	0
Broadcast	10	253	93	255
Gateway	10	253	93	254

RAILROAD PREEMPTION

RR 1	(3-1-1)	Timing	Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
	Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
	Clear 1	10	. 2 . . 5 . .					. 2 . 4 . 6 . 8			
	Clear 2										
	Clear 3										
	Hold				1 2 3 4 5 6 7 8						A B C D E F
	Exit	5	Exit Parameters (3-1-5)				Configuration (3-1-6)				
	Min Grn		Phase Green	Overlap Green	Vehicle Call	Ped Call	PR 1	PR 2	Latching	Power-Up	
	Ped Clr				1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8	2.5	0.0	YES	FLASHING	

RR 2	(3-2-1)	Timing	Phase Flags (3-2-2)			Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
	Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
	Clear 1	10	. . . 4 . . 7 .					. 2 . 4 . 6 . 8			
	Clear 2										
	Clear 3										
	Hold		1 2 3 . . 6 . .			. 2 . . . 6 . .		. . . 4 . . . 8			
	Exit		Exit Parameters (3-2-5)				Configuration (3-2-6)				
	Min Grn		Phase Green	Overlap Green	Vehicle Call	Ped Call	PR 1	PR 2	Latching	Power-up	
	Ped Clr				. . . 4 . . 7 .		2.6	0.0	YES	DARK	

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		5	255	. 2 . . 5 . .	
	Port	Latching	Phase Termination		
	5.5	NO	ADVANCE		

EVB (3-B)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		5	255	. . . 4 . . .	
	Port	Latching	Phase Termination		
	5.6	NO	ADVANCE		

EVC (3-C)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		5	255	1 6 . .	
	Port	Latching	Phase Termination		
	5.7	NO	ADVANCE		

EVD (3-D)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		5	255	. . 3	
	Port	Latching	Phase Termination		
	5.8	NO	ADVANCE		

INPUTS

7 Wire I/C (2-1-5-1)					
		Input	Port	Input	Port
Enable	NO	R1	3.8	Free	3.6
Max ON		R2	3.5	D2	2.8
Max OFF		R3	3.7	D3	6.1

Manual Control (2-1-5-2)	
Input	Port
Manual Advance	
Advance Enable	

Battery Backup (2-1-5-5)	
Port	Operation
2.7	FLASHING

Y-Coordination (2-1-5-6)	
Port C	Port D
6.1	2.8

Cabinet Status (2-1-5-3)	
Input	Port
Flash Bus	
Door Ajar	
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	
2	
3	
4	

OUTPUTS

Loadswitch Assignments (2-1-6)								+
A	1	2	22	3	4	24	9	
B	5	6	26	7	8	23	10	
X	13	14	0	11	12	0	0	

Loadswitch Codes:

0 Unused (no output)

1-8 Vehicle 1-8

9-14 Overlap A-F

21-28 Ped 1-8

41-47 Special Functions

41 Protected Permissive Flashing Phase 1

43 Protected Permissive Flashing Phase 3

45 Protected Permissive Flashing Phase 5

47 Protected Permissive Flashing Phase 7

51-57 Special Functions

71-72 Seven Wire I/C

+ middle output of
loadswitches 3 and 6
Channel 9 and 10

TRANSIT PRIORITY

Local Plans (3-E) 1...9 11...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor											
Plan 2	Green Factor											
Plan 3	Green Factor											
Plan 4	Green Factor											
Plan 5	Green Factor											
Plan 6	Green Factor											
Plan 7	Green Factor											
Plan 8	Green Factor											
Plan 9	Green Factor											
Plan 11	Green Factor											
Plan 12	Green Factor											
Plan 13	Green Factor											
Plan 14	Green Factor											
Plan 15	Green Factor											
Plan 16	Green Factor											
Plan 17	Green Factor											
Plan 18	Green Factor											
Plan 19	Green Factor											

Transit Priority Configuration (3-E-A)		Indicator Output			
Enable in Plans	Input	Type	Stop	Go	
Plan 1-9		0.0	NONE	0	0
Plan 11-19		0.0	NONE	0	0

Queue Jump (3-E-B)	
Grn Hold	Hold Phase
	
	

Free Plans (3-E-E)	
Max Grn Hold	Hold Phase
	

Access Utilities (9-5)	
Password	***
Timeout	120

YELLOW YIELD COORDINATION

					Force-Offs											
Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	Coord	Lag	Min Recall	Restricted
Plan C													. 2 . . . 6 . .	. 2 . 4 . 6 . 8		
Plan D													. 2 . . . 6 . .	. 2 . 4 . 6 . 8		

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
						0.0	0.0	0.0	0	0.0	0

Location: Rte 86 @ Malan St

System:

District: 11

Designed By:

Master At: N/A STANDALONE CTSCP

I/C: K st

Installed By:

Service Info:

Timing Change:

Date Start:

Date End:

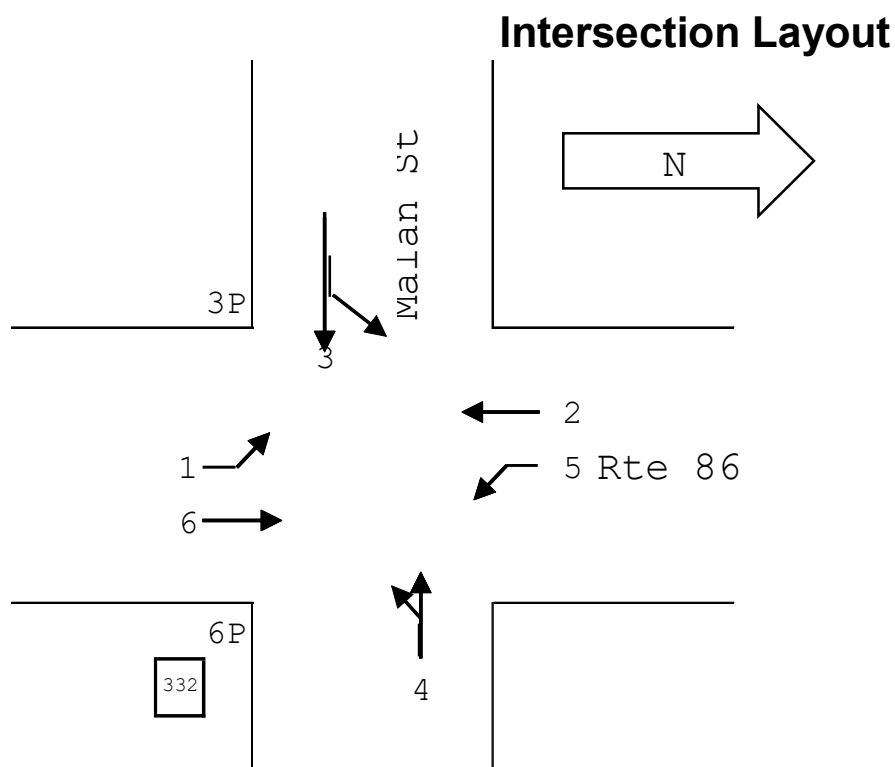
Designed:

Installed:

3/22/2021

3/31/2021

		FLASH
1) NB left from Rte 86 @ Malan St		
P 2) SB Thru at Rte 86		
H 3) EB Thru & left from Malan to Rte 86		
A 4) WB Thru & left from Malan to Rte 86		
S 5) SB left from Re 86 @ Malan St		
E 6) NB Thru at Rte 86		
7)		
8)		
O A)		
V B)		
E C)		
R D)		
L E)		
A F)		
P		



Comments and Notes:

FZ 3 PED 84', FZ 6 PED 67'

FZ 1 BIKE 80', FZ 2 BIKE 90', FZ 3 BIKE 80', FZ 4 BIKE 80', FZ 5 BIKE 100', FZ 6 BIKE 70'

RAM Checksum

Page 2: 274D	Page 8: 85AF
Page 3: 9266	Page 9: D2FD
Page 4: F29E	Page 10: 4787
Page 5: 191A	Page 11: 7D1C
Page 6: 191A	Page 12: 7F42
Page 7: 2CFE	Page 13: 80C7

CONFIGURATION PHASE FLAGS

Cabinet (9-3)
332
Configuration
CALTRANS

Phases (2-1-1-1)	
Permitted	1 2 3 4 5 6 ..
Restricted	

Phase Recalls (2-1-1-2)	
Vehicle Min	. 2 ... 6 ..
Vehicle Max	
Pedestrian	
Bicycle	

Phase Locks (2-1-1-3)	
Red	1
Yellow	
Force/Max	

Phase Features (2-1-1-4)	
Double Entry	
Rest In Walk	
Rest In Red	
Walk 2	
Max Green 2	
Max Green 3	

Startup (2-1-1-5)	
First Green Phases	. 2 ... 6 ..
Yellow Start Phases	
Vehicle Calls	1 2 3 4 5 6 ..
Pedestrian Calls	.. 3 .. 6 ..
Yellow Start Overlaps	
Startup All-Red	6.0

Call To Phase (2-1-2-1)		Omit On Green	
1		1	
2		2	
3		3	
4		4	
5		5	
6		6	
7		7	
8		8	

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	
Yellow Flash Overlap	
Flash In Red Phases	
Flash In Red Overlaps	

Special Operation (2-1-2-3)	
Single Exit Phase	
Driveway Signal Phases	
Driveway Signal Overlaps	
Leading Ped Phases	

Protected Permissive (2-1-2-4)	
Protected Permissive	

Pedestrian (2-1-3)	
P1	
P2	
P3	.. 3 ..
P4	
P5	
P6	 6 ..
P7	
P8	

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
A				
B				
C				
D				
E				
F				

P H A S E T I M I N G

Phase (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	0	7	0	0	7	0	10
Flash Don't Walk	0	0	24	0	0	19	0	10
Minimum Green	7	10	7	7	9	10	10	10
Det Limit	0	0	0	0	0	0	10	10
Max Initial	0	30	0	0	0	30	10	10
Max Green 1	20	50	30	30	20	50	50	50
Max Green 2	0	0	0	0	0	0	50	50
Max Green 3	0	0	0	0	0	0	50	50
Extension	2.0	6.0	3.0	3.0	2.0	6.0	5.0	5.0
Maximum Gap	2.0	6.0	3.0	3.0	2.0	6.0	5.0	5.0
Minimum Gap	2.0	3.0	3.0	3.0	2.0	3.0	5.0	5.0
Add Per Vehicle	0.0	2.0	0.0	0.0	0.0	2.0	1.0	1.0
Reduce Gap By	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
Reduce Every	1.0	0.8	1.0	1.0	1.0	0.8	1.0	1.0
Yellow	3.7	4.4	3.7	3.7	3.7	4.4	5.0	5.0
All-Red	1.0	2.0	1.0	1.0	1.0	2.0	1.0	1.0
Ped/Bike (2-3)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A	B	C	D	E	F
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert

Red Revert (2-5)	
Time	5.0
All-Red Sec/Min (2-6)	
All-Red Sec/Min:	OFF

Max 2 Extension

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

Local Plan 1...9 (7-1) TIMING DATA**COORDINATION**

[Offsets]

Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor														
Plan 2	Green Factor														
Plan 3	Green Factor														
Plan 4	Green Factor														
Plan 5	Green Factor														
Plan 6	Green Factor														
Plan 7	Green Factor														
Plan 8	Green Factor														
Plan 9	Green Factor														

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1								
Plan 2								
Plan 3								
Plan 4								
Plan 5								
Plan 6								
Plan 7								
Plan 8								
Plan 9								

Master Timer Sync (7-A)**Enable in Plans**

1-9	
11-19	
21-29	

Master Sub Master

Input

Output

FREE PLAN PHASE FLAGS

(7-E) Free	
Lag	Omit
. 2 . 4 . 6 . 8	
Veh Min	Veh Max
. 2 ... 6 ..	
Ped	Bike
.....	
Cond	Cond Grn
.....	10

MANUAL COMMANDS**Manual Plan (4-1)**

Plan

Offset

Plan: 1-29

254 = Flash

255 = Free

Offset A, B, or C

Special Function Override (4-2)

#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset

(4-3)

Local Manual (4-4)

OFF

Local Plan 11...19 (7-2) TIMING DATA**COORDINATION**

[Offsets]

Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 11	Green Factor														
Plan 12	Green Factor														
Plan 13	Green Factor														
Plan 14	Green Factor														
Plan 15	Green Factor														
Plan 16	Green Factor														
Plan 17	Green Factor														
Plan 18	Green Factor														
Plan 19	Green Factor														

Local Plan 11...19 (7-2) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 11								
Plan 12								
Plan 13								
Plan 14								
Plan 15								
Plan 16								
Plan 17								
Plan 18								
Plan 19								

Local Plan 21...29 (7-3) TIMING DATA**COORDINATION**

[Offsets]

Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 21	Green Factor														
Plan 22	Green Factor														
Plan 23	Green Factor														
Plan 24	Green Factor														
Plan 25	Green Factor														
Plan 26	Green Factor														
Plan 27	Green Factor														
Plan 28	Green Factor														
Plan 29	Green Factor														

Local Plan 21...29 (7-3) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 21								
Plan 22								
Plan 23								
Plan 24								
Plan 25								
Plan 26								
Plan 27								
Plan 28								
Plan 29								

DETECTORS

Detector Attributes (5-1)				Slot	Detector Configuration (5-2)				
Det	Type	Phases	Lock		Det	Delay	Extend	Recall	Port
1	CALL+EXTEND	. 2	NO	I1U	1			10	3.2
2	CALL+EXTEND	. 2	NO	I1L	2			10	7.2
3	COUNT+CALL+EXTEND	. 2	NO	I2U	3			10	1.1
4	COUNT+CALL+EXTEND	. 2	NO	I2L	4			10	1.5
5	CALL+EXTEND	. 2	NO	I3U	5			10	4.5
6	CALL+EXTEND	. 2	NO	I3L	6			10	6.2
7	CALL+EXTEND	. 2	NO	I4U	7			10	2.1
8	CALL+EXTEND	. 2	NO	I4L	8			10	7.4
9	COUNT+CALL+EXTEND	. . 3	NO	I5U	9			10	3.4
10	COUNT+CALL+EXTEND	. . 3	NO	I5L	10			10	7.6
11	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I6U	11			10	1.3
12	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I6L	12			10	1.7
13	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I7U	13			10	4.7
14	CALL+EXTEND	. . . 4 . . .	NO	I7L	14			10	6.4
15	LIMITED	. . . 4 . . .	NO	I8U	15			10	2.3
16	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I8L	16			10	7.8
17	COUNT+CALL+EXTEND	1	NO	I9U	17	2		10	3.6
18	COUNT+CALL+EXTEND	1	NO	I9L	18			10	3.8
19	COUNT+CALL+EXTEND	. 2	NO	I10U	19			10	4.1
20	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I10L	20			10	4.2
21	CALL+EXTEND	 6 . .	NO	J1U	21			10	3.1
22	CALL+EXTEND	 6 . .	NO	J1L	22			10	7.1
23	COUNT+CALL+EXTEND	 6 . .	NO	J2U	23			10	1.2
24	COUNT+CALL+EXTEND	 6 . .	NO	J2L	24			10	1.6
25	CALL+EXTEND	 6 . .	NO	J3U	25			10	4.6
26	CALL+EXTEND	 6 . .	NO	J3L	26			10	6.3
27	CALL+EXTEND	 6 . .	NO	J4U	27			10	2.2
28	CALL+EXTEND	 6 . .	NO	J4L	28			10	7.3
29	COUNT+CALL+EXTEND	 7 .	NO	J5U	29			10	3.3
30	COUNT+CALL+EXTEND	 7 .	NO	J5L	30			10	7.5
31	COUNT+CALL+EXTEND	. . 3	NO	J6U	31			10	1.4
32	COUNT+CALL+EXTEND	. . 3	NO	J6L	32			10	1.8
33	COUNT+CALL+EXTEND	. . 3	NO	J7U	33			10	4.8
34	CALL+EXTEND	. . 3	NO	J7L	34			10	6.5
35	LIMITED	 8	NO	J8U	35			10	2.4
36	COUNT+CALL+EXTEND	 8	NO	J8L	36			10	7.7
37	COUNT+CALL+EXTEND	 5 . .	NO	J9U	37			10	3.5
38	COUNT+CALL+EXTEND	 5 . .	NO	J9L	38			10	3.7
39	COUNT+CALL+EXTEND	 6 . .	NO	J10U	39			10	4.3
40	COUNT+CALL+EXTEND	 8	NO	J10L	40			10	4.4
41	PEDESTRIAN	. 2	NO	I12U	41			10	5.1
42	PEDESTRIAN	. . . 4 . . .	NO	I12L	42			10	5.3
43	PEDESTRIAN	 6 . .	NO	I13U	43			10	5.2
44	PEDESTRIAN	. . 3	NO	I13L	44			10	5.4

Failure Times(5-3)	Minutes
Maximum On Time	
Fail Reset Time	

Failure Override (5-4)	
Detectors 1-8	
Detectors 9-16	
Detectors 17-24	
Detectors 25-32	
Detectors 33-40	
Detectors 41-44	

System Detector Assignment (5-5)								
Sys Det	1	2	3	4	5	6	7	8
Det Num								
Sys Det	9	10	11	12	13	14	15	16
Det Num								

CIC Operation (5-6-1)	
Enable in Plans	

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.00	

Detector-to-Phase Assignment (5-6-3)								
Sys Det	1	2	3	4	5	6	7	8
Phase								
Sys Det	9	10	11	12	13	14	15	16
Phase								

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1)			Table 2 (8-2-2)			Table 3 (8-2-3)			Table 4 (8-2-4)			Table 5 (8-2-5)			Table 6 (8-2-6)		
Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

HOLIDAY TABLES**Floating Holiday Table (8-2-8)**

#	Mnth	Week	DOW	Table
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

Daylight Saving (8-1)

Enabl	YES	Month	Sunday
	Start	MAR	2nd
	End	NOV	1st

Solar Clock Data (8-4)

North Latitude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)

Hebrew	Ped Recall
Sabbath	
Holiday	

TOD FUNCTIONS**TOD Functions (8-3)**

#	Start	End	DOW	Action	Phases
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Action Codes:

- 0. None
- 1. Permitted
- 2. Restricted
- 4. Veh Min Recall
- 5. Veh Max Recall
- 6. Ped Recall
- 7. Bike Recall
- 8. Red Lock
- 9. Yellow Lock
- 10. Force/Max Lock
- 11. Double Entry
- 12. Y-Coord C
- 13. Y-Coord D
- 14. Free
- 15. Flashing
- 16. Walk 2
- 17. Max Green 2

- 18. Max Green 3
- 19. Rest in Walk
- 20. Rest in Red
- 21. Free Lag Phases
- 22. Special Functions
- 23. Truck Preempt
- 24. Conditional Service
- 25. Conditional Service
- 26. Leading Ped
- 27. Traffic Actuated Max 2
- 41. Protected Permissive
- 42. Protected Permissive

Action Code = Phases added to normal setting

100+Action Code = Phases removed

200+Action Code = Phases replaced

COMMUNICATIONS

C2 (6-1-1)	
Address	
Protocol	AB3418
Access Level	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C20 (6-1-2)	
Address	
Protocol	AB3418
Access Level	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C21 (6-1-3)	
Address	
Protocol	AB3418
Access Level	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

Access Levels:

- 0-Full Access
- 1-Status Only
- 2-Status, Set Pattern, Time
- 3-Status, Set Pattern, Time, Manual Plan
- 4-Reserved
- 5-Full Access with No Set Pattern
- 6-Full Access with No Set Time
- 7-Full Access with No Set Pattern, Manual Plan
- 8-Full Access with No Set Time, Pattern, Manual Plan

SOFT LOGIC

Soft Logic (6-2)							
#	Data	OP	Data	OP	Data	OP	Data
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

*Refer to User's Manual for Data and OP Codes

CALLBACK NUMBERS

Callback Numbers (6-3...3)	
Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	
Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	
Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

NETWORK

Network (6-4)	
Address	1
Protocol	AB3418
Port	27000
Type	STATIC
Central Access	0
Field Access	0

IP Address	10	253	93	94
Netmask	255	255	255	0
Broadcast	10	253	93	255
Gateway	10	253	93	254

RAILROAD PREEMPTION

RR 1	(3-1-1)	Timing	Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
	Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
	Clear 1	10	. 2 . . 5 . .					. 2 . 4 . 6 . 8			
	Clear 2										
	Clear 3										
	Hold				1 2 3 4 5 6 7 8						A B C D E F
	Exit	5	Exit Parameters (3-1-5)				Configuration (3-1-6)				
	Min Grn		Phase Green	Overlap Green	Vehicle Call	Ped Call	PR 1	PR 2	Latching	Power-Up	
	Ped Clr				1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8	2.5	0.0	YES	FLASHING	

RR 2	(3-2-1)	Timing	Phase Flags (3-2-2)			Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
	Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
	Clear 1	10	. . . 4 . . 7 .					. 2 . 4 . 6 . 8			
	Clear 2										
	Clear 3										
	Hold		1 2 3 . . 6 . .			. 2 . . . 6 . .		. . . 4 . . . 8			
	Exit		Exit Parameters (3-2-5)				Configuration (3-2-6)				
	Min Grn		Phase Green	Overlap Green	Vehicle Call	Ped Call	PR 1	PR 2	Latching	Power-up	
	Ped Clr				. . . 4 . . 7 .		2.6	0.0	YES	DARK	

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		5	255	. 2 . . 5 . .	
	Port	Latching	Phase Termination		
	5.5	NO	ADVANCE		

EVB (3-B)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		5	255	. . . 4	
	Port	Latching	Phase Termination		
	5.6	NO	ADVANCE		

EVC (3-C)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		5	255	1 6 . .	
	Port	Latching	Phase Termination		
	5.7	NO	ADVANCE		

EVD (3-D)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		5	255	. . 3	
	Port	Latching	Phase Termination		
	5.8	NO	ADVANCE		

INPUTS

7 Wire I/C (2-1-5-1)					
		Input	Port	Input	Port
Enable	NO	R1	3.8	Free	3.6
Max ON		R2	3.5	D2	2.8
Max OFF		R3	3.7	D3	6.1

Manual Control (2-1-5-2)	
Input	Port
Manual Advance	
Advance Enable	

Battery Backup (2-1-5-5)	
Port	Operation
2.7	FLASHING

Y-Coordination (2-1-5-6)	
Port C	Port D
6.1	2.8

Cabinet Status (2-1-5-3)	
Input	Port
Flash Bus	
Door Ajar	
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	
2	
3	
4	

OUTPUTS

Loadswitch Assignments (2-1-6)								+
A	1	2	22	3	4	24	9	
B	5	6	26	7	8	23	10	
X	13	14	0	11	12	0	0	

Loadswitch Codes:

0 Unused (no output)

1-8 Vehicle 1-8

9-14 Overlap A-F

21-28 Ped 1-8

41-47 Special Functions

41 Protected Permissive Flashing Phase 1

43 Protected Permissive Flashing Phase 3

45 Protected Permissive Flashing Phase 5

47 Protected Permissive Flashing Phase 7

51-57 Special Functions

71-72 Seven Wire I/C

+ middle output of
loadswitches 3 and 6
Channel 9 and 10

TRANSIT PRIORITY

Local Plans (3-E) 1...9 11...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor											
Plan 2	Green Factor											
Plan 3	Green Factor											
Plan 4	Green Factor											
Plan 5	Green Factor											
Plan 6	Green Factor											
Plan 7	Green Factor											
Plan 8	Green Factor											
Plan 9	Green Factor											
Plan 11	Green Factor											
Plan 12	Green Factor											
Plan 13	Green Factor											
Plan 14	Green Factor											
Plan 15	Green Factor											
Plan 16	Green Factor											
Plan 17	Green Factor											
Plan 18	Green Factor											
Plan 19	Green Factor											

Transit Priority Configuration (3-E-A)		Indicator Output			
Enable in Plans	Input	Type	Stop	Go	
Plan 1-9		0.0	NONE	0	0
Plan 11-19		0.0	NONE	0	0

Queue Jump (3-E-B)	
Grn Hold	Hold Phase
	
	

Free Plans (3-E-E)	
Max Grn Hold	Hold Phase
	

Access Utilities (9-5)	
Password	***
Timeout	120

YELLOW YIELD COORDINATION

					Force-Offs											
Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	Coord	Lag	Min Recall	Restricted
Plan C													. 2 . . . 6 . .	. 2 . 4 . 6 . 8		
Plan D													. 2 . . . 6 . .	. 2 . 4 . 6 . 8		

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
						0.0	0.0	0.0	0	0.0	0

Location: Rte 86 @ Wildcat Dr

System:

District: 11

Designed By:

Installed By:

Master At: CTSCP STANDALONE

I/C: 86@Legion

Service Info:

Timing Change:

Date Start:

Date End:

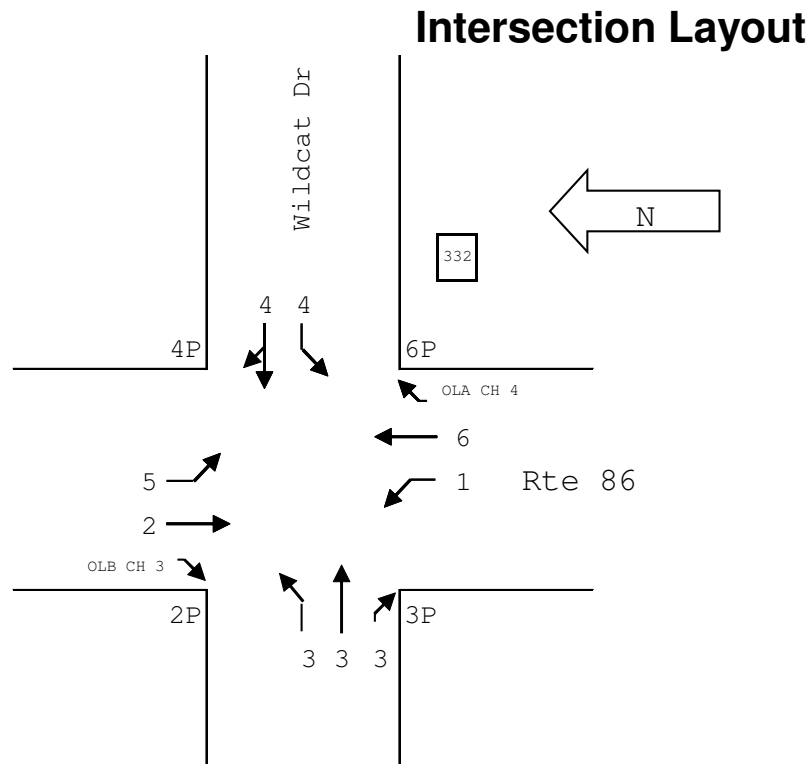
Designed:

Installed:

11/16/2020

11/18/2020

		FLASH
1) NB left from Rte 86 to Wildcat Dr	[]	
P 2) SB Thru at Rte 86	[]	
H 3) EB Thru and left from Wildcat to Rte 8	[]	
A 4) WB Thru and left from Wildcat to Rte 8	[]	
S 5) SB left from Rte 86 to Wildcat Dr	[]	
E 6) NB Thru at Rte 86	[]	
7)	[]	
8)	[]	
O A)	[]	
V B)	[]	
E C)	[]	
R D)	[]	
L E)	[]	
A F)	[]	
P		

**Comments and Notes:**

FZ 2 PED 93', FZ 3 PED 109', FZ 4 PED 109', FZ 6 PED 93'

FZ 1 PED 95', FZ 2 PED 130', FZ 3 PED 150', FZ 4 PED 145', FZ 5 PED 100', FZ 6 PED 107'

RAM Checksum

Page 2: DB2C	Page 8: 85AF
Page 3: 5037	Page 9: D2FD
Page 4: F29E	Page 10: AA5F
Page 5: 191A	Page 11: 7D1C
Page 6: 191A	Page 12: 7F42
Page 7: EE70	Page 13: 80C7

Post Mile: PM 19.474 Rte 86 @ Wildcat Dr**Printed: 10/26/2021**

CONFIGURATION PHASE FLAGS

Cabinet (9-3)
332
Configuration
CALTRANS

Phases (2-1-1-1)	
Permitted	1 2 3 4 5 6 ..
Restricted	

Phase Recalls (2-1-1-2)	
Vehicle Min	. 2 ... 6 ..
Vehicle Max	
Pedestrian	
Bicycle	

Phase Locks (2-1-1-3)	
Red	1 ... 5 ...
Yellow	
Force/Max	

Phase Features (2-1-1-4)	
Double Entry	
Rest In Walk	
Rest In Red	
Walk 2	
Max Green 2	
Max Green 3	

Startup (2-1-1-5)	
First Green Phases	. 2 ... 6 ..
Yellow Start Phases	
Vehicle Calls	1 2 3 4 5 6 ..
Pedestrian Calls	. 2 3 4 . 6 ..
Yellow Start Overlaps	
Startup All-Red	6.0

Call To Phase (2-1-2-1)		Omit On Green	
1		1	
2		2	
3		3	
4		4	
5		5	
6		6	
7		7	
8		8	

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	
Yellow Flash Overlap	
Flash In Red Phases	
Flash In Red Overlaps	

Special Operation (2-1-2-3)	
Single Exit Phase	
Driveway Signal Phases	
Driveway Signal Overlaps	
Leading Ped Phases	

Protected Permissive (2-1-2-4)	
Protected Permissive	

Pedestrian (2-1-3)	
P1	
P2	. 2
P3	.. 3
P4	... 4
P5	
P6	 6 ..
P7	
P8	

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
A				
B				
C				
D				
E				
F				

P H A S E T I M I N G

Phase (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	7	7	7	0	7	0	10
Flash Don't Walk	0	27	31	31	0	27	0	10
Minimum Green	7	10	11	11	8	10	10	10
Det Limit	0	0	0	0	0	0	10	10
Max Initial	0	30	0	0	0	30	10	10
Max Green 1	20	65	25	25	20	65	50	50
Max Green 2	0	0	0	0	0	0	50	50
Max Green 3	0	0	0	0	0	0	50	50
Extension	2.0	7.0	3.0	3.0	2.0	7.0	5.0	5.0
Maximum Gap	2.0	7.0	3.0	3.0	2.0	7.0	5.0	5.0
Minimum Gap	2.0	3.0	3.0	3.0	2.0	3.0	5.0	5.0
Add Per Vehicle	0.0	2.0	0.0	0.0	0.0	2.0	1.0	1.0
Reduce Gap By	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
Reduce Every	1.0	0.8	1.0	1.0	1.0	0.8	1.0	1.0
Yellow	3.7	5.5	3.7	3.7	3.7	5.5	5.0	5.0
All-Red	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0
Ped/Bike (2-3)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A	B	C	D	E	F
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert

Red Revert (2-5)	
Time	5.0
All-Red Sec/Min (2-6)	
All-Red Sec/Min:	OFF

Max 2 Extension

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

Local Plan 1...9 (7-1) TIMING DATA**COORDINATION**

[Offsets]

Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor														
Plan 2	Green Factor														
Plan 3	Green Factor														
Plan 4	Green Factor														
Plan 5	Green Factor														
Plan 6	Green Factor														
Plan 7	Green Factor														
Plan 8	Green Factor														
Plan 9	Green Factor														

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1								
Plan 2								
Plan 3								
Plan 4								
Plan 5								
Plan 6								
Plan 7								
Plan 8								
Plan 9								

Master Timer Sync (7-A)**Enable in Plans**

1-9	
11-19	
21-29	

Master Sub Master

Input

Output

FREE PLAN PHASE FLAGS**(7-E) Free**

Lag	Omit
. 2 . 4 . 6 . 8	
Veh Min	Veh Max
. 2 ... 6 ..	
Ped	Bike
.....	
Cond	Cond Grn
.....	10

MANUAL COMMANDS**Manual Plan (4-1)**

Plan

OffSet

Plan: 1-29

254 = Flash

255 = Free

Offset A, B, or C

Special Function Override (4-2)

#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset

(4-3)

Local Manual (4-4)

OFF

Local Plan 11...19 (7-2) TIMING DATA

COORDINATION

[Offsets]

Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 11	Green Factor														
Plan 12	Green Factor														
Plan 13	Green Factor														
Plan 14	Green Factor														
Plan 15	Green Factor														
Plan 16	Green Factor														
Plan 17	Green Factor														
Plan 18	Green Factor														
Plan 19	Green Factor														

Local Plan 11...19 (7-2) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 11								
Plan 12								
Plan 13								
Plan 14								
Plan 15								
Plan 16								
Plan 17								
Plan 18								
Plan 19								

Local Plan 21...29 (7-3) TIMING DATA

COORDINATION

[Offsets]

Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 21	Green Factor														
Plan 22	Green Factor														
Plan 23	Green Factor														
Plan 24	Green Factor														
Plan 25	Green Factor														
Plan 26	Green Factor														
Plan 27	Green Factor														
Plan 28	Green Factor														
Plan 29	Green Factor														

Local Plan 21...29 (7-3) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 21								
Plan 22								
Plan 23								
Plan 24								
Plan 25								
Plan 26								
Plan 27								
Plan 28								
Plan 29								

DETECTORS

Detector Attributes (5-1)				Slot	Detector Configuration (5-2)				
Det	Type	Phases	Lock		Det	Delay	Extend	Recall	Port
1	CALL+EXTEND	.2	NO	I1U	1			10	3.2
2	CALL+EXTEND	.2	NO	I1L	2			10	7.2
3	COUNT+CALL+EXTEND	.2	NO	I2U	3			10	1.1
4	COUNT+CALL+EXTEND	.2	NO	I2L	4			10	1.5
5	CALL+EXTEND	.2	NO	I3U	5			10	4.5
6	CALL+EXTEND	.2	NO	I3L	6			10	6.2
7	CALL+EXTEND	.2	NO	I4U	7			10	2.1
8	CALL+EXTEND	.2	NO	I4L	8			10	7.4
9	COUNT+CALL+EXTEND	... 4 ...	NO	I5U	9			10	3.4
10	COUNT+CALL+EXTEND	... 4 ...	NO	I5L	10			10	7.6
11	COUNT+CALL+EXTEND	... 4 ...	NO	I6U	11			10	1.3
12	COUNT+CALL+EXTEND	... 4 ...	NO	I6L	12			10	1.7
13	COUNT+CALL+EXTEND	... 4 ...	NO	I7U	13			10	4.7
14	CALL+EXTEND	... 4 ...	NO	I7L	14			10	6.4
15	CALL+EXTEND	... 4 ...	NO	I8U	15			10	2.3
16	CALL+EXTEND	... 4 ...	NO	I8L	16			10	7.8
17	COUNT+CALL+EXTEND	1	NO	I9U	17			10	3.6
18	COUNT+CALL+EXTEND	1	NO	I9L	18			10	3.8
19	COUNT+CALL+EXTEND	.2	NO	I10U	19			10	4.1
20	COUNT+CALL+EXTEND	... 4 ...	NO	I10L	20			10	4.2
21	CALL+EXTEND	 6 ..	NO	J1U	21			10	3.1
22	CALL+EXTEND	 6 ..	NO	J1L	22			10	7.1
23	COUNT+CALL+EXTEND	 6 ..	NO	J2U	23			10	1.2
24	COUNT+CALL+EXTEND	 6 ..	NO	J2L	24			10	1.6
25	CALL+EXTEND	 6 ..	NO	J3U	25			10	4.6
26	CALL+EXTEND	 6 ..	NO	J3L	26			10	6.3
27	CALL+EXTEND	 6 ..	NO	J4U	27			10	2.2
28	CALL+EXTEND	 6 ..	NO	J4L	28			10	7.3
29	COUNT+CALL+EXTEND	 6 ..	NO	J5U	29			10	3.3
30	COUNT+CALL+EXTEND	 6 ..	NO	J5L	30			10	7.5
31	COUNT+CALL+EXTEND	.. 3	NO	J6U	31			10	1.4
32	COUNT+CALL+EXTEND	.. 3	NO	J6L	32			10	1.8
33	COUNT+CALL+EXTEND	.. 3	NO	J7U	33			10	4.8
34	CALL+EXTEND	.. 3	NO	J7L	34			10	6.5
35	CALL+EXTEND	.. 3	NO	J8U	35			10	2.4
36	CALL+EXTEND	.. 3	NO	J8L	36			10	7.7
37	COUNT+CALL+EXTEND	 5 ...	NO	J9U	37			10	3.5
38	COUNT+CALL+EXTEND	 5 ...	NO	J9L	38			10	3.7
39	COUNT+CALL+EXTEND	 6 ...	NO	J10U	39			10	4.3
40	COUNT+CALL+EXTEND	 8	NO	J10L	40			10	4.4
41	PEDESTRIAN	.2	NO	I12U	41			10	5.1
42	PEDESTRIAN	... 4	NO	I12L	42			10	5.3
43	PEDESTRIAN	 6 ..	NO	I13U	43			10	5.2
44	PEDESTRIAN	.. 3	NO	I13L	44			10	5.4

Failure Times(5-3)	Minutes
Maximum On Time	
Fail Reset Time	

Failure Override (5-4)	
Detectors 1-8	
Detectors 9-16	
Detectors 17-24	
Detectors 25-32	
Detectors 33-40	
Detectors 41-44	

System Detector Assignment (5-5)								
Sys Det	1	2	3	4	5	6	7	8
Det Num								
Sys Det	9	10	11	12	13	14	15	16
Det Num								

CIC Operation (5-6-1)	
Enable in Plans	

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.00	

Detector-to-Phase Assignment (5-6-3)								
Sys Det	1	2	3	4	5	6	7	8
Phase								
Sys Det	9	10	11	12	13	14	15	16
Phase								

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1)			Table 2 (8-2-2)			Table 3 (8-2-3)			Table 4 (8-2-4)			Table 5 (8-2-5)			Table 6 (8-2-6)		
Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

HOLIDAY TABLES

Floating Holiday Table (8-2-8)

#	Mnth	Week	DOW	Table
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

Daylight Saving (8-1)

Enabl	YES	Month	Sunday
	Start	MAR	2nd
	End	NOV	1st

Solar Clock Data (8-4)

North Latitude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)

Hebrew	Ped Recall
Sabbath	
Holiday	

TOD FUNCTIONS

TOD Functions (8-3)

#	Start	End	DOW	Action	Phases
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Action Codes:

- 0. None
- 1. Permitted
- 2. Restricted
- 4. Veh Min Recall
- 5. Veh Max Recall
- 6. Ped Recall
- 7. Bike Recall
- 8. Red Lock
- 9. Yellow Lock
- 10. Force/Max Lock
- 11. Double Entry
- 12. Y-Coord C
- 13. Y-Coord D
- 14. Free
- 15. Flashing
- 16. Walk 2
- 17. Max Green 2

- 18. Max Green 3
- 19. Rest in Walk
- 20. Rest in Red
- 21. Free Lag Phases
- 22. Special Functions
- 23. Truck Preempt
- 24. Conditional Service
- 25. Conditional Service
- 26. Leading Ped
- 27. Traffic Actuated Max 2
- 41. Protected Permissive
- 42. Protected Permissive

Action Code = Phases added to normal setting

100+Action Code = Phases removed

200+Action Code = Phases replaced

COMMUNICATIONS

C2 (6-1-1)	
Address	
Protocol	AB3418
Access Level	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C20 (6-1-2)	
Address	
Protocol	AB3418
Access Level	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C21 (6-1-3)	
Address	
Protocol	AB3418
Access Level	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

Access Levels:

- 0-Full Access
- 1-Status Only
- 2-Status, Set Pattern, Time
- 3-Status, Set Pattern, Time, Manual Plan
- 4-Reserved
- 5-Full Access with No Set Pattern
- 6-Full Access with No Set Time
- 7-Full Access with No Set Pattern, Manual Plan
- 8-Full Access with No Set Time, Pattern, Manual Plan

SOFT LOGIC

Soft Logic (6-2)							
#	Data	OP	Data	OP	Data	OP	Data
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

*Refer to User's Manual for Data and OP Codes

CALLBACK NUMBERS

Callback Numbers (6-3...3)	
Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

NETWORK

Network (6-4)	
Address	1
Protocol	AB3418
Port	27000
Type	STATIC
Central Access	0
Field Access	0

IP Address	10	253	93	167
Netmask	255	255	255	0
Broadcast	10	253	93	255
Gateway	10	253	93	254

RAILROAD PREEMPTION

RR 1	(3-1-1)	Timing	Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
	Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
	Clear 1	10	. 2 . . 5 . .					. 2 . 4 . 6 . 8			
	Clear 2										
	Clear 3										
	Hold				1 2 3 4 5 6 7 8						A B C D E F
	Exit	5	Exit Parameters (3-1-5)				Configuration (3-1-6)				
	Min Grn		Phase Green	Overlap Green	Vehicle Call	Ped Call	PR 1	PR 2	Latching	Power-Up	
	Ped Clr				1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8	2.5	0.0	YES	FLASHING	

RR 2	(3-2-1)	Timing	Phase Flags (3-2-2)			Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
	Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
	Clear 1	10	. . . 4 . . 7 .					. 2 . 4 . 6 . 8			
	Clear 2										
	Clear 3										
	Hold		1 2 3 . . 6 . .			. 2 . . . 6 . .		. . . 4 . . . 8			
	Exit		Exit Parameters (3-2-5)				Configuration (3-2-6)				
	Min Grn		Phase Green	Overlap Green	Vehicle Call	Ped Call	PR 1	PR 2	Latching	Power-up	
	Ped Clr				. . . 4 . . 7 .		2.6	0.0	YES	DARK	

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		5	255	. 2 . . 5 . .	
	Port	Latching	Phase Termination		
	5.5	NO	ADVANCE		

EVB (3-B)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		5	255	. . . 4	
	Port	Latching	Phase Termination		
	5.6	NO	ADVANCE		

EVC (3-C)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		5	255	1 6 . .	
	Port	Latching	Phase Termination		
	5.7	NO	ADVANCE		

EVD (3-D)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		5	255	. . 3	
	Port	Latching	Phase Termination		
	5.8	NO	ADVANCE		

INPUTS

		7 Wire I/C (2-1-5-1)			
		Input	Port	Input	Port
Enable	NO	R1	3.8	Free	3.6
Max ON		R2	3.5	D2	2.8
Max OFF		R3	3.7	D3	6.1

Manual Control (2-1-5-2)	
Input	Port
Manual Advance	
Advance Enable	

Battery Backup (2-1-5-5)	
Port	Operation
2.7	FLASHING

Y-Coordination (2-1-5-6)	
Port C	Port D
6.1	2.8

Cabinet Status (2-1-5-3)	
Input	Port
Flash Bus	
Door Ajar	
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	
2	
3	
4	

OUTPUTS

Loadswitch Assignments (2-1-6)								+
A	1	2	22	3	4	24	9	
B	5	6	26	7	8	23	10	
X	13	14	0	11	12	0	0	

Loadswitch Codes:

0 Unused (no output)

1-8 Vehicle 1-8

9-14 Overlap A-F

21-28 Ped 1-8

41-47 Special Functions

41 Protected Permissive Flashing Phase 1

43 Protected Permissive Flashing Phase 3

45 Protected Permissive Flashing Phase 5

47 Protected Permissive Flashing Phase 7

51-57 Special Functions

71-72 Seven Wire I/C

+ middle output of
loadswitches 3 and 6
Channel 9 and 10

TRANSIT PRIORITY

Local Plans (3-E) 1...9 11...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor											
Plan 2	Green Factor											
Plan 3	Green Factor											
Plan 4	Green Factor											
Plan 5	Green Factor											
Plan 6	Green Factor											
Plan 7	Green Factor											
Plan 8	Green Factor											
Plan 9	Green Factor											
Plan 11	Green Factor											
Plan 12	Green Factor											
Plan 13	Green Factor											
Plan 14	Green Factor											
Plan 15	Green Factor											
Plan 16	Green Factor											
Plan 17	Green Factor											
Plan 18	Green Factor											
Plan 19	Green Factor											

Transit Priority Configuration (3-E-A)		Indicator Output			
Enable in Plans	Input	Type	Stop	Go	
Plan 1-9		0.0	NONE	0	0
Plan 11-19		0.0	NONE	0	0

Queue Jump (3-E-B)	
Grn Hold	Hold Phase
	
	

Free Plans (3-E-E)	
Max Grn Hold	Hold Phase
	

Access Utilities (9-5)	
Password	***
Timeout	120

YELLOW YIELD COORDINATION

					Force-Offs											
Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	Coord	Lag	Min Recall	Restricted
Plan C													. 2 . . . 6 . .	. 2 . 4 . 6 . 8		
Plan D													. 2 . . . 6 . .	. 2 . 4 . 6 . 8		

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
						0.0	0.0	0.0	0	0.0	0

Printed: 10/26/2021

CONFIGURATION PHASE FLAGS

Cabinet (9-3)
332
Configuration
CALTRANS

Phases (2-1-1-1)							
Permitted	1	2	3	4	5	6	..
Restricted	..	..	..	..	..	..	..

Phase Features (2-1-1-4)	
Double Entry	
Rest In Walk	
Rest In Red	
Walk 2	
Max Green 2	
Max Green 3	

Startup (2-1-1-5)	
First Green Phases	. 2 . . . 6 . .
Yellow Start Phases	
Vehicle Calls	1 2 3 4 5 6 . .
Pedestrian Calls	. 2 . 4 . 6 . .
Yellow Start Overlaps	
Startup All-Red	6.0

Phase Recalls (2-1-1-2)	
Vehicle Min	. 2 . . . 6 . .
Vehicle Max	
Pedestrian	
Bicycle	

Phase Locks (2-1-1-3)	
Red	
Yellow	
Force/Max	

Call To Phase (2-1-2-1)		Omit On Green	
1		1	
2		2	
3		3	
4		4	
5		5	
6		6	
7		7	
8		8	

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	
Yellow Flash Overlap	
Flash In Red Phases	
Flash In Red Overlaps	

Special Operation (2-1-2-3)	
Single Exit Phase	
Driveway Signal Phases	
Driveway Signal Overlaps	
Leading Ped Phases	

Protected Permissive (2-1-2-4)	
Protected Permissive	

Pedestrian (2-1-3)	
P1	
P2	. 2
P3	
P4	. . . 4
P5	
P6	 6 . .
P7	
P8	

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
A				
B				
C				
D				
E				
F				

PHASE TIMING

Phase (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	7	0	7	0	7	0	10
Flash Don't Walk	0	23	0	42	0	31	0	10
Minimum Green	7	6	11	11	8	8	10	10
Det Limit	0	0	0	0	0	0	10	10
Max Initial	0	0	0	0	0	0	10	10
Max Green 1	20	65	25	25	20	65	50	50
Max Green 2	0	0	0	0	0	0	50	50
Max Green 3	0	0	0	0	0	0	50	50
Extension	2.0	3.0	3.0	3.0	2.0	3.0	5.0	5.0
Maximum Gap	2.0	3.0	3.0	3.0	2.0	3.0	5.0	5.0
Minimum Gap	2.0	3.0	3.0	3.0	2.0	3.0	5.0	5.0
Add Per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
Reduce Gap By	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Yellow	3.7	5.5	3.7	3.7	3.7	5.5	5.0	5.0
All-Red	1.0	2.0	2.0	2.0	1.0	2.0	1.0	1.0
Ped/Bike (2-3)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A	B	C	D	E	F
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert

Red Revert (2-5)	
Time	5.0
All-Red Sec/Min (2-6)	
All-Red Sec/Min:	OFF

Max 2 Extension

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets]

Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor														
Plan 2	Green Factor														
Plan 3	Green Factor														
Plan 4	Green Factor														
Plan 5	Green Factor														
Plan 6	Green Factor														
Plan 7	Green Factor														
Plan 8	Green Factor														
Plan 9	Green Factor														

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1								
Plan 2								
Plan 3								
Plan 4								
Plan 5								
Plan 6								
Plan 7								
Plan 8								
Plan 9								

Master Timer Sync (7-A)

Enable in Plans

1-9	
11-19	
21-29	

Master Sub Master

Input

Output

FREE PLAN PHASE FLAGS

(7-E) Free

Lag	Omit
. 2 . 4 . 6 . 8	
Veh Min	Veh Max
. 2 ... 6 ..	
Ped	Bike
.....	
Cond	Cond Grn
.....	10

MANUAL COMMANDS

Manual Plan (4-1)

Plan

OffSet

Plan: 1-29

254 = Flash

255 = Free

Offset A, B, or C

Special Function Override (4-2)

#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset

(4-3)

Local Manual (4-4)

OFF

Local Plan 11...19 (7-2) TIMING DATA

COORDINATION

[Offsets]

Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 11	Green Factor														
Plan 12	Green Factor														
Plan 13	Green Factor														
Plan 14	Green Factor														
Plan 15	Green Factor														
Plan 16	Green Factor														
Plan 17	Green Factor														
Plan 18	Green Factor														
Plan 19	Green Factor														

Local Plan 11...19 (7-2) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 11								
Plan 12								
Plan 13								
Plan 14								
Plan 15								
Plan 16								
Plan 17								
Plan 18								
Plan 19								

Local Plan 21...29 (7-3) TIMING DATA

COORDINATION

[Offsets]

Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 21	Green Factor														
Plan 22	Green Factor														
Plan 23	Green Factor														
Plan 24	Green Factor														
Plan 25	Green Factor														
Plan 26	Green Factor														
Plan 27	Green Factor														
Plan 28	Green Factor														
Plan 29	Green Factor														

Local Plan 21...29 (7-3) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 21								
Plan 22								
Plan 23								
Plan 24								
Plan 25								
Plan 26								
Plan 27								
Plan 28								
Plan 29								

DETECTORS

Detector Attributes (5-1)				Slot	Detector Configuration (5-2)				
Det	Type	Phases	Lock		Det	Delay	Extend	Recall	Port
1	COUNT+CALL+EXTEND	.2	NO	I1U	1		1.0	10	3.2
2	COUNT+CALL+EXTEND	.2	NO	I1L	2		1.0	10	7.2
3	COUNT+CALL+EXTEND	.2	NO	I2U	3			10	1.1
4	COUNT+CALL+EXTEND	.2	NO	I2L	4			10	1.5
5	COUNT+CALL+EXTEND	.2	NO	I3U	5			10	4.5
6	CALL+EXTEND	.2	NO	I3L	6			10	6.2
7	CALL+EXTEND	.2	NO	I4U	7			10	2.1
8	CALL+EXTEND	.2	NO	I4L	8			10	7.4
9	COUNT+CALL+EXTEND	..3	NO	I5U	9			10	3.4
10	COUNT+CALL+EXTEND	..3	NO	I5L	10			10	7.6
11	COUNT+CALL+EXTEND	...4	NO	I6U	11			10	1.3
12	COUNT+CALL+EXTEND	5 ...	NO	I6L	12			10	1.7
13	COUNT+CALL+EXTEND	...4	NO	I7U	13			10	4.7
14	CALL+EXTEND	5 ...	NO	I7L	14			10	6.4
15	CALL+EXTEND	...4	NO	I8U	15			10	2.3
16	CALL+EXTEND	...4	NO	I8L	16			10	7.8
17	COUNT+CALL+EXTEND	1	NO	I9U	17			10	3.6
18	COUNT+CALL+EXTEND	1	NO	I9L	18			10	3.8
19	COUNT+CALL+EXTEND	.2	NO	I10U	19			10	4.1
20	COUNT+CALL+EXTEND	...4	NO	I10L	20			10	4.2
21	COUNT+CALL+EXTEND	6 ..	NO	J1U	21		1.0	10	3.1
22	COUNT+CALL+EXTEND	6 ..	NO	J1L	22		1.0	10	7.1
23	COUNT+CALL+EXTEND	6 ..	NO	J2U	23			10	1.2
24	COUNT+CALL+EXTEND	6 ..	NO	J2L	24			10	1.6
25	COUNT+CALL+EXTEND	6 ..	NO	J3U	25			10	4.6
26	CALL+EXTEND	6 ..	NO	J3L	26			10	6.3
27	CALL+EXTEND	6 ..	NO	J4U	27			10	2.2
28	CALL+EXTEND	6 ..	NO	J4L	28			10	7.3
29	COUNT+CALL+EXTEND	7 .	NO	J5U	29			10	3.3
30	COUNT+CALL+EXTEND	7 .	NO	J5L	30			10	7.5
31	COUNT+CALL+EXTEND	..3	NO	J6U	31			10	1.4
32	COUNT+CALL+EXTEND	1	NO	J6L	32			10	1.8
33	COUNT+CALL+EXTEND	..3	NO	J7U	33			10	4.8
34	CALL+EXTEND	1	NO	J7L	34			10	6.5
35	CALL+EXTEND	..3	NO	J8U	35			10	2.4
36	CALL+EXTEND	..3	NO	J8L	36			10	7.7
37	COUNT+CALL+EXTEND	5 ...	NO	J9U	37			10	3.5
38	COUNT+CALL+EXTEND	5 ...	NO	J9L	38			10	3.7
39	COUNT+CALL+EXTEND	6 ..	NO	J10U	39			10	4.3
40	COUNT+CALL+EXTEND	8	NO	J10L	40			10	4.4
41	PEDESTRIAN	.2	NO	I12U	41			10	5.1
42	PEDESTRIAN	...4	NO	I12L	42			10	5.3
43	PEDESTRIAN	6 ..	NO	I13U	43			10	5.2
44	PEDESTRIAN	8	NO	I13L	44			10	5.4

Failure Times(5-3)	Minutes
Maximum On Time	
Fail Reset Time	

Failure Override (5-4)	
Detectors 1-8	
Detectors 9-16	
Detectors 17-24	
Detectors 25-32	
Detectors 33-40	
Detectors 41-44	

System Detector Assignment (5-5)								
Sys Det	1	2	3	4	5	6	7	8
Det Num								
Sys Det	9	10	11	12	13	14	15	16
Det Num								

CIC Operation (5-6-1)	
Enable in Plans	

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.00	

Detector-to-Phase Assignment (5-6-3)								
Sys Det	1	2	3	4	5	6	7	8
Phase								
Sys Det	9	10	11	12	13	14	15	16
Phase								

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1)			Table 2 (8-2-2)			Table 3 (8-2-3)			Table 4 (8-2-4)			Table 5 (8-2-5)			Table 6 (8-2-6)		
Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

HOLIDAY TABLES

Floating Holiday Table (8-2-8)

#	Mnth	Week	DOW	Table
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

Daylight Saving (8-1)

Enabl	YES	Month	Sunday
		Start	MAR 2nd
		End	NOV 1st

Solar Clock Data (8-4)

North Latitude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)

Hebrew	Ped Recall
Sabbath	
Holiday	

TOD FUNCTIONS

TOD Functions (8-3)

#	Start	End	DOW	Action	Phases
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Action Codes:

- 0. None
- 1. Permitted
- 2. Restricted
- 4. Veh Min Recall
- 5. Veh Max Recall
- 6. Ped Recall
- 7. Bike Recall
- 8. Red Lock
- 9. Yellow Lock
- 10. Force/Max Lock
- 11. Double Entry
- 12. Y-Coord C
- 13. Y-Coord D
- 14. Free
- 15. Flashing
- 16. Walk 2
- 17. Max Green 2

- 18. Max Green 3
- 19. Rest in Walk
- 20. Rest in Red
- 21. Free Lag Phases
- 22. Special Functions
- 23. Truck Preempt
- 24. Conditional Service
- 25. Conditional Service
- 26. Leading Ped
- 27. Traffic Actuated Max 2
- 41. Protected Permissive
- 42. Protected Permissive

Action Code = Phases added to normal setting

100+Action Code = Phases removed

200+Action Code = Phases replaced

COMMUNICATIONS

C2 (6-1-1)	
Address	
Protocol	AB3418
Access Level	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C20 (6-1-2)	
Address	
Protocol	AB3418
Access Level	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C21 (6-1-3)	
Address	
Protocol	AB3418
Access Level	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

Access Levels:

- 0-Full Access
- 1-Status Only
- 2-Status, Set Pattern, Time
- 3-Status, Set Pattern, Time, Manual Plan
- 4-Reserved
- 5-Full Access with No Set Pattern
- 6-Full Access with No Set Time
- 7-Full Access with No Set Pattern, Manual Plan
- 8-Full Access with No Set Time, Pattern, Manual Plan

SOFT LOGIC

Soft Logic (6-2)							
#	Data	OP	Data	OP	Data	OP	Data
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

*Refer to User's Manual for Data and OP Codes

CALLBACK NUMBERS

Callback Numbers (6-3...3)	
Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

NETWORK

Network (6-4)	
Address	1
Protocol	AB3418
Port	27000
Type	STATIC
Central Access	0
Field Access	0

IP Address	10	253	93	37
Netmask	255	255	255	0
Broadcast	10	253	93	255
Gateway	10	253	93	254

RAILROAD PREEMPTION

RR 1	(3-1-1)	Timing	Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
	Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
	Clear 1	10	. 2 . . 5 . .					. 2 . 4 . 6 . 8			
	Clear 2										
	Clear 3										
	Hold				1 2 3 4 5 6 7 8						A B C D E F
	Exit	5	Exit Parameters (3-1-5)				Configuration (3-1-6)				
	Min Grn		Phase Green	Overlap Green	Vehicle Call	Ped Call	PR 1	PR 2	Latching	Power-Up	
	Ped Clr				1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8	2.5	0.0	YES	FLASHING	

RR 2	(3-2-1)	Timing	Phase Flags (3-2-2)			Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
	Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
	Clear 1	10	. . . 4 . . 7 .					. 2 . 4 . 6 . 8			
	Clear 2										
	Clear 3										
	Hold		1 2 3 . . 6 . .			. 2 . . . 6 . .		. . . 4 . . . 8			
	Exit		Exit Parameters (3-2-5)				Configuration (3-2-6)				
	Min Grn		Phase Green	Overlap Green	Vehicle Call	Ped Call	PR 1	PR 2	Latching	Power-up	
	Ped Clr				. . . 4 . . 7 .		2.6	0.0	YES	DARK	

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		5	255	. 2 . . 5 . .	
	Port	Latching	Phase Termination		
	5.5	NO	ADVANCE		

EVC (3-C)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		5	255	1 6 . .	
	Port	Latching	Phase Termination		
	5.7	NO	ADVANCE		

EVB (3-B)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		5	255	. . . 4	
	Port	Latching	Phase Termination		
	5.6	NO	ADVANCE		

EVD (3-D)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		5	255	. . 3	
	Port	Latching	Phase Termination		
	5.8	NO	ADVANCE		

INPUTS

		7 Wire I/C (2-1-5-1)			
		Input	Port	Input	Port
Enable	NO	R1	3.8	Free	3.6
Max ON		R2	3.5	D2	2.8
Max OFF		R3	3.7	D3	6.1

Manual Control (2-1-5-2)	
Input	Port
Manual Advance	
Advance Enable	

Battery Backup (2-1-5-5)	
Port	Operation
2.7	FLASHING

Y-Coordination (2-1-5-6)	
Port C	Port D
6.1	2.8

Cabinet Status (2-1-5-3)	
Input	Port
Flash Bus	
Door Ajar	
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	
2	
3	
4	

OUTPUTS

Loadswitch Assignments (2-1-6)								+
A	1	2	22	3	4	24	9	
B	5	6	26	7	8	28	10	
X	13	14	0	11	12	0	0	

Loadswitch Codes:

0 Unused (no output)

1-8 Vehicle 1-8

9-14 Overlap A-F

21-28 Ped 1-8

41-47 Special Functions

41 Protected Permissive Flashing Phase 1

43 Protected Permissive Flashing Phase 3

45 Protected Permissive Flashing Phase 5

47 Protected Permissive Flashing Phase 7

51-57 Special Functions

71-72 Seven Wire I/C

+ middle output of
loadswitches 3 and 6
Channel 9 and 10

TRANSIT PRIORITY

Local Plans (3-E) 1...9 11...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor											
Plan 2	Green Factor											
Plan 3	Green Factor											
Plan 4	Green Factor											
Plan 5	Green Factor											
Plan 6	Green Factor											
Plan 7	Green Factor											
Plan 8	Green Factor											
Plan 9	Green Factor											
Plan 11	Green Factor											
Plan 12	Green Factor											
Plan 13	Green Factor											
Plan 14	Green Factor											
Plan 15	Green Factor											
Plan 16	Green Factor											
Plan 17	Green Factor											
Plan 18	Green Factor											
Plan 19	Green Factor											

Transit Priority Configuration (3-E-A)		Indicator Output			
Enable in Plans	Input	Type	Stop	Go	
Plan 1-9		0.0	NONE	0	0
Plan 11-19		0.0	NONE	0	0

Queue Jump (3-E-B)	
Grn Hold	Hold Phase
	
	

Free Plans (3-E-E)	
Max Grn Hold	Hold Phase
	

Access Utilities (9-5)	
Password	***
Timeout	120

YELLOW YIELD COORDINATION

					Force-Offs											
Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	Coord	Lag	Min Recall	Restricted
Plan C													. 2 . . . 6 . .	. 2 . 4 . 6 . 8		
Plan D													. 2 . . . 6 . .	. 2 . 4 . 6 . 8		

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
						0.0	0.0	0.0	0	0.0	0

Location: Rte 86 @ Keystone Rd

System:

District: 11

Designed By:

Master At: CTSCP STANDALONE

I/C:

Installed By:

Service Info:

Timing Change:

Date Start:

Date End:

Designed:

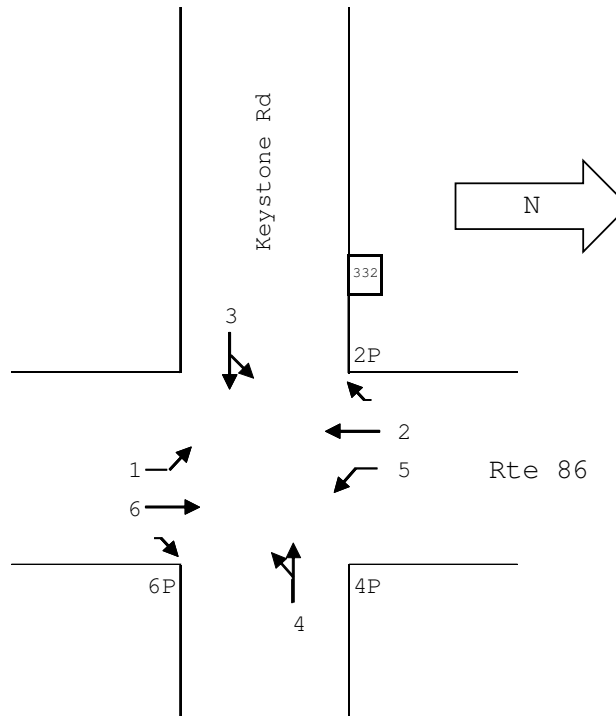
Installed:

5/28/2020

9/16/2020

		FLASH
1)	NB left from Rte 86 to Keystone	[]
P 2)	SB Thu at Rte 86	[]
H 3)	EB Thru and Left from keystone to Rte	[]
A 4)	WB Thru and left from Keystone to Rte	[]
S 5)	SB left from Rte 86 to Keystone	[]
E 6)	NB Thru at Rte 86	[]
7)		[]
8)		[]
O A)		[]
V B)		[]
E C)		[]
R D)		[]
L E)		[]
A F)		[]
P		[]

Intersection Layout



Comments and Notes:

FZ 2 PED 54', FZ 4 PED 119', FZ 6 PED 77'

FZ 1 BIKE 110', FZ 2 BIKE 60', FZ 3 BIKE 130', FZ 4 BIKE 125', FZ 5 BIKE 110', FZ 6 BIKE 65'

RAM Checksum

Page 2: 49F9	Page 8: 85AF
Page 3: 16E8	Page 9: D2FD
Page 4: F29E	Page 10: 0CC0
Page 5: 191A	Page 11: 7D1C
Page 6: 191A	Page 12: D68F
Page 7: FD39	Page 13: 80C7

Post Mile: PM 15.321 Rte 86 @ Keystone Ave

Printed: 8/4/2021

CONFIGURATION PHASE FLAGS

Cabinet (9-3)
332
Configuration
CALTRANS

Phases (2-1-1-1)							
Permitted	1	2	3	4	5	6	..
Restricted	..	..	..	..	..	..	..

Phase Features (2-1-1-4)	
Double Entry	
Rest In Walk	
Rest In Red	
Walk 2	
Max Green 2	
Max Green 3	

Startup (2-1-1-5)	
First Green Phases	. 2 . . . 6 . .
Yellow Start Phases	
Vehicle Calls	1 2 3 4 5 6 . .
Pedestrian Calls	. 2 . 4 . 6 . .
Yellow Start Overlaps	
Startup All-Red	6.0

Phase Recalls (2-1-1-2)	
Vehicle Min	. 2 . . . 6 . .
Vehicle Max	
Pedestrian	
Bicycle	

Phase Locks (2-1-1-3)	
Red	1 . . . 5 . .
Yellow	
Force/Max	

Call To Phase (2-1-2-1)		Omit On Green	
1		1	
2		2	
3		3	
4		4	
5		5	
6		6	
7		7	
8		8	

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	
Yellow Flash Overlap	
Flash In Red Phases	
Flash In Red Overlaps	

Special Operation (2-1-2-3)	
Single Exit Phase	
Driveway Signal Phases	
Driveway Signal Overlaps	
Leading Ped Phases	

Protected Permissive (2-1-2-4)	
Protected Permissive	

Pedestrian (2-1-3)	
P1	
P2	. 2
P3	
P4	. . . 4
P5	
P6	 6 . .
P7	
P8	

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
A				
B				
C				
D				
E				
F				

P H A S E T I M I N G

Phase (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	7	0	7	0	7	0	10
Flash Don't Walk	0	15	0	34	0	22	0	10
Minimum Green	8	10	10	10	8	10	10	10
Det Limit	0	0	0	0	0	0	10	10
Max Initial	0	0	30	30	0	0	10	10
Max Green 1	25	60	30	30	25	60	50	50
Max Green 2	0	0	0	0	0	0	50	50
Max Green 3	0	0	0	0	0	0	50	50
Extension	2.0	6.0	3.0	3.0	2.0	6.0	5.0	5.0
Maximum Gap	2.0	6.0	3.0	3.0	2.0	6.0	5.0	5.0
Minimum Gap	2.0	3.0	3.0	3.0	2.0	3.0	5.0	5.0
Add Per Vehicle	0.0	0.0	5.0	5.0	0.0	0.0	1.0	1.0
Reduce Gap By	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
Reduce Every	1.0	0.8	1.0	1.0	1.0	0.8	1.0	1.0
Yellow	3.7	5.9	5.5	5.5	3.7	5.9	5.0	5.0
All-Red	2.0	2.5	3.0	3.0	2.0	2.5	1.0	1.0
Ped/Bike (2-3)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A	B	C	D	E	F
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert

Red Revert (2-5)	
Time	5.0
All-Red Sec/Min (2-6)	
All-Red Sec/Min:	OFF

Max 2 Extension

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets]

Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor														
Plan 2	Green Factor														
Plan 3	Green Factor														
Plan 4	Green Factor														
Plan 5	Green Factor														
Plan 6	Green Factor														
Plan 7	Green Factor														
Plan 8	Green Factor														
Plan 9	Green Factor														

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1								
Plan 2								
Plan 3								
Plan 4								
Plan 5								
Plan 6								
Plan 7								
Plan 8								
Plan 9								

Master Timer Sync (7-A)

Enable in Plans

1-9	
11-19	
21-29	

Master Sub Master

Input

Output

FREE PLAN PHASE FLAGS

(7-E) Free

Lag	Omit
. 2 . 4 . 6 . 8	
Veh Min	Veh Max
. 2 ... 6 ..	
Ped	Bike
.....	
Cond	Cond Grn
.....	10

MANUAL COMMANDS

Manual Plan (4-1)

Plan

OffSet

Plan: 1-29

254 = Flash

255 = Free

Offset A, B, or C

Special Function Override (4-2)

#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset

(4-3)

Local Manual (4-4)

OFF

Local Plan 11...19 (7-2) TIMING DATA

COORDINATION

[Offsets]

Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 11	Green Factor														
Plan 12	Green Factor														
Plan 13	Green Factor														
Plan 14	Green Factor														
Plan 15	Green Factor														
Plan 16	Green Factor														
Plan 17	Green Factor														
Plan 18	Green Factor														
Plan 19	Green Factor														

Local Plan 11...19 (7-2) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 11								
Plan 12								
Plan 13								
Plan 14								
Plan 15								
Plan 16								
Plan 17								
Plan 18								
Plan 19								

Local Plan 21...29 (7-3) TIMING DATA

COORDINATION

[Offsets]

Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 21	Green Factor														
Plan 22	Green Factor														
Plan 23	Green Factor														
Plan 24	Green Factor														
Plan 25	Green Factor														
Plan 26	Green Factor														
Plan 27	Green Factor														
Plan 28	Green Factor														
Plan 29	Green Factor														

Local Plan 21...29 (7-3) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 21								
Plan 22								
Plan 23								
Plan 24								
Plan 25								
Plan 26								
Plan 27								
Plan 28								
Plan 29								

DETECTORS

Detector Attributes (5-1)				Slot	Detector Configuration (5-2)				
Det	Type	Phases	Lock		Det	Delay	Extend	Recall	Port
1	COUNT+CALL+EXTEND	1	NO	I1U	1			10	3.2
2	COUNT+CALL+EXTEND	1	NO	I1L	2			10	7.2
3	COUNT+CALL+EXTEND	. 2	NO	I2U	3			10	1.1
4	COUNT+CALL+EXTEND	. 2	NO	I2L	4			10	1.5
5	COUNT+CALL+EXTEND	. 2	NO	I3U	5			10	4.5
6	CALL+EXTEND	. 2	NO	I3L	6			10	6.2
7	CALL+EXTEND	. 2	NO	I4U	7			10	2.1
8	CALL+EXTEND	. 2	NO	I4L	8			10	7.4
9	CALL+EXTEND	. 2	NO	I5U	9			10	3.4
10	CALL+EXTEND	. 2	NO	I5L	10			10	7.6
11	CALL+EXTEND	... 4	NO	I6U	11			10	1.3
12	COUNT+CALL+EXTEND	... 4	NO	I6L	12			10	1.7
13	CALL+EXTEND	... 4	NO	I7U	13			10	4.7
14	CALL+EXTEND	... 4	NO	I7L	14			10	6.4
15	CALL+EXTEND	... 4	NO	I8U	15			10	2.3
16	CALL+EXTEND	... 4	NO	I8L	16			10	7.8
17	COUNT+CALL+EXTEND	1	NO	I9U	17			10	3.6
18	CALL+EXTEND	1	NO	I9L	18			10	3.8
19	COUNT+CALL+EXTEND	. 2	NO	I10U	19			10	4.1
20	COUNT+CALL+EXTEND	... 4	NO	I10L	20			10	4.2
21	COUNT+CALL+EXTEND	... 5 ...	NO	J1U	21			10	3.1
22	COUNT+CALL+EXTEND	... 5 ...	NO	J1L	22			10	7.1
23	COUNT+CALL+EXTEND	... 6 ..	NO	J2U	23			10	1.2
24	COUNT+CALL+EXTEND	... 6 ..	NO	J2L	24			10	1.6
25	COUNT+CALL+EXTEND	... 6 ..	NO	J3U	25			10	4.6
26	CALL+EXTEND	... 6 ..	NO	J3L	26			10	6.3
27	CALL+EXTEND	... 6 ..	NO	J4U	27			10	2.2
28	CALL+EXTEND	... 6 ..	NO	J4L	28			10	7.3
29	CALL+EXTEND	... 6 ..	NO	J5U	29			10	3.3
30	CALL+EXTEND	... 6 ..	NO	J5L	30			10	7.5
31	CALL+EXTEND	.. 3	NO	J6U	31			10	1.4
32	COUNT+CALL+EXTEND	.. 3	NO	J6L	32			10	1.8
33	CALL+EXTEND	.. 3	NO	J7U	33			10	4.8
34	CALL+EXTEND	.. 3	NO	J7L	34			10	6.5
35	CALL+EXTEND	.. 3	NO	J8U	35			10	2.4
36	CALL+EXTEND	.. 3	NO	J8L	36			10	7.7
37	COUNT+CALL+EXTEND	... 5 ...	NO	J9U	37			10	3.5
38	CALL+EXTEND	... 5 ...	NO	J9L	38			10	3.7
39	COUNT+CALL+EXTEND	... 6 ..	NO	J10U	39			10	4.3
40	COUNT+CALL+EXTEND	... 8 ..	NO	J10L	40			10	4.4
41	PEDESTRIAN	. 2	NO	I12U	41			10	5.1
42	PEDESTRIAN	... 4	NO	I12L	42			10	5.3
43	PEDESTRIAN	... 6 ..	NO	I13U	43			10	5.2
44	PEDESTRIAN	... 8 ..	NO	I13L	44			10	5.4

Failure Times(5-3)	Minutes
Maximum On Time	
Fail Reset Time	

Failure Override (5-4)	
Detectors 1-8	
Detectors 9-16	
Detectors 17-24	
Detectors 25-32	
Detectors 33-40	
Detectors 41-44	

System Detector Assignment (5-5)								
Sys Det	1	2	3	4	5	6	7	8
Det Num								
Sys Det	9	10	11	12	13	14	15	16
Det Num								

CIC Operation (5-6-1)	
Enable in Plans	

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.00	

Detector-to-Phase Assignment (5-6-3)								
Sys Det	1	2	3	4	5	6	7	8
Phase								
Sys Det	9	10	11	12	13	14	15	16
Phase								

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1)			Table 2 (8-2-2)			Table 3 (8-2-3)			Table 4 (8-2-4)			Table 5 (8-2-5)			Table 6 (8-2-6)		
Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

HOLIDAY TABLES

Floating Holiday Table (8-2-8)

#	Mnth	Week	DOW	Table
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

Daylight Saving (8-1)

Enabl	YES	Month	Sunday
		Start	MAR 2nd
		End	NOV 1st

Solar Clock Data (8-4)

North Latitude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)

Hebrew	Ped Recall
Sabbath	
Holiday	

TOD FUNCTIONS

TOD Functions (8-3)

#	Start	End	DOW	Action	Phases
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Action Codes:

- 0. None
- 1. Permitted
- 2. Restricted
- 4. Veh Min Recall
- 5. Veh Max Recall
- 6. Ped Recall
- 7. Bike Recall
- 8. Red Lock
- 9. Yellow Lock
- 10. Force/Max Lock
- 11. Double Entry
- 12. Y-Coord C
- 13. Y-Coord D
- 14. Free
- 15. Flashing
- 16. Walk 2
- 17. Max Green 2

- 18. Max Green 3
- 19. Rest in Walk
- 20. Rest in Red
- 21. Free Lag Phases
- 22. Special Functions
- 23. Truck Preempt
- 24. Conditional Service
- 25. Conditional Service
- 26. Leading Ped
- 27. Traffic Actuated Max 2
- 41. Protected Permissive
- 42. Protected Permissive

Action Code = Phases added to normal setting

100+Action Code = Phases removed

200+Action Code = Phases replaced

COMMUNICATIONS

C2 (6-1-1)	
Address	
Protocol	AB3418
Access Level	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C20 (6-1-2)	
Address	
Protocol	AB3418
Access Level	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C21 (6-1-3)	
Address	
Protocol	AB3418
Access Level	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

Access Levels:

- 0-Full Access
- 1-Status Only
- 2-Status, Set Pattern, Time
- 3-Status, Set Pattern, Time, Manual Plan
- 4-Reserved
- 5-Full Access with No Set Pattern
- 6-Full Access with No Set Time
- 7-Full Access with No Set Pattern, Manual Plan
- 8-Full Access with No Set Time, Pattern, Manual Plan

SOFT LOGIC

Soft Logic (6-2)							
#	Data	OP	Data	OP	Data	OP	Data
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

*Refer to User's Manual for Data and OP Codes

CALLBACK NUMBERS

Callback Numbers (6-3...3)	
Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

NETWORK

Network (6-4)	
Address	1
Protocol	AB3418
Port	27000
Type	STATIC
Central Access	0
Field Access	0

IP Address	10	253	93	8
Netmask	255	255	255	0
Broadcast	10	253	93	255
Gateway	10	253	93	254

RAILROAD PREEMPTION

RR 1	(3-1-1)	Timing	Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
	Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
	Clear 1	10	. 2 . . 5 . .					. 2 . 4 . 6 . 8			
	Clear 2										
	Clear 3										
	Hold				1 2 3 4 5 6 7 8						A B C D E F
	Exit	5	Exit Parameters (3-1-5)				Configuration (3-1-6)				
	Min Grn		Phase Green	Overlap Green	Vehicle Call	Ped Call	PR 1	PR 2	Latching	Power-Up	
	Ped Clr				1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8	2.5	0.0	YES	FLASHING	

RR 2	(3-2-1)	Timing	Phase Flags (3-2-2)			Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
	Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
	Clear 1	10	. . . 4 . . 7 .					. 2 . 4 . 6 . 8			
	Clear 2										
	Clear 3										
	Hold		1 2 3 . . 6 . .			. 2 . . . 6 . .		. . . 4 . . . 8			
	Exit		Exit Parameters (3-2-5)				Configuration (3-2-6)				
	Min Grn		Phase Green	Overlap Green	Vehicle Call	Ped Call	PR 1	PR 2	Latching	Power-up	
	Ped Clr				. . . 4 . . 7 .		2.6	0.0	YES	DARK	

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		5	255	. 2 . . 5 . .	
	Port	Latching	Phase Termination		
	5.5	NO	ADVANCE		

EVB (3-B)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		5	255	. . . 4	
	Port	Latching	Phase Termination		
	5.6	NO	ADVANCE		

EVC (3-C)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		5	255	1 6 . .	
	Port	Latching	Phase Termination		
	5.7	NO	ADVANCE		

EVD (3-D)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		5	255	. . 3	
	Port	Latching	Phase Termination		
	5.8	NO	ADVANCE		

INPUTS

		7 Wire I/C (2-1-5-1)			
		Input	Port	Input	Port
Enable	NO	R1	3.8	Free	3.6
Max ON		R2	3.5	D2	2.8
Max OFF		R3	3.7	D3	6.1

Manual Control (2-1-5-2)	
Input	Port
Manual Advance	
Advance Enable	

Battery Backup (2-1-5-5)	
Port	Operation
2.7	FLASHING

Y-Coordination (2-1-5-6)	
Port C	Port D
6.1	2.8

Cabinet Status (2-1-5-3)	
Input	Port
Flash Bus	
Door Ajar	
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	
2	
3	
4	

OUTPUTS

Loadswitch Assignments (2-1-6)								+
A	1	2	22	3	4	24	9	
B	5	6	26	7	8	28	10	
X	13	14	0	11	12	0	0	

Loadswitch Codes:

0 Unused (no output)

1-8 Vehicle 1-8

9-14 Overlap A-F

21-28 Ped 1-8

41-47 Special Functions

41 Protected Permissive Flashing Phase 1

43 Protected Permissive Flashing Phase 3

45 Protected Permissive Flashing Phase 5

47 Protected Permissive Flashing Phase 7

51-57 Special Functions

71-72 Seven Wire I/C

+ middle output of
loadswitches 3 and 6
Channel 9 and 10

TRANSIT PRIORITY

Local Plans (3-E) 1...9 11...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor											
Plan 2	Green Factor											
Plan 3	Green Factor											
Plan 4	Green Factor											
Plan 5	Green Factor											
Plan 6	Green Factor											
Plan 7	Green Factor											
Plan 8	Green Factor											
Plan 9	Green Factor											
Plan 11	Green Factor											
Plan 12	Green Factor											
Plan 13	Green Factor											
Plan 14	Green Factor											
Plan 15	Green Factor											
Plan 16	Green Factor											
Plan 17	Green Factor											
Plan 18	Green Factor											
Plan 19	Green Factor											

Transit Priority Configuration (3-E-A)		Indicator Output			
Enable in Plans	Input	Type	Stop	Go	
Plan 1-9		0.0	NONE	0	0
Plan 11-19		0.0	NONE	0	0

Queue Jump (3-E-B)	
Grn Hold	Hold Phase
	
	

Free Plans (3-E-E)	
Max Grn Hold	Hold Phase
	

Access Utilities (9-5)	
Password	***
Timeout	120

YELLOW YIELD COORDINATION

					Force-Offs											
Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	Coord	Lag	Min Recall	Restricted
Plan C													. 2 . . . 6 . .	. 2 . 4 . 6 . 8		
Plan D													. 2 . . . 6 . .	. 2 . 4 . 6 . 8		

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
						0.0	0.0	0.0	0	0.0	0

This page intentionally left blank

Appendix C: Existing HCM Worksheets

HCM 6th Signalized Intersection Capacity Analysis

1: 1st St & Main St

Existing AM Peak Hour

11/13/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	176	73	137	185	31	73	160	251	43	196	17
Future Volume (veh/h)	14	176	73	137	185	31	73	160	251	43	196	17
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	212	114	217	268	52	84	208	344	88	306	32
Peak Hour Factor	0.50	0.83	0.64	0.63	0.69	0.60	0.87	0.77	0.73	0.49	0.64	0.53
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	85	396	204	259	810	155	163	513	665	165	436	46
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.17	0.17	0.15	0.27	0.27	0.09	0.27	0.27	0.09	0.26	0.26
Unsig. Movement Delay												
Ln Grp Delay, s/veh	33.5	30.5	31.3	46.2	22.1	22.2	33.3	22.9	17.5	33.3	0.0	25.6
Ln Grp LOS	C	C	C	D	C	C	C	C	B	C	A	C
Approach Vol, veh/h	354			537			636			426		
Approach Delay, s/veh	31.1			31.9			21.4			27.2		
Approach LOS	C			C			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	4.0	2.0	4.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	15.0	18.8	12.2	25.0	8.1	25.7	11.3	25.9				
Change Period (Y+Rc), s	* 4.7	6.4	* 5.7	* 6.4	* 4.7	* 6.4	* 4.7	6.4				
Max Green (Gmax), s	* 11	35.5	* 8.3	* 33	* 8	* 40	* 8	33.0				
Max Allow Headway (MAH), s	2.8	7.6	3.7	5.3	2.7	8.3	3.8	7.4				
Max Q Clear (g_c+I1), s	10.4	8.3	5.2	13.8	3.1	7.2	5.3	13.4				
Green Ext Time (g_e), s	0.0	4.1	0.0	2.0	0.0	5.0	0.0	6.0				
Prob of Phs Call (p_c)	0.99	1.00	0.81	1.00	0.42	1.00	0.82	1.00				
Prob of Max Out (p_x)	1.00	0.02	1.00	0.01	0.01	0.02	1.00	0.24				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1781	1781		1781		1781						
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	2266			1665			2976			1870		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	1171			174			569			1585		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis

1: 1st St & Main St

Existing AM Peak Hour

11/13/2024

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	217	0	84	0	28	0	88	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	8.4	0.0	3.2	0.0	1.1	0.0	3.3	0.0
Cycle Q Clear Time (g_c), s	8.4	0.0	3.2	0.0	1.1	0.0	3.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	259	0	163	0	85	0	165	0
V/C Ratio (X)	0.84	0.00	0.52	0.00	0.33	0.00	0.53	0.00
Avail Cap (c_a), veh/h	284	0	208	0	201	0	201	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	29.5	0.0	30.7	0.0	32.7	0.0	30.7	0.0
Incr Delay (d2), s/veh	16.7	0.0	2.5	0.0	0.8	0.0	2.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	46.2	0.0	33.3	0.0	33.5	0.0	33.3	0.0
1st-Term Q (Q1), veh/ln	3.4	0.0	1.3	0.0	0.4	0.0	1.4	0.0
2nd-Term Q (Q2), veh/ln	1.2	0.0	0.1	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.6	0.0	1.4	0.0	0.5	0.0	1.5	0.0
%ile Storage Ratio (RQ%)	0.64	0.00	0.16	0.00	0.07	0.00	0.59	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T		T	
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	164	0	0	0	158	0	208
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	1870
Q Serve Time (g_s), s	0.0	6.0	0.0	0.0	0.0	5.1	0.0	6.4
Cycle Q Clear Time (g_c), s	0.0	6.0	0.0	0.0	0.0	5.1	0.0	6.4
Lane Grp Cap (c), veh/h	0	310	0	0	0	483	0	513
V/C Ratio (X)	0.00	0.53	0.00	0.00	0.00	0.33	0.00	0.41
Avail Cap (c_a), veh/h	0	889	0	0	0	989	0	870
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	26.6	0.0	0.0	0.0	20.6	0.0	21.0
Incr Delay (d2), s/veh	0.0	3.8	0.0	0.0	0.0	1.4	0.0	1.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	30.5	0.0	0.0	0.0	22.1	0.0	22.9
1st-Term Q (Q1), veh/ln	0.0	2.3	0.0	0.0	0.0	2.0	0.0	2.6
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.3

HCM 6th Signalized Intersection Capacity Analysis

1: 1st St & Main St

Existing AM Peak Hour

11/13/2024

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.7	0.0	0.0	0.0	2.2	0.0	2.8
%ile Storage Ratio (RQ%)	0.00	0.13	0.00	0.00	0.00	0.12	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	162	0	338	0	162	0	344
Grp Sat Flow (s), veh/h/ln	0	1660	0	1839	0	1768	0	1585
Q Serve Time (g_s), s	0.0	6.3	0.0	11.8	0.0	5.2	0.0	11.4
Cycle Q Clear Time (g_c), s	0.0	6.3	0.0	11.8	0.0	5.2	0.0	11.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1585.1
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.3
Prop RT Outside Lane (P_R)	0.00	0.71	0.00	0.09	0.00	0.32	0.00	1.00
Lane Grp Cap (c), veh/h	0	290	0	482	0	481	0	665
V/C Ratio (X)	0.00	0.56	0.00	0.70	0.00	0.34	0.00	0.52
Avail Cap (c_a), veh/h	0	831	0	866	0	984	0	968
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	26.8	0.0	23.7	0.0	20.7	0.0	15.3
Incr Delay (d2), s/veh	0.0	4.6	0.0	1.9	0.0	1.5	0.0	2.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	31.3	0.0	25.6	0.0	22.2	0.0	17.5
1st-Term Q (Q1), veh/ln	0.0	2.3	0.0	4.8	0.0	2.0	0.0	3.5
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.3	0.0	0.2	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.7	0.0	5.1	0.0	2.2	0.0	4.0
%ile Storage Ratio (RQ%)	0.00	0.13	0.00	0.41	0.00	0.12	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	27.3
HCM 6th LOS	C

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis

2: Brawley Ave & 1st St & K St

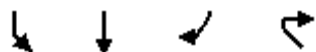
Existing AM Peak Hour

11/13/2024

												
Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL2
Lane Configurations												
Traffic Volume (vph)	20	74	2	24	11	90	25	58	18	450	65	49
Future Volume (vph)	20	74	2	24	11	90	25	58	18	450	65	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7		5.7			5.7	5.7	4.7	5.4		
Lane Util. Factor		1.00		1.00			1.00	1.00	1.00	0.95		
Frt		1.00		0.85			1.00	0.85	1.00	0.98		
Flt Protected		0.99		1.00			0.96	1.00	0.95	1.00		
Satd. Flow (prot)		1836		1583			1793	1583	1770	3477		
Flt Permitted		0.99		1.00			0.96	1.00	0.95	1.00		
Satd. Flow (perm)		1836		1583			1793	1583	1770	3477		
Peak-hour factor, PHF	0.62	0.64	0.50	0.67	0.46	0.80	0.62	0.58	0.56	0.68	0.74	0.72
Adj. Flow (vph)	32	116	4	36	24	112	40	100	32	662	88	68
RTOR Reduction (vph)	0	0	0	31	0	0	0	80	0	0	0	0
Lane Group Flow (vph)	0	152	0	5	0	0	177	20	32	750	0	0
Turn Type	Split	NA		Perm	Split	Split	NA	Perm	Prot	NA		Prot
Protected Phases	3	3			4	4	4		1	6		5
Permitted Phases				3				4				
Actuated Green, G (s)		14.1		14.1			15.6	15.6	3.8	46.8		
Effective Green, g (s)		14.1		14.1			15.6	15.6	3.8	46.8		
Actuated g/C Ratio		0.15		0.15			0.17	0.17	0.04	0.50		
Clearance Time (s)		5.7		5.7			5.7	5.7	4.7	5.4		
Vehicle Extension (s)		4.0		4.0			4.0	4.0	2.0	6.0		
Lane Grp Cap (vph)		277		239			299	264	72	1744		
v/s Ratio Prot		c0.08					c0.10		0.02	c0.22		
v/s Ratio Perm				0.00				0.01				
v/c Ratio		0.55		0.02			0.59	0.08	0.44	0.43		
Uniform Delay, d1		36.7		33.7			35.9	32.8	43.7	14.8		
Progression Factor		1.00		1.00			1.00	1.00	1.00	1.00		
Incremental Delay, d2		2.8		0.1			3.6	0.2	1.6	0.5		
Delay (s)		39.4		33.8			39.6	32.9	45.3	15.3		
Level of Service		D		C			D	C	D	B		
Approach Delay (s)		38.3					37.2			16.5		
Approach LOS		D					D			B		
Intersection Summary												
HCM 2000 Control Delay			24.4				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			93.3				Sum of lost time (s)			21.5		
Intersection Capacity Utilization			51.1%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 2: Brawley Ave & 1st St & K St

Existing AM Peak Hour
11/13/2024



Movement	SBL	SBT	SBR	NWR2
Lane Configurations				
Traffic Volume (vph)	27	330	14	99
Future Volume (vph)	27	330	14	99
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.4	5.4		4.0
Lane Util. Factor	1.00	0.95		1.00
Frt	1.00	0.99		0.86
Flt Protected	0.95	1.00		1.00
Satd. Flow (prot)	1770	3513		1611
Flt Permitted	0.37	1.00		1.00
Satd. Flow (perm)	684	3513		1611
Peak-hour factor, PHF	0.75	0.72	0.58	0.75
Adj. Flow (vph)	36	458	24	132
RTOR Reduction (vph)	0	2	0	132
Lane Group Flow (vph)	104	480	0	0
Turn Type	Perm	NA		custom
Protected Phases		2		
Permitted Phases	2			
Actuated Green, G (s)	38.3	38.3		0.0
Effective Green, g (s)	38.3	38.3		0.0
Actuated g/C Ratio	0.41	0.41		0.00
Clearance Time (s)	5.4	5.4		
Vehicle Extension (s)	6.0	6.0		
Lane Grp Cap (vph)	280	1442		0
v/s Ratio Prot		0.14		
v/s Ratio Perm	0.15			
v/c Ratio	0.37	0.33		0.00
Uniform Delay, d1	19.1	18.8		46.6
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	2.3	0.4		0.0
Delay (s)	21.5	19.2		46.6
Level of Service	C	B		D
Approach Delay (s)		19.6		
Approach LOS		B		
Intersection Summary				

HCM Signalized Intersection Capacity Analysis

3: Malan St & Brawley Ave

Existing AM Peak Hour

11/14/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	53	238	198	43	32	137	424	109	14	405	8
Future Volume (vph)	2	53	238	198	43	32	137	424	109	14	405	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7	4.7		4.7		4.7	6.4		4.7	6.4	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.98		1.00	0.97		1.00	1.00	
Flt Protected		1.00	1.00		0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1858	1583		1764		1770	3434		1770	3528	
Flt Permitted		1.00	1.00		0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1858	1583		1764		1770	3434		1770	3528	
Peak-hour factor, PHF	0.50	0.66	0.94	0.87	0.67	0.57	0.88	0.75	0.78	0.50	0.75	0.67
Adj. Flow (vph)	4	80	253	228	64	56	156	565	140	28	540	12
RTOR Reduction (vph)	0	0	226	0	6	0	0	15	0	0	1	0
Lane Group Flow (vph)	0	84	27	0	342	0	156	690	0	28	551	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3									
Actuated Green, G (s)		9.9	9.9		22.3		11.6	35.4		3.3	27.1	
Effective Green, g (s)		9.9	9.9		22.3		11.6	35.4		3.3	27.1	
Actuated g/C Ratio		0.11	0.11		0.24		0.13	0.39		0.04	0.30	
Clearance Time (s)		4.7	4.7		4.7		4.7	6.4		4.7	6.4	
Vehicle Extension (s)		3.0	3.0		3.0		2.0	6.0		2.0	6.0	
Lane Grp Cap (vph)		201	171		430		224	1330		63	1046	
v/s Ratio Prot		c0.05			c0.19		c0.09	c0.20		0.02	0.16	
v/s Ratio Perm			0.02									
v/c Ratio		0.42	0.16		0.80		0.70	0.52		0.44	0.53	
Uniform Delay, d1		38.1	37.0		32.4		38.2	21.5		43.2	26.8	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.4	0.4		9.8		7.4	0.9		1.8	1.9	
Delay (s)		39.5	37.4		42.2		45.6	22.4		45.0	28.7	
Level of Service		D	D		D		D	C		D	C	
Approach Delay (s)		37.9			42.2			26.6			29.5	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			31.7				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			91.4				Sum of lost time (s)			20.5		
Intersection Capacity Utilization			57.7%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Brawley Ave & Panno Dr/Wildcat Dr

Existing AM Peak Hour

11/13/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	54	9	14	41	116	21	490	29	215	465	147
Future Volume (vph)	105	54	9	14	41	116	21	490	29	215	465	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	5.7	5.7	5.7		5.7	7.5	5.7	5.7	7.5	5.7
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00		0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.90		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	3433	1680		3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	3433	1680		3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.66	0.79	0.75	0.70	0.57	0.85	0.58	0.75	0.60	0.76	0.92	0.80
Adj. Flow (vph)	159	68	12	20	72	136	36	653	48	283	505	184
RTOR Reduction (vph)	0	0	10	0	54	0	0	0	25	0	0	93
Lane Group Flow (vph)	159	68	2	20	154	0	36	653	23	283	505	91
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	3		4	4		1	6		5	2	3
Permitted Phases			3						6			2
Actuated Green, G (s)	15.0	15.0	15.0	14.8	14.8		7.1	29.8	44.6	8.2	30.9	45.9
Effective Green, g (s)	15.0	15.0	15.0	14.8	14.8		7.1	29.8	44.6	8.2	30.9	45.9
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.16		0.08	0.32	0.48	0.09	0.33	0.50
Clearance Time (s)	5.7	5.7	5.7	5.7	5.7		5.7	7.5	5.7	5.7	7.5	5.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		2.0	7.0	3.0	2.0	7.0	3.0
Lane Grp Cap (vph)	287	574	256	549	269		263	1141	764	304	1183	786
v/s Ratio Prot	c0.09	0.02		0.01	c0.09		0.01	c0.18	0.00	c0.08	0.14	0.02
v/s Ratio Perm			0.00						0.01			0.04
v/c Ratio	0.55	0.12	0.01	0.04	0.57		0.14	0.57	0.03	0.93	0.43	0.12
Uniform Delay, d1	35.6	33.1	32.5	32.8	35.9		39.8	26.0	12.5	41.8	23.9	12.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.3	0.1	0.0	0.0	2.9		1.1	1.7	0.0	36.6	0.9	0.1
Delay (s)	37.9	33.1	32.5	32.8	38.8		40.9	27.7	12.6	78.4	24.8	12.5
Level of Service	D	C	C	C	D		D	C	B	E	C	B
Approach Delay (s)		36.3			38.3			27.3			38.1	
Approach LOS		D			D			C			D	
Intersection Summary												
HCM 2000 Control Delay			34.3			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			92.4			Sum of lost time (s)			24.6			
Intersection Capacity Utilization			59.2%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Legion Rd/Future Legion Rd & Brawley Ave

Existing AM Peak Hour

11/13/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	54	126	98	70	15	127	411	63	16	402	59
Future Volume (vph)	108	54	126	98	70	15	127	411	63	16	402	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.7		5.7	5.7	4.7	7.5	7.5	4.7	7.5	
Lane Util. Factor		1.00	1.00		1.00	0.88	1.00	0.95	1.00	0.97	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected		0.97	1.00		0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1806	1583		1813	2787	1770	3539	1583	3433	3450	
Flt Permitted		0.97	1.00		0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1806	1583		1813	2787	1770	3539	1583	3433	3450	
Peak-hour factor, PHF	0.71	0.61	0.90	0.79	0.70	0.62	0.79	0.88	0.98	0.67	0.84	0.61
Adj. Flow (vph)	152	89	140	124	100	24	161	467	64	24	479	97
RTOR Reduction (vph)	0	0	93	0	0	17	0	0	42	0	12	0
Lane Group Flow (vph)	0	241	47	0	224	7	161	467	22	24	564	0
Turn Type	Split	NA	pm+ov	Split	NA	pt+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	3	3	1	4	4	4 5	1	6		5	2	
Permitted Phases			3						6			
Actuated Green, G (s)		19.1	32.6		17.9	28.0	13.5	33.0	33.0	4.4	23.9	
Effective Green, g (s)		19.1	32.6		17.9	28.0	13.5	33.0	33.0	4.4	23.9	
Actuated g/C Ratio		0.19	0.33		0.18	0.29	0.14	0.34	0.34	0.04	0.24	
Clearance Time (s)		5.7	4.7		5.7		4.7	7.5	7.5	4.7	7.5	
Vehicle Extension (s)		3.0	2.0		3.0		2.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)		351	526		331	796	243	1191	533	154	841	
v/s Ratio Prot		c0.13	0.01		c0.12	0.00	c0.09	0.13		0.01	c0.16	
v/s Ratio Perm			0.02						0.01			
v/c Ratio		0.69	0.09		0.68	0.01	0.66	0.39	0.04	0.16	0.67	
Uniform Delay, d1		36.7	22.5		37.4	25.1	40.1	24.8	21.9	45.0	33.5	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		5.5	0.0		5.4	0.0	5.2	0.2	0.0	0.2	2.1	
Delay (s)		42.2	22.5		42.8	25.1	45.3	25.0	21.9	45.2	35.6	
Level of Service		D	C		D	C	D	C	C	D	D	
Approach Delay (s)		34.9			41.0			29.5			36.0	
Approach LOS		C			D			C			D	
Intersection Summary												
HCM 2000 Control Delay		34.1			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.67										
Actuated Cycle Length (s)		98.0			Sum of lost time (s)			23.6				
Intersection Capacity Utilization		50.7%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

11: Keystone Rd & SR-86

Existing AM Peak Hour

11/13/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	33	4	31	18	34	19	443	43	29	477	34
Future Volume (vph)	39	33	4	31	18	34	19	443	43	29	477	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.5			8.5		5.7	8.4	8.4	5.7	8.4	8.4
Lane Util. Factor		1.00			1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.99			0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97			0.98		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1797			1728		1770	3539	1583	1770	3539	1583
Flt Permitted		0.60			0.80		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1114			1422		1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.65	0.75	0.50	0.52	0.75	0.65	0.59	0.88	0.67	0.56	0.95	0.57
Adj. Flow (vph)	60	44	8	60	24	52	32	503	64	52	502	60
RTOR Reduction (vph)	0	2	0	0	23	0	0	0	47	0	0	43
Lane Group Flow (vph)	0	110	0	0	113	0	32	503	17	52	502	17
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		3			4		1	6		5	2	
Permitted Phases	3			4					6			2
Actuated Green, G (s)		13.6			13.2		4.4	23.9	23.9	6.0	25.5	25.5
Effective Green, g (s)		13.6			13.2		4.4	23.9	23.9	6.0	25.5	25.5
Actuated g/C Ratio		0.15			0.15		0.05	0.27	0.27	0.07	0.29	0.29
Clearance Time (s)		8.5			8.5		5.7	8.4	8.4	5.7	8.4	8.4
Vehicle Extension (s)		3.0			3.0		2.0	6.0	6.0	2.0	6.0	6.0
Lane Grp Cap (vph)		172			213		88	963	430	120	1027	459
v/s Ratio Prot							0.02	c0.14		c0.03	0.14	
v/s Ratio Perm		c0.10			c0.08				0.01			0.01
v/c Ratio		0.64			0.53		0.36	0.52	0.04	0.43	0.49	0.04
Uniform Delay, d1		34.8			34.4		40.3	27.1	23.5	39.3	25.8	22.3
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		7.9			2.5		0.9	1.3	0.1	0.9	1.0	0.1
Delay (s)		42.7			37.0		41.3	28.4	23.6	40.2	26.8	22.4
Level of Service		D			D		D	C	C	D	C	C
Approach Delay (s)		42.7			37.0			28.6			27.5	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM 2000 Control Delay		30.0			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.54										
Actuated Cycle Length (s)		87.8			Sum of lost time (s)			31.1				
Intersection Capacity Utilization		46.5%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th Signalized Intersection Capacity Analysis

1: 1st St & Main St

Existing PM Peak Hour

11/13/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	212	82	111	211	26	109	186	144	30	112	18
Future Volume (veh/h)	21	212	82	111	211	26	109	186	144	30	112	18
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	233	124	179	240	28	124	235	160	48	137	24
Peak Hour Factor	0.75	0.91	0.66	0.62	0.88	0.93	0.88	0.79	0.90	0.63	0.82	0.75
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	89	463	238	226	902	104	208	421	558	131	257	45
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.20	0.20	0.13	0.28	0.28	0.12	0.23	0.23	0.07	0.17	0.17
Unsig. Movement Delay												
Ln Grp Delay, s/veh	28.2	24.0	24.6	29.5	17.7	17.8	27.9	24.7	15.0	28.1	0.0	24.4
Ln Grp LOS	C	C	C	C	B	B	C	C	B	C	A	C
Approach Vol, veh/h	385			447			519			209		
Approach Delay, s/veh	24.6			22.5			22.5			25.2		
Approach LOS	C			C			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	4.0	2.0	4.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	12.3	18.6	12.7	16.3	7.7	23.2	9.1	19.9				
Change Period (Y+Rc), s	* 4.7	6.4	* 5.7	* 6.4	* 4.7	* 6.4	* 4.7	6.4				
Max Green (Gmax), s	* 11	35.5	* 8.3	* 33	* 8	* 40	* 8	33.0				
Max Allow Headway (MAH), s	2.8	7.6	3.7	5.3	2.7	8.3	3.8	7.6				
Max Q Clear (g_c+I1), s	7.8	7.7	6.0	6.8	2.9	5.5	3.5	8.7				
Green Ext Time (g_e), s	0.1	4.6	0.1	0.9	0.0	4.1	0.0	4.8				
Prob of Phs Call (p_c)	0.95	1.00	0.87	1.00	0.37	1.00	0.55	1.00				
Prob of Max Out (p_x)	0.46	0.03	1.00	0.00	0.01	0.01	0.41	0.07				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	2271	1550	3210	1870								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1166	272	371	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

1: 1st St & Main St

Existing PM Peak Hour

11/13/2024

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	179	0	124	0	28	0	48	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	5.8	0.0	4.0	0.0	0.9	0.0	1.5	0.0
Cycle Q Clear Time (g_c), s	5.8	0.0	4.0	0.0	0.9	0.0	1.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	226	0	208	0	89	0	131	0
V/C Ratio (X)	0.79	0.00	0.60	0.00	0.32	0.00	0.37	0.00
Avail Cap (c_a), veh/h	336	0	247	0	238	0	238	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	25.4	0.0	25.1	0.0	27.5	0.0	26.4	0.0
Incr Delay (d2), s/veh	4.1	0.0	2.8	0.0	0.8	0.0	1.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	29.5	0.0	27.9	0.0	28.2	0.0	28.1	0.0
1st-Term Q (Q1), veh/ln	2.3	0.0	1.5	0.0	0.4	0.0	0.6	0.0
2nd-Term Q (Q2), veh/ln	0.3	0.0	0.2	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.6	0.0	1.7	0.0	0.4	0.0	0.7	0.0
%ile Storage Ratio (RQ%)	0.35	0.00	0.20	0.00	0.06	0.00	0.27	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	180	0	0	0	132	0	235
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	1870
Q Serve Time (g_s), s	0.0	5.4	0.0	0.0	0.0	3.4	0.0	6.7
Cycle Q Clear Time (g_c), s	0.0	5.4	0.0	0.0	0.0	3.4	0.0	6.7
Lane Grp Cap (c), veh/h	0	363	0	0	0	499	0	421
V/C Ratio (X)	0.00	0.50	0.00	0.00	0.00	0.26	0.00	0.56
Avail Cap (c_a), veh/h	0	1053	0	0	0	1171	0	1030
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	21.1	0.0	0.0	0.0	16.7	0.0	20.6
Incr Delay (d2), s/veh	0.0	2.9	0.0	0.0	0.0	1.0	0.0	4.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.0	0.0	0.0	0.0	17.7	0.0	24.7
1st-Term Q (Q1), veh/ln	0.0	2.0	0.0	0.0	0.0	1.3	0.0	2.6
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.5

HCM 6th Signalized Intersection Capacity Analysis

1: 1st St & Main St

Existing PM Peak Hour

11/13/2024

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.3	0.0	0.0	0.0	1.4	0.0	3.1
%ile Storage Ratio (RQ%)	0.00	0.11	0.00	0.00	0.00	0.08	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	177	0	161	0	136	0	160
Grp Sat Flow (s), veh/h/ln	0	1660	0	1821	0	1804	0	1585
Q Serve Time (g_s), s	0.0	5.7	0.0	4.8	0.0	3.5	0.0	4.4
Cycle Q Clear Time (g_c), s	0.0	5.7	0.0	4.8	0.0	3.5	0.0	4.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1585.1
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.6
Prop RT Outside Lane (P_R)	0.00	0.70	0.00	0.15	0.00	0.21	0.00	1.00
Lane Grp Cap (c), veh/h	0	339	0	301	0	507	0	558
V/C Ratio (X)	0.00	0.52	0.00	0.53	0.00	0.27	0.00	0.29
Avail Cap (c_a), veh/h	0	984	0	1015	0	1189	0	1074
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	21.2	0.0	22.9	0.0	16.8	0.0	14.0
Incr Delay (d2), s/veh	0.0	3.4	0.0	1.5	0.0	1.0	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.6	0.0	24.4	0.0	17.8	0.0	15.0
1st-Term Q (Q1), veh/ln	0.0	2.0	0.0	1.9	0.0	1.3	0.0	1.3
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.1	0.0	0.1	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.3	0.0	2.1	0.0	1.5	0.0	1.5
%ile Storage Ratio (RQ%)	0.00	0.11	0.00	0.17	0.00	0.08	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	23.4
HCM 6th LOS	C

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis

2: Brawley Ave & 1st St & K St

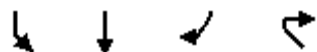
Existing PM Peak Hour

11/13/2024

												
Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL2
Lane Configurations												
Traffic Volume (vph)	22	62	1	16	13	96	50	44	23	401	94	19
Future Volume (vph)	22	62	1	16	13	96	50	44	23	401	94	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7		5.7			5.7	5.7	4.7	5.4		
Lane Util. Factor		1.00		1.00			1.00	1.00	1.00	0.95		
Frt		0.99		0.85			1.00	0.85	1.00	0.97		
Flt Protected		0.99		1.00			0.97	1.00	0.95	1.00		
Satd. Flow (prot)		1831		1583			1802	1583	1770	3433		
Flt Permitted		0.99		1.00			0.97	1.00	0.95	1.00		
Satd. Flow (perm)		1831		1583			1802	1583	1770	3433		
Peak-hour factor, PHF	0.79	0.74	0.25	0.67	0.54	0.73	0.66	0.73	0.72	0.83	0.78	0.43
Adj. Flow (vph)	28	84	4	24	24	132	76	60	32	483	121	44
RTOR Reduction (vph)	0	0	0	20	0	0	0	47	0	0	0	0
Lane Group Flow (vph)	0	116	0	4	0	0	232	13	32	604	0	0
Turn Type	Split	NA		Perm	Split	Split	NA	Perm	Prot	NA		Prot
Protected Phases	3	3			4	4	4		1	6		5
Permitted Phases				3				4				
Actuated Green, G (s)		12.6		12.6			18.2	18.2	3.5	36.4		
Effective Green, g (s)		12.6		12.6			18.2	18.2	3.5	36.4		
Actuated g/C Ratio		0.15		0.15			0.22	0.22	0.04	0.43		
Clearance Time (s)		5.7		5.7			5.7	5.7	4.7	5.4		
Vehicle Extension (s)		4.0		4.0			4.0	4.0	2.0	6.0		
Lane Grp Cap (vph)		274		237			390	342	73	1487		
v/s Ratio Prot		c0.06					c0.13		0.02	c0.18		
v/s Ratio Perm				0.00				0.01				
v/c Ratio		0.42		0.02			0.59	0.04	0.44	0.41		
Uniform Delay, d1		32.4		30.4			29.6	26.0	39.3	16.4		
Progression Factor		1.00		1.00			1.00	1.00	1.00	1.00		
Incremental Delay, d2		1.4		0.0			2.8	0.1	1.5	0.5		
Delay (s)		33.8		30.4			32.4	26.0	40.8	16.9		
Level of Service		C		C			C	C	D	B		
Approach Delay (s)		33.3					31.1			18.1		
Approach LOS		C					C			B		
Intersection Summary												
HCM 2000 Control Delay			23.6				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			84.0				Sum of lost time (s)			21.5		
Intersection Capacity Utilization			49.8%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 2: Brawley Ave & 1st St & K St

Existing PM Peak Hour
11/13/2024



Movement	SBL	SBT	SBR	NWR2
Lane Configurations				
Traffic Volume (vph)	26	257	16	35
Future Volume (vph)	26	257	16	35
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.4	5.4		4.0
Lane Util. Factor	1.00	0.95		1.00
Frt	1.00	0.99		0.86
Flt Protected	0.95	1.00		1.00
Satd. Flow (prot)	1770	3499		1611
Flt Permitted	0.42	1.00		1.00
Satd. Flow (perm)	789	3499		1611
Peak-hour factor, PHF	0.65	0.75	0.57	0.73
Adj. Flow (vph)	40	343	28	48
RTOR Reduction (vph)	0	4	0	48
Lane Group Flow (vph)	84	367	0	0
Turn Type	Perm	NA		custom
Protected Phases		2		
Permitted Phases	2			
Actuated Green, G (s)	28.2	28.2		0.0
Effective Green, g (s)	28.2	28.2		0.0
Actuated g/C Ratio	0.34	0.34		0.00
Clearance Time (s)	5.4	5.4		
Vehicle Extension (s)	6.0	6.0		
Lane Grp Cap (vph)	264	1174		0
v/s Ratio Prot		0.10		
v/s Ratio Perm	0.11			
v/c Ratio	0.32	0.31		0.00
Uniform Delay, d1	20.8	20.7		42.0
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	2.0	0.4		0.0
Delay (s)	22.7	21.1		42.0
Level of Service	C	C		D
Approach Delay (s)		21.4		
Approach LOS		C		
Intersection Summary				

HCM Signalized Intersection Capacity Analysis

3: Malan St & Brawley Ave

Existing PM Peak Hour

11/14/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	51	219	127	58	16	217	455	134	6	346	10
Future Volume (vph)	1	51	219	127	58	16	217	455	134	6	346	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7	4.7		4.7		4.7	6.4		4.7	6.4	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.99		1.00	0.96		1.00	0.99	
Flt Protected		1.00	1.00		0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1858	1583		1779		1770	3409		1770	3521	
Flt Permitted		1.00	1.00		0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1858	1583		1779		1770	3409		1770	3521	
Peak-hour factor, PHF	0.25	0.71	0.86	0.71	0.85	0.57	0.84	0.97	0.88	0.50	0.76	0.63
Adj. Flow (vph)	4	72	255	179	68	28	258	469	152	12	455	16
RTOR Reduction (vph)	0	0	228	0	3	0	0	21	0	0	2	0
Lane Group Flow (vph)	0	76	27	0	272	0	258	600	0	12	469	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3									
Actuated Green, G (s)		9.6	9.6		18.2		17.0	39.6		1.6	24.2	
Effective Green, g (s)		9.6	9.6		18.2		17.0	39.6		1.6	24.2	
Actuated g/C Ratio		0.11	0.11		0.20		0.19	0.44		0.02	0.27	
Clearance Time (s)		4.7	4.7		4.7		4.7	6.4		4.7	6.4	
Vehicle Extension (s)		3.0	3.0		3.0		2.0	6.0		2.0	6.0	
Lane Grp Cap (vph)		199	169		361		336	1508		31	952	
v/s Ratio Prot		c0.04			c0.15		c0.15	0.18		0.01	c0.13	
v/s Ratio Perm			0.02									
v/c Ratio		0.38	0.16		0.75		0.77	0.40		0.39	0.49	
Uniform Delay, d1		37.2	36.3		33.5		34.4	16.9		43.5	27.5	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.2	0.5		8.6		9.1	0.5		2.9	1.8	
Delay (s)		38.4	36.7		42.1		43.5	17.4		46.4	29.3	
Level of Service		D	D		D		D	B		D	C	
Approach Delay (s)		37.1			42.1			25.0			29.7	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			30.6				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			89.5				Sum of lost time (s)			20.5		
Intersection Capacity Utilization			55.2%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Brawley Ave & Panno Dr/Wildcat Dr

Existing PM Peak Hour

11/13/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	62	18	25	45	156	29	562	30	202	426	101
Future Volume (vph)	79	62	18	25	45	156	29	562	30	202	426	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	5.7	5.7	5.7		5.7	7.5	5.7	5.7	7.5	5.7
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00		0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.89		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	3433	1653		3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	3433	1653		3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.66	0.65	0.64	0.78	0.80	0.93	0.73	0.84	0.58	0.97	0.89	0.84
Adj. Flow (vph)	120	95	28	32	56	168	40	669	52	208	479	120
RTOR Reduction (vph)	0	0	24	0	85	0	0	0	27	0	0	61
Lane Group Flow (vph)	120	95	4	32	139	0	40	669	25	208	479	59
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	3		4	4		1	6		5	2	3
Permitted Phases			3						6			2
Actuated Green, G (s)	13.0	13.0	13.0	14.0	14.0		7.1	29.9	43.9	8.1	30.9	43.9
Effective Green, g (s)	13.0	13.0	13.0	14.0	14.0		7.1	29.9	43.9	8.1	30.9	43.9
Actuated g/C Ratio	0.15	0.15	0.15	0.16	0.16		0.08	0.33	0.49	0.09	0.34	0.49
Clearance Time (s)	5.7	5.7	5.7	5.7	5.7		5.7	7.5	5.7	5.7	7.5	5.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		2.0	7.0	3.0	2.0	7.0	3.0
Lane Grp Cap (vph)	256	513	229	536	258		272	1180	775	310	1220	775
v/s Ratio Prot	c0.07	0.03		0.01	c0.08		0.01	c0.19	0.01	c0.06	0.14	0.01
v/s Ratio Perm			0.00						0.01			0.03
v/c Ratio	0.47	0.19	0.02	0.06	0.54		0.15	0.57	0.03	0.67	0.39	0.08
Uniform Delay, d1	35.1	33.6	32.8	32.2	34.8		38.4	24.5	11.8	39.5	22.2	12.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.4	0.2	0.0	0.0	2.2		1.1	1.6	0.0	11.0	0.7	0.0
Delay (s)	36.5	33.8	32.9	32.2	37.0		39.6	26.1	11.9	50.5	23.0	12.1
Level of Service	D	C	C	C	D		D	C	B	D	C	B
Approach Delay (s)		35.0			36.4			25.8			28.5	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			29.2			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			89.6			Sum of lost time (s)			24.6			
Intersection Capacity Utilization			63.8%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Legion Rd/Future Legion Rd & Brawley Ave

Existing PM Peak Hour

11/13/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	59	143	85	52	15	102	490	119	28	378	47
Future Volume (vph)	68	59	143	85	52	15	102	490	119	28	378	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.7		5.7	5.7	4.7	7.5	7.5	4.7	7.5	
Lane Util. Factor		1.00	1.00		1.00	0.88	1.00	0.95	1.00	0.97	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected		0.98	1.00		0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1819	1583		1803	2787	1770	3539	1583	3433	3484	
Flt Permitted		0.98	1.00		0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1819	1583		1803	2787	1770	3539	1583	3433	3484	
Peak-hour factor, PHF	0.77	0.62	0.81	0.76	0.93	0.94	0.94	0.82	0.85	0.78	0.79	0.84
Adj. Flow (vph)	88	95	177	112	56	16	109	598	140	36	478	56
RTOR Reduction (vph)	0	0	124	0	0	11	0	0	95	0	6	0
Lane Group Flow (vph)	0	183	53	0	168	5	109	598	45	36	528	0
Turn Type	Split	NA	pm+ov	Split	NA	pt+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	3	3	1	4	4	4 5	1	6		5	2	
Permitted Phases			3						6			
Actuated Green, G (s)		14.9	25.1		14.6	24.6	10.2	27.1	27.1	4.3	21.2	
Effective Green, g (s)		14.9	25.1		14.6	24.6	10.2	27.1	27.1	4.3	21.2	
Actuated g/C Ratio		0.18	0.30		0.17	0.29	0.12	0.32	0.32	0.05	0.25	
Clearance Time (s)		5.7	4.7		5.7		4.7	7.5	7.5	4.7	7.5	
Vehicle Extension (s)		3.0	2.0		3.0		2.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)		320	470		311	811	213	1134	507	174	874	
v/s Ratio Prot		c0.10	0.01		c0.09	0.00	c0.06	0.17		0.01	c0.15	
v/s Ratio Perm			0.02						0.03			
v/c Ratio		0.57	0.11		0.54	0.01	0.51	0.53	0.09	0.21	0.60	
Uniform Delay, d1		31.9	21.6		31.9	21.3	34.8	23.5	20.1	38.5	27.9	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		2.5	0.0		1.9	0.0	0.9	0.4	0.1	0.2	1.2	
Delay (s)		34.3	21.6		33.8	21.3	35.7	23.9	20.1	38.7	29.1	
Level of Service		C	C		C	C	D	C	C	D	C	
Approach Delay (s)		28.1			32.7			24.8			29.7	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			27.6									
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			84.5									
Intersection Capacity Utilization			49.2%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

11: Keystone Rd & SR-86

Existing PM Peak Hour

11/13/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	21	14	40	29	28	10	580	17	49	525	31
Future Volume (vph)	35	21	14	40	29	28	10	580	17	49	525	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.5			8.5		5.7	8.4	8.4	5.7	8.4	8.4
Lane Util. Factor		1.00			1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.97			0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98			0.98		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1770			1754		1770	3539	1583	1770	3539	1583
Flt Permitted		0.64			0.81		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1167			1446		1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.73	0.66	0.70	0.67	0.81	0.78	0.50	0.80	0.71	0.94	0.92	0.65
Adj. Flow (vph)	48	32	20	60	36	36	20	725	24	52	571	48
RTOR Reduction (vph)	0	7	0	0	14	0	0	0	16	0	0	31
Lane Group Flow (vph)	0	93	0	0	118	0	20	725	8	52	571	17
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		3			4		1	6		5	2	
Permitted Phases	3			4					6			2
Actuated Green, G (s)		12.7			13.5		2.9	30.4	30.4	6.0	33.5	33.5
Effective Green, g (s)		12.7			13.5		2.9	30.4	30.4	6.0	33.5	33.5
Actuated g/C Ratio		0.14			0.14		0.03	0.32	0.32	0.06	0.36	0.36
Clearance Time (s)		8.5			8.5		5.7	8.4	8.4	5.7	8.4	8.4
Vehicle Extension (s)		3.0			3.0		2.0	6.0	6.0	2.0	6.0	6.0
Lane Grp Cap (vph)		158			208		54	1148	513	113	1265	565
v/s Ratio Prot							0.01	c0.20		c0.03	c0.16	
v/s Ratio Perm		c0.08			c0.08				0.00			0.01
v/c Ratio		0.59			0.57		0.37	0.63	0.02	0.46	0.45	0.03
Uniform Delay, d1		38.0			37.4		44.5	26.9	21.5	42.3	23.1	19.6
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		5.5			3.5		1.6	1.9	0.0	1.1	0.7	0.1
Delay (s)		43.6			40.9		46.1	28.8	21.5	43.4	23.8	19.6
Level of Service		D			D		D	C	C	D	C	B
Approach Delay (s)		43.6			40.9			29.0			25.0	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM 2000 Control Delay		29.2			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.60										
Actuated Cycle Length (s)		93.7			Sum of lost time (s)			31.1				
Intersection Capacity Utilization		49.9%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

This page intentionally left blank

Appendix D: Opening Year 2028 Without Project HCM Worksheets

HCM 6th Signalized Intersection Capacity Analysis

1: 1st St & Main St

OY 2028 AM Peak Hour

11/14/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	196	76	161	205	33	77	169	283	45	207	18
Future Volume (veh/h)	15	196	76	161	205	33	77	169	283	45	207	18
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	236	119	256	297	55	89	219	388	92	323	34
Peak Hour Factor	0.50	0.83	0.64	0.63	0.69	0.60	0.87	0.77	0.73	0.49	0.64	0.53
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	88	419	204	264	839	153	159	542	694	160	462	49
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.18	0.18	0.15	0.28	0.28	0.09	0.29	0.29	0.09	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	35.9	32.6	33.5	78.9	23.5	23.6	36.4	23.5	18.5	36.5	0.0	26.4
Ln Grp LOS	D	C	C	E	C	C	D	C	B	D	A	C
Approach Vol, veh/h	385			608			696			449		
Approach Delay, s/veh	33.2			46.9			22.4			28.5		
Approach LOS	C			D			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	4.0	2.0	4.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	16.0	20.2	12.5	27.6	8.5	27.7	11.6	28.5				
Change Period (Y+Rc), s	* 4.7	6.4	* 5.7	* 6.4	* 4.7	* 6.4	* 4.7	6.4				
Max Green (Gmax), s	* 11	35.5	* 8.3	* 33	* 8	* 40	* 8	33.0				
Max Allow Headway (MAH), s	2.8	7.6	3.7	5.3	2.7	8.3	3.8	7.3				
Max Q Clear (g_c+I1), s	12.9	9.4	5.7	15.3	3.2	8.1	5.8	15.9				
Green Ext Time (g_e), s	0.0	4.4	0.0	2.0	0.0	5.5	0.0	6.2				
Prob of Phs Call (p_c)	1.00	1.00	0.85	1.00	0.47	1.00	0.86	1.00				
Prob of Max Out (p_x)	1.00	0.04	1.00	0.01	0.01	0.03	1.00	0.36				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1781	1781		1781		1781						
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	2316			1664			3000			1870		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	1128			175			548			1585		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis

OY 2028 AM Peak Hour

1: 1st St & Main St

11/14/2024

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	256	0	89	0	30	0	92	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	10.9	0.0	3.7	0.0	1.2	0.0	3.8	0.0
Cycle Q Clear Time (g_c), s	10.9	0.0	3.7	0.0	1.2	0.0	3.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	264	0	159	0	88	0	160	0
V/C Ratio (X)	0.97	0.00	0.56	0.00	0.34	0.00	0.57	0.00
Avail Cap (c_a), veh/h	264	0	194	0	187	0	187	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	32.3	0.0	33.3	0.0	35.0	0.0	33.3	0.0
Incr Delay (d2), s/veh	46.6	0.0	3.1	0.0	0.8	0.0	3.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	78.9	0.0	36.4	0.0	35.9	0.0	36.5	0.0
1st-Term Q (Q1), veh/ln	4.5	0.0	1.5	0.0	0.5	0.0	1.6	0.0
2nd-Term Q (Q2), veh/ln	3.4	0.0	0.1	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	7.9	0.0	1.6	0.0	0.5	0.0	1.7	0.0
%ile Storage Ratio (RQ%)	1.09	0.00	0.19	0.00	0.08	0.00	0.68	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T		T	
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	179	0	0	0	174	0	219
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	1870
Q Serve Time (g_s), s	0.0	7.0	0.0	0.0	0.0	6.0	0.0	7.2
Cycle Q Clear Time (g_c), s	0.0	7.0	0.0	0.0	0.0	6.0	0.0	7.2
Lane Grp Cap (c), veh/h	0	321	0	0	0	497	0	542
V/C Ratio (X)	0.00	0.56	0.00	0.00	0.00	0.35	0.00	0.40
Avail Cap (c_a), veh/h	0	827	0	0	0	920	0	809
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	28.5	0.0	0.0	0.0	21.9	0.0	21.8
Incr Delay (d2), s/veh	0.0	4.1	0.0	0.0	0.0	1.5	0.0	1.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	32.6	0.0	0.0	0.0	23.5	0.0	23.5
1st-Term Q (Q1), veh/ln	0.0	2.8	0.0	0.0	0.0	2.4	0.0	2.9
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	0.0	0.2	0.0	0.3

HCM 6th Signalized Intersection Capacity Analysis

1: 1st St & Main St

OY 2028 AM Peak Hour

11/14/2024

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.2	0.0	0.0	0.0	2.6	0.0	3.2
%ile Storage Ratio (RQ%)	0.00	0.16	0.00	0.00	0.00	0.14	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	176	0	357	0	178	0	388
Grp Sat Flow (s), veh/h/ln	0	1667	0	1839	0	1772	0	1585
Q Serve Time (g_s), s	0.0	7.4	0.0	13.3	0.0	6.1	0.0	13.9
Cycle Q Clear Time (g_c), s	0.0	7.4	0.0	13.3	0.0	6.1	0.0	13.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1585.1
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.3
Prop RT Outside Lane (P_R)	0.00	0.68	0.00	0.10	0.00	0.31	0.00	1.00
Lane Grp Cap (c), veh/h	0	301	0	511	0	495	0	694
V/C Ratio (X)	0.00	0.58	0.00	0.70	0.00	0.36	0.00	0.56
Avail Cap (c_a), veh/h	0	776	0	805	0	918	0	921
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	28.6	0.0	24.7	0.0	22.0	0.0	15.9
Incr Delay (d2), s/veh	0.0	4.9	0.0	1.7	0.0	1.6	0.0	2.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	33.5	0.0	26.4	0.0	23.6	0.0	18.5
1st-Term Q (Q1), veh/ln	0.0	2.7	0.0	5.5	0.0	2.4	0.0	4.4
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.2	0.0	0.2	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.2	0.0	5.7	0.0	2.7	0.0	4.9
%ile Storage Ratio (RQ%)	0.00	0.16	0.00	0.46	0.00	0.15	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	32.6
HCM 6th LOS	C

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis

2: Brawley Ave & 1st St & K St

OY 2028 AM Peak Hour

11/14/2024

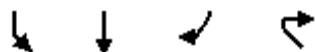
												
Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL2
Lane Configurations												
Traffic Volume (vph)	28	78	2	25	12	95	26	64	19	484	69	55
Future Volume (vph)	28	78	2	25	12	95	26	64	19	484	69	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7		5.7			5.7	5.7	4.7	5.4		
Lane Util. Factor		1.00		1.00			1.00	1.00	1.00	0.95		
Frt		1.00		0.85			1.00	0.85	1.00	0.98		
Flt Protected		0.99		1.00			0.96	1.00	0.95	1.00		
Satd. Flow (prot)		1832		1583			1793	1583	1770	3478		
Flt Permitted		0.99		1.00			0.96	1.00	0.95	1.00		
Satd. Flow (perm)		1832		1583			1793	1583	1770	3478		
Peak-hour factor, PHF	0.62	0.64	0.50	0.67	0.46	0.80	0.62	0.58	0.56	0.68	0.74	0.72
Adj. Flow (vph)	45	122	4	37	26	119	42	110	34	712	93	76
RTOR Reduction (vph)	0	0	0	31	0	0	0	79	0	0	0	0
Lane Group Flow (vph)	0	171	0	6	0	0	187	31	34	805	0	0
Turn Type	Split	NA		Perm	Split	Split	NA	Perm	Prot	NA		Prot
Protected Phases	3	3			4	4	4		1	6		5
Permitted Phases				3				4				
Actuated Green, G (s)		15.4		15.4			16.5	16.5	3.8	46.8		
Effective Green, g (s)		15.4		15.4			16.5	16.5	3.8	46.8		
Actuated g/C Ratio		0.16		0.16			0.17	0.17	0.04	0.49		
Clearance Time (s)		5.7		5.7			5.7	5.7	4.7	5.4		
Vehicle Extension (s)		4.0		4.0			4.0	4.0	2.0	6.0		
Lane Grp Cap (vph)		295		255			309	273	70	1704		
v/s Ratio Prot		c0.09					c0.10		0.02	c0.23		
v/s Ratio Perm				0.00				0.02				
v/c Ratio		0.58		0.02			0.61	0.11	0.49	0.47		
Uniform Delay, d1		37.1		33.7			36.5	33.3	44.9	16.2		
Progression Factor		1.00		1.00			1.00	1.00	1.00	1.00		
Incremental Delay, d2		3.3		0.1			3.8	0.2	1.9	0.6		
Delay (s)		40.3		33.8			40.3	33.6	46.8	16.7		
Level of Service		D		C			D	C	D	B		
Approach Delay (s)		39.2					37.8			18.0		
Approach LOS		D					D			B		
Intersection Summary												
HCM 2000 Control Delay			25.8				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			95.5				Sum of lost time (s)			21.5		
Intersection Capacity Utilization			52.5%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Brawley Ave & 1st St & K St

OY 2028 AM Peak Hour

11/14/2024



Movement	SBL	SBT	SBR	NWR2
Lane Configurations				
Traffic Volume (vph)	29	357	21	105
Future Volume (vph)	29	357	21	105
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.4	5.4		4.0
Lane Util. Factor	1.00	0.95		1.00
Frt	1.00	0.99		0.86
Flt Protected	0.95	1.00		1.00
Satd. Flow (prot)	1770	3503		1611
Flt Permitted	0.34	1.00		1.00
Satd. Flow (perm)	629	3503		1611
Peak-hour factor, PHF	0.75	0.72	0.58	0.75
Adj. Flow (vph)	39	496	36	140
RTOR Reduction (vph)	0	3	0	140
Lane Group Flow (vph)	115	529	0	0
Turn Type	Perm	NA		custom
Protected Phases		2		
Permitted Phases	2			
Actuated Green, G (s)	38.3	38.3		0.0
Effective Green, g (s)	38.3	38.3		0.0
Actuated g/C Ratio	0.40	0.40		0.00
Clearance Time (s)	5.4	5.4		
Vehicle Extension (s)	6.0	6.0		
Lane Grp Cap (vph)	252	1404		0
v/s Ratio Prot		0.15		
v/s Ratio Perm	0.18			
v/c Ratio	0.46	0.38		0.00
Uniform Delay, d1	21.0	20.2		47.8
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	3.7	0.5		0.0
Delay (s)	24.6	20.7		47.8
Level of Service	C	C		D
Approach Delay (s)		21.4		
Approach LOS		C		

Intersection Summary

HCM Signalized Intersection Capacity Analysis

OY 2028 AM Peak Hour

3: Malan St & Brawley Ave

11/14/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	56	252	209	45	37	145	452	115	18	432	9
Future Volume (vph)	3	56	252	209	45	37	145	452	115	18	432	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7	4.7		4.7		4.7	6.4		4.7	6.4	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.98		1.00	0.97		1.00	1.00	
Flt Protected		1.00	1.00		0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1857	1583		1762		1770	3435		1770	3527	
Flt Permitted		1.00	1.00		0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1857	1583		1762		1770	3435		1770	3527	
Peak-hour factor, PHF	0.50	0.66	0.94	0.87	0.67	0.57	0.88	0.75	0.78	0.50	0.75	0.67
Adj. Flow (vph)	6	85	268	240	67	65	165	603	147	36	576	13
RTOR Reduction (vph)	0	0	239	0	6	0	0	16	0	0	1	0
Lane Group Flow (vph)	0	91	29	0	366	0	165	734	0	36	588	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3									
Actuated Green, G (s)		10.2	10.2		24.2		11.9	34.4		5.2	27.7	
Effective Green, g (s)		10.2	10.2		24.2		11.9	34.4		5.2	27.7	
Actuated g/C Ratio		0.11	0.11		0.26		0.13	0.36		0.06	0.29	
Clearance Time (s)		4.7	4.7		4.7		4.7	6.4		4.7	6.4	
Vehicle Extension (s)		3.0	3.0		3.0		2.0	6.0		2.0	6.0	
Lane Grp Cap (vph)		200	170		451		222	1250		97	1033	
v/s Ratio Prot		c0.05			c0.21		c0.09	c0.21		0.02	0.17	
v/s Ratio Perm			0.02									
v/c Ratio		0.46	0.17		0.81		0.74	0.59		0.37	0.57	
Uniform Delay, d1		39.5	38.3		33.0		39.8	24.3		43.1	28.3	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.6	0.5		10.6		11.1	1.4		0.9	2.3	
Delay (s)		41.2	38.8		43.6		51.0	25.7		43.9	30.6	
Level of Service		D	D		D		D	C		D	C	
Approach Delay (s)		39.4			43.6			30.2			31.4	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			34.2				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			94.5				Sum of lost time (s)			20.5		
Intersection Capacity Utilization			59.7%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

OY 2028 AM Peak Hour

4: Brawley Ave & Panno Dr/Wildcat Dr

11/14/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	111	57	10	15	43	123	22	518	31	227	492	155
Future Volume (vph)	111	57	10	15	43	123	22	518	31	227	492	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	5.7	5.7	5.7		5.7	7.5	5.7	5.7	7.5	5.7
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00		0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.90		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	3433	1679		3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	3433	1679		3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.66	0.79	0.75	0.70	0.57	0.85	0.58	0.75	0.60	0.76	0.92	0.80
Adj. Flow (vph)	168	72	13	21	75	145	38	691	52	299	535	194
RTOR Reduction (vph)	0	0	11	0	54	0	0	0	27	0	0	96
Lane Group Flow (vph)	168	72	2	21	166	0	38	691	25	299	535	98
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	3		4	4		1	6		5	2	3
Permitted Phases			3						6			2
Actuated Green, G (s)	15.7	15.7	15.7	15.5	15.5		7.1	31.0	46.5	8.2	32.1	47.8
Effective Green, g (s)	15.7	15.7	15.7	15.5	15.5		7.1	31.0	46.5	8.2	32.1	47.8
Actuated g/C Ratio	0.17	0.17	0.17	0.16	0.16		0.07	0.33	0.49	0.09	0.34	0.50
Clearance Time (s)	5.7	5.7	5.7	5.7	5.7		5.7	7.5	5.7	5.7	7.5	5.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		2.0	7.0	3.0	2.0	7.0	3.0
Lane Grp Cap (vph)	292	584	261	560	273		256	1154	774	296	1195	796
v/s Ratio Prot	c0.09	0.02		0.01	c0.10		0.01	c0.20	0.01	c0.09	0.15	0.02
v/s Ratio Perm			0.00						0.01			0.04
v/c Ratio	0.58	0.12	0.01	0.04	0.61		0.15	0.60	0.03	1.01	0.45	0.12
Uniform Delay, d1	36.6	33.8	33.1	33.5	36.9		41.1	26.8	12.6	43.4	24.5	12.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.7	0.1	0.0	0.0	3.8		1.2	1.8	0.0	54.9	0.9	0.1
Delay (s)	39.3	33.9	33.2	33.5	40.7		42.3	28.6	12.6	98.3	25.5	12.6
Level of Service	D	C	C	C	D		D	C	B	F	C	B
Approach Delay (s)		37.4			40.1			28.2			44.2	
Approach LOS		D			D			C			D	
Intersection Summary												
HCM 2000 Control Delay			37.6			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			95.0			Sum of lost time (s)			24.6			
Intersection Capacity Utilization			60.5%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Legion Rd/Future Legion Rd & Brawley Ave

OY 2028 AM Peak Hour

11/14/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	114	57	133	104	74	16	134	435	67	17	425	62
Future Volume (vph)	114	57	133	104	74	16	134	435	67	17	425	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.7		5.7	5.7	4.7	7.5	7.5	4.7	7.5	
Lane Util. Factor		1.00	1.00		1.00	0.88	1.00	0.95	1.00	0.97	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected		0.97	1.00		0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1806	1583		1812	2787	1770	3539	1583	3433	3450	
Flt Permitted		0.97	1.00		0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1806	1583		1812	2787	1770	3539	1583	3433	3450	
Peak-hour factor, PHF	0.71	0.61	0.90	0.79	0.70	0.62	0.79	0.88	0.98	0.67	0.84	0.61
Adj. Flow (vph)	161	93	148	132	106	26	170	494	68	25	506	102
RTOR Reduction (vph)	0	0	99	0	0	19	0	0	45	0	12	0
Lane Group Flow (vph)	0	254	49	0	238	7	170	494	23	25	596	0
Turn Type	Split	NA	pm+ov	Split	NA	pt+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	3	3	1	4	4	4 5	1	6		5	2	
Permitted Phases			3						6			
Actuated Green, G (s)		20.2	34.2		19.0	29.2	14.0	35.0	35.0	4.5	25.5	
Effective Green, g (s)		20.2	34.2		19.0	29.2	14.0	35.0	35.0	4.5	25.5	
Actuated g/C Ratio		0.20	0.33		0.19	0.29	0.14	0.34	0.34	0.04	0.25	
Clearance Time (s)		5.7	4.7		5.7		4.7	7.5	7.5	4.7	7.5	
Vehicle Extension (s)		3.0	2.0		3.0		2.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)		356	529		336	795	242	1210	541	151	859	
v/s Ratio Prot		c0.14	0.01		c0.13	0.00	c0.10	0.14		0.01	c0.17	
v/s Ratio Perm			0.02						0.01			
v/c Ratio		0.71	0.09		0.71	0.01	0.70	0.41	0.04	0.17	0.69	
Uniform Delay, d1		38.3	23.4		39.1	26.2	42.2	25.7	22.5	47.1	34.9	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		6.6	0.0		6.7	0.0	7.3	0.2	0.0	0.2	2.4	
Delay (s)		45.0	23.4		45.7	26.2	49.5	26.0	22.5	47.3	37.3	
Level of Service		D	C		D	C	D	C	C	D	D	
Approach Delay (s)		37.0			43.8			31.1			37.7	
Approach LOS		D			D			C			D	
Intersection Summary												
HCM 2000 Control Delay			36.0									
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			102.3									
Intersection Capacity Utilization			52.4%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

11: Keystone Rd & SR-86

OY 2028 AM Peak Hour

11/14/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	35	4	33	19	36	20	468	45	31	504	36
Future Volume (vph)	41	35	4	33	19	36	20	468	45	31	504	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.5			8.5		5.7	8.4	8.4	5.7	8.4	8.4
Lane Util. Factor		1.00			1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.99			0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97			0.98		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1798			1728		1770	3539	1583	1770	3539	1583
Flt Permitted		0.60			0.80		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1114			1417		1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.65	0.75	0.50	0.52	0.75	0.65	0.59	0.88	0.67	0.56	0.95	0.57
Adj. Flow (vph)	63	47	8	63	25	55	34	532	67	55	531	63
RTOR Reduction (vph)	0	2	0	0	23	0	0	0	49	0	0	45
Lane Group Flow (vph)	0	116	0	0	120	0	34	532	18	55	531	18
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		3			4		1	6		5	2	
Permitted Phases	3			4					6			2
Actuated Green, G (s)		14.0			13.7		4.4	24.5	24.5	6.0	26.1	26.1
Effective Green, g (s)		14.0			13.7		4.4	24.5	24.5	6.0	26.1	26.1
Actuated g/C Ratio		0.16			0.15		0.05	0.27	0.27	0.07	0.29	0.29
Clearance Time (s)		8.5			8.5		5.7	8.4	8.4	5.7	8.4	8.4
Vehicle Extension (s)		3.0			3.0		2.0	6.0	6.0	2.0	6.0	6.0
Lane Grp Cap (vph)		174			217		87	970	434	118	1034	462
v/s Ratio Prot							0.02	c0.15		c0.03	0.15	
v/s Ratio Perm		c0.10			c0.08				0.01			0.01
v/c Ratio		0.67			0.55		0.39	0.55	0.04	0.47	0.51	0.04
Uniform Delay, d1		35.5			35.0		41.2	27.7	23.8	40.1	26.3	22.6
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		9.3			3.0		1.1	1.4	0.1	1.1	1.1	0.1
Delay (s)		44.8			38.0		42.2	29.1	23.9	41.2	27.5	22.7
Level of Service		D			D		D	C	C	D	C	C
Approach Delay (s)		44.8			38.0			29.3			28.2	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM 2000 Control Delay		30.8			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.57										
Actuated Cycle Length (s)		89.3			Sum of lost time (s)			31.1				
Intersection Capacity Utilization		47.8%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th Signalized Intersection Capacity Analysis

1: 1st St & Main St

OY 2028 PM Peak Hour

11/14/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	233	87	134	232	27	115	197	169	32	118	19
Future Volume (veh/h)	22	233	87	134	232	27	115	197	169	32	118	19
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	256	132	216	264	29	131	249	188	51	144	25
Peak Hour Factor	0.75	0.91	0.66	0.62	0.88	0.93	0.88	0.79	0.90	0.63	0.82	0.75
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	89	480	240	261	987	107	198	430	596	132	275	48
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.21	0.21	0.15	0.31	0.31	0.11	0.23	0.23	0.07	0.18	0.18
Unsig. Movement Delay												
Ln Grp Delay, s/veh	30.7	26.1	26.7	39.8	18.1	18.1	33.6	26.7	15.5	30.6	0.0	25.6
Ln Grp LOS	C	C	C	D	B	B	C	C	B	C	A	C
Approach Vol, veh/h	417			509			568			220		
Approach Delay, s/veh	26.7			27.3			24.6			26.8		
Approach LOS	C			C			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	4.0	2.0	4.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	14.2	20.0	13.0	18.0	8.0	26.3	9.5	21.4				
Change Period (Y+Rc), s	* 4.7	6.4	* 5.7	* 6.4	* 4.7	* 6.4	* 4.7	6.4				
Max Green (Gmax), s	* 11	35.5	* 8.3	* 33	* 8	* 40	* 8	33.0				
Max Allow Headway (MAH), s	2.8	7.6	3.7	5.3	2.7	8.3	3.8	7.6				
Max Q Clear (g_c+I1), s	9.7	8.7	6.6	7.5	3.0	6.1	3.8	9.7				
Green Ext Time (g_e), s	0.1	4.9	0.0	0.9	0.0	4.5	0.0	5.3				
Prob of Phs Call (p_c)	0.98	1.00	0.91	1.00	0.41	1.00	0.60	1.00				
Prob of Max Out (p_x)	1.00	0.04	1.00	0.00	0.01	0.01	0.58	0.10				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1781	1781		1781		1781						
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	2294			1552			3232			1870		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	1146			270			352			1585		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis

1: 1st St & Main St

OY 2028 PM Peak Hour

11/14/2024

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	216	0	131	0	29	0	51	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	7.7	0.0	4.6	0.0	1.0	0.0	1.8	0.0
Cycle Q Clear Time (g_c), s	7.7	0.0	4.6	0.0	1.0	0.0	1.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	261	0	198	0	89	0	132	0
V/C Ratio (X)	0.83	0.00	0.66	0.00	0.32	0.00	0.39	0.00
Avail Cap (c_a), veh/h	309	0	227	0	219	0	219	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	27.0	0.0	27.8	0.0	29.9	0.0	28.8	0.0
Incr Delay (d2), s/veh	12.8	0.0	5.8	0.0	0.8	0.0	1.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	39.8	0.0	33.6	0.0	30.7	0.0	30.6	0.0
1st-Term Q (Q1), veh/ln	3.1	0.0	1.8	0.0	0.4	0.0	0.7	0.0
2nd-Term Q (Q2), veh/ln	0.9	0.0	0.3	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.0	0.0	2.1	0.0	0.4	0.0	0.8	0.0
%ile Storage Ratio (RQ%)	0.55	0.00	0.25	0.00	0.06	0.00	0.31	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T			T			T	
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	196	0	0	0	144	0	249
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	1870
Q Serve Time (g_s), s	0.0	6.4	0.0	0.0	0.0	4.0	0.0	7.7
Cycle Q Clear Time (g_c), s	0.0	6.4	0.0	0.0	0.0	4.0	0.0	7.7
Lane Grp Cap (c), veh/h	0	372	0	0	0	543	0	430
V/C Ratio (X)	0.00	0.53	0.00	0.00	0.00	0.27	0.00	0.58
Avail Cap (c_a), veh/h	0	968	0	0	0	1077	0	947
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	22.9	0.0	0.0	0.0	17.1	0.0	22.3
Incr Delay (d2), s/veh	0.0	3.2	0.0	0.0	0.0	0.9	0.0	4.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.1	0.0	0.0	0.0	18.1	0.0	26.7
1st-Term Q (Q1), veh/ln	0.0	2.4	0.0	0.0	0.0	1.5	0.0	3.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.5

HCM 6th Signalized Intersection Capacity Analysis

OY 2028 PM Peak Hour

1: 1st St & Main St

11/14/2024

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.8	0.0	0.0	0.0	1.7	0.0	3.6
%ile Storage Ratio (RQ%)	0.00	0.14	0.00	0.00	0.00	0.09	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	192	0	169	0	149	0	188
Grp Sat Flow (s), veh/h/ln	0	1664	0	1822	0	1807	0	1585
Q Serve Time (g_s), s	0.0	6.7	0.0	5.5	0.0	4.1	0.0	5.5
Cycle Q Clear Time (g_c), s	0.0	6.7	0.0	5.5	0.0	4.1	0.0	5.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1585.1
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.5
Prop RT Outside Lane (P_R)	0.00	0.69	0.00	0.15	0.00	0.19	0.00	1.00
Lane Grp Cap (c), veh/h	0	348	0	323	0	552	0	596
V/C Ratio (X)	0.00	0.55	0.00	0.52	0.00	0.27	0.00	0.32
Avail Cap (c_a), veh/h	0	906	0	933	0	1095	0	1034
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.0	0.0	24.3	0.0	17.1	0.0	14.4
Incr Delay (d2), s/veh	0.0	3.7	0.0	1.3	0.0	0.9	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.7	0.0	25.6	0.0	18.1	0.0	15.5
1st-Term Q (Q1), veh/ln	0.0	2.4	0.0	2.2	0.0	1.6	0.0	1.7
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.1	0.0	0.1	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.7	0.0	2.4	0.0	1.7	0.0	1.9
%ile Storage Ratio (RQ%)	0.00	0.14	0.00	0.19	0.00	0.10	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	26.2
HCM 6th LOS	C

Notes

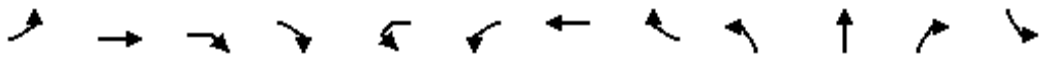
* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis

OY 2028 PM Peak Hour

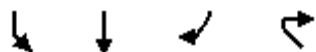
2: Brawley Ave & 1st St & K St

11/14/2024

												
Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL2
Lane Configurations		↰		↰			↰	↰	↰	↰		
Traffic Volume (vph)	30	66	1	17	14	101	53	50	24	432	99	23
Future Volume (vph)	30	66	1	17	14	101	53	50	24	432	99	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7		5.7			5.7	5.7	4.7	5.4		
Lane Util. Factor		1.00		1.00			1.00	1.00	1.00	0.95		
Frt		1.00		0.85			1.00	0.85	1.00	0.97		
Flt Protected		0.99		1.00			0.97	1.00	0.95	1.00		
Satd. Flow (prot)		1828		1583			1802	1583	1770	3435		
Flt Permitted		0.99		1.00			0.97	1.00	0.95	1.00		
Satd. Flow (perm)		1828		1583			1802	1583	1770	3435		
Peak-hour factor, PHF	0.79	0.74	0.25	0.67	0.54	0.73	0.66	0.73	0.72	0.83	0.78	0.43
Adj. Flow (vph)	38	89	4	25	26	138	80	68	33	520	127	53
RTOR Reduction (vph)	0	0	0	21	0	0	0	54	0	0	0	0
Lane Group Flow (vph)	0	131	0	4	0	0	244	14	33	647	0	0
Turn Type	Split	NA		Perm	Split	Split	NA	Perm	Prot	NA		Prot
Protected Phases	3	3			4	4	4		1	6		5
Permitted Phases				3				4				
Actuated Green, G (s)		13.6		13.6			19.7	19.7	3.7	45.5		
Effective Green, g (s)		13.6		13.6			19.7	19.7	3.7	45.5		
Actuated g/C Ratio		0.14		0.14			0.21	0.21	0.04	0.48		
Clearance Time (s)		5.7		5.7			5.7	5.7	4.7	5.4		
Vehicle Extension (s)		4.0		4.0			4.0	4.0	2.0	6.0		
Lane Grp Cap (vph)		260		225			371	326	68	1634		
v/s Ratio Prot		c0.07					c0.14		0.02	c0.19		
v/s Ratio Perm				0.00				0.01				
v/c Ratio		0.50		0.02			0.66	0.04	0.49	0.40		
Uniform Delay, d1		37.9		35.2			34.9	30.4	45.0	16.2		
Progression Factor		1.00		1.00			1.00	1.00	1.00	1.00		
Incremental Delay, d2		2.1		0.0			4.6	0.1	2.0	0.4		
Delay (s)		40.0		35.3			39.5	30.5	47.0	16.6		
Level of Service		D		D			D	C	D	B		
Approach Delay (s)		39.2					37.5			18.1		
Approach LOS		D					D			B		
Intersection Summary												
HCM 2000 Control Delay			25.3				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.51									
Actuated Cycle Length (s)			95.6				Sum of lost time (s)			21.5		
Intersection Capacity Utilization			51.3%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 2: Brawley Ave & 1st St & K St

OY 2028 PM Peak Hour
11/14/2024



Movement	SBL	SBT	SBR	NWR2
Lane Configurations				
Traffic Volume (vph)	27	280	24	37
Future Volume (vph)	27	280	24	37
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.4	5.4		4.0
Lane Util. Factor	1.00	0.95		1.00
Frt	1.00	0.98		0.86
Flt Protected	0.95	1.00		1.00
Satd. Flow (prot)	1770	3485		1611
Flt Permitted	0.41	1.00		1.00
Satd. Flow (perm)	756	3485		1611
Peak-hour factor, PHF	0.65	0.75	0.57	0.73
Adj. Flow (vph)	42	373	42	51
RTOR Reduction (vph)	0	5	0	51
Lane Group Flow (vph)	95	410	0	0
Turn Type	Perm	NA		custom
Protected Phases		2		
Permitted Phases	2			
Actuated Green, G (s)	37.1	37.1		0.0
Effective Green, g (s)	37.1	37.1		0.0
Actuated g/C Ratio	0.39	0.39		0.00
Clearance Time (s)	5.4	5.4		
Vehicle Extension (s)	6.0	6.0		
Lane Grp Cap (vph)	293	1352		0
v/s Ratio Prot		0.12		
v/s Ratio Perm	0.13			
v/c Ratio	0.32	0.30		0.00
Uniform Delay, d1	20.5	20.3		47.8
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	1.8	0.4		0.0
Delay (s)	22.3	20.6		47.8
Level of Service	C	C		D
Approach Delay (s)		21.0		
Approach LOS		C		
Intersection Summary				

HCM Signalized Intersection Capacity Analysis

OY 2028 PM Peak Hour

3: Malan St & Brawley Ave

11/14/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	54	232	134	61	20	229	485	142	9	370	12
Future Volume (vph)	2	54	232	134	61	20	229	485	142	9	370	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7	4.7		4.7		4.7	6.4		4.7	6.4	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.98		1.00	0.96		1.00	0.99	
Flt Protected		1.00	1.00		0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1854	1583		1776		1770	3410		1770	3519	
Flt Permitted		1.00	1.00		0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1854	1583		1776		1770	3410		1770	3519	
Peak-hour factor, PHF	0.25	0.71	0.86	0.71	0.85	0.57	0.84	0.97	0.88	0.50	0.76	0.63
Adj. Flow (vph)	8	76	270	189	72	35	273	500	161	18	487	19
RTOR Reduction (vph)	0	0	241	0	4	0	0	22	0	0	2	0
Lane Group Flow (vph)	0	84	29	0	292	0	273	639	0	18	504	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3									
Actuated Green, G (s)		10.0	10.0		19.5		18.1	38.9		3.3	24.1	
Effective Green, g (s)		10.0	10.0		19.5		18.1	38.9		3.3	24.1	
Actuated g/C Ratio		0.11	0.11		0.21		0.20	0.42		0.04	0.26	
Clearance Time (s)		4.7	4.7		4.7		4.7	6.4		4.7	6.4	
Vehicle Extension (s)		3.0	3.0		3.0		2.0	6.0		2.0	6.0	
Lane Grp Cap (vph)		201	171		375		347	1438		63	919	
v/s Ratio Prot		c0.05			c0.16		c0.15	0.19		0.01	c0.14	
v/s Ratio Perm			0.02									
v/c Ratio		0.42	0.17		0.78		0.79	0.44		0.29	0.55	
Uniform Delay, d1		38.4	37.3		34.3		35.2	19.0		43.3	29.4	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.4	0.5		9.8		10.4	0.6		0.9	2.3	
Delay (s)		39.8	37.8		44.1		45.6	19.6		44.2	31.7	
Level of Service		D	D		D		D	B		D	C	
Approach Delay (s)		38.3			44.1			27.2			32.1	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			32.7				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			92.2				Sum of lost time (s)			20.5		
Intersection Capacity Utilization			57.1%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

OY 2028 PM Peak Hour

4: Brawley Ave & Panno Dr/Wildcat Dr

11/14/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	66	19	26	48	165	31	594	32	214	450	107
Future Volume (vph)	84	66	19	26	48	165	31	594	32	214	450	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	5.7	5.7	5.7		5.7	7.5	5.7	5.7	7.5	5.7
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00		0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.89		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	3433	1654		3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	3433	1654		3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.66	0.65	0.64	0.78	0.80	0.93	0.73	0.84	0.58	0.97	0.89	0.84
Adj. Flow (vph)	127	102	30	33	60	177	42	707	55	221	506	127
RTOR Reduction (vph)	0	0	26	0	83	0	0	0	27	0	0	64
Lane Group Flow (vph)	127	102	4	33	154	0	42	707	28	221	506	63
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	3		4	4		1	6		5	2	3
Permitted Phases			3						6			2
Actuated Green, G (s)	13.3	13.3	13.3	14.8	14.8		7.1	31.3	46.1	8.1	32.3	45.6
Effective Green, g (s)	13.3	13.3	13.3	14.8	14.8		7.1	31.3	46.1	8.1	32.3	45.6
Actuated g/C Ratio	0.14	0.14	0.14	0.16	0.16		0.08	0.34	0.50	0.09	0.35	0.50
Clearance Time (s)	5.7	5.7	5.7	5.7	5.7		5.7	7.5	5.7	5.7	7.5	5.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		2.0	7.0	3.0	2.0	7.0	3.0
Lane Grp Cap (vph)	255	511	228	551	265		264	1202	792	301	1241	783
v/s Ratio Prot	c0.07	0.03		0.01	c0.09		0.01	c0.20	0.01	c0.06	0.14	0.01
v/s Ratio Perm			0.00						0.01			0.03
v/c Ratio	0.50	0.20	0.02	0.06	0.58		0.16	0.59	0.03	0.73	0.41	0.08
Uniform Delay, d1	36.3	34.7	33.8	32.8	35.8		39.7	25.1	11.7	41.0	22.7	12.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	0.2	0.0	0.0	3.2		1.3	1.7	0.0	14.7	0.8	0.0
Delay (s)	37.9	34.9	33.8	32.8	39.0		41.0	26.8	11.7	55.7	23.4	12.3
Level of Service	D	C	C	C	D		D	C	B	E	C	B
Approach Delay (s)		36.2			38.2			26.5			30.1	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			30.5			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			92.1			Sum of lost time (s)			24.6			
Intersection Capacity Utilization			65.4%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Legion Rd/Future Legion Rd & Brawley Ave

OY 2028 PM Peak Hour

11/14/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	62	151	90	55	16	108	518	126	30	400	50
Future Volume (vph)	72	62	151	90	55	16	108	518	126	30	400	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.7		5.7	5.7	4.7	7.5	7.5	4.7	7.5	
Lane Util. Factor		1.00	1.00		1.00	0.88	1.00	0.95	1.00	0.97	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected		0.98	1.00		0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1819	1583		1803	2787	1770	3539	1583	3433	3483	
Flt Permitted		0.98	1.00		0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1819	1583		1803	2787	1770	3539	1583	3433	3483	
Peak-hour factor, PHF	0.77	0.62	0.81	0.76	0.93	0.94	0.94	0.82	0.85	0.78	0.79	0.84
Adj. Flow (vph)	94	100	186	118	59	17	115	632	148	38	506	60
RTOR Reduction (vph)	0	0	130	0	0	12	0	0	99	0	6	0
Lane Group Flow (vph)	0	194	56	0	177	5	115	632	49	38	560	0
Turn Type	Split	NA	pm+ov	Split	NA	pt+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	3	3	1	4	4	4 5	1	6		5	2	
Permitted Phases			3						6			
Actuated Green, G (s)		15.6	26.2		15.3	25.3	10.6	28.9	28.9	4.3	22.6	
Effective Green, g (s)		15.6	26.2		15.3	25.3	10.6	28.9	28.9	4.3	22.6	
Actuated g/C Ratio		0.18	0.30		0.17	0.29	0.12	0.33	0.33	0.05	0.26	
Clearance Time (s)		5.7	4.7		5.7		4.7	7.5	7.5	4.7	7.5	
Vehicle Extension (s)		3.0	2.0		3.0		2.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)		323	472		314	804	213	1166	521	168	897	
v/s Ratio Prot		c0.11	0.01		c0.10	0.00	c0.06	0.18		0.01	c0.16	
v/s Ratio Perm			0.02						0.03			
v/c Ratio		0.60	0.12		0.56	0.01	0.54	0.54	0.09	0.23	0.62	
Uniform Delay, d1		33.2	22.3		33.1	22.2	36.3	24.0	20.3	40.1	28.8	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		3.1	0.0		2.3	0.0	1.3	0.5	0.1	0.3	1.4	
Delay (s)		36.3	22.4		35.5	22.2	37.6	24.5	20.4	40.4	30.2	
Level of Service		D	C		D	C	D	C	C	D	C	
Approach Delay (s)		29.5			34.3			25.5			30.8	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay		28.6			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.59										
Actuated Cycle Length (s)		87.7			Sum of lost time (s)			23.6				
Intersection Capacity Utilization		50.4%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

11: Keystone Rd & SR-86

OY 2028 PM Peak Hour

11/14/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	22	15	42	31	30	11	613	18	52	555	33
Future Volume (vph)	37	22	15	42	31	30	11	613	18	52	555	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.5			8.5		5.7	8.4	8.4	5.7	8.4	8.4
Lane Util. Factor		1.00			1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.97			0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98			0.98		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1769			1754		1770	3539	1583	1770	3539	1583
Flt Permitted		0.64			0.80		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1159			1442		1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.73	0.66	0.70	0.67	0.81	0.78	0.50	0.80	0.71	0.94	0.92	0.65
Adj. Flow (vph)	51	33	21	63	38	38	22	766	25	55	603	51
RTOR Reduction (vph)	0	7	0	0	14	0	0	0	17	0	0	33
Lane Group Flow (vph)	0	98	0	0	125	0	22	766	8	55	603	18
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		3			4		1	6		5	2	
Permitted Phases	3			4					6			2
Actuated Green, G (s)		12.9			14.0		2.9	31.3	31.3	6.0	34.4	34.4
Effective Green, g (s)		12.9			14.0		2.9	31.3	31.3	6.0	34.4	34.4
Actuated g/C Ratio		0.14			0.15		0.03	0.33	0.33	0.06	0.36	0.36
Clearance Time (s)		8.5			8.5		5.7	8.4	8.4	5.7	8.4	8.4
Vehicle Extension (s)		3.0			3.0		2.0	6.0	6.0	2.0	6.0	6.0
Lane Grp Cap (vph)		156			211		53	1162	519	111	1277	571
v/s Ratio Prot							0.01	c0.22		c0.03	c0.17	
v/s Ratio Perm		c0.08			c0.09				0.01			0.01
v/c Ratio		0.63			0.59		0.42	0.66	0.02	0.50	0.47	0.03
Uniform Delay, d1		38.9			38.0		45.4	27.4	21.6	43.2	23.5	19.7
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		7.7			4.4		1.9	2.2	0.0	1.3	0.8	0.1
Delay (s)		46.6			42.4		47.3	29.6	21.6	44.5	24.2	19.8
Level of Service		D			D		D	C	C	D	C	B
Approach Delay (s)		46.6			42.4			29.8			25.5	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM 2000 Control Delay		30.1			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.63										
Actuated Cycle Length (s)		95.3			Sum of lost time (s)			31.1				
Intersection Capacity Utilization		50.8%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

This page intentionally left blank

**Appendix E:
Opening Year 2028
Plus Project
HCM Worksheets**

HCM 6th Signalized Intersection Capacity Analysis

1: 1st St & Main St

OY 2028+P AM Peak Hour

11/14/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	196	121	183	205	33	135	169	313	45	207	18
Future Volume (veh/h)	15	196	121	183	205	33	135	169	313	45	207	18
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	236	189	290	297	55	155	219	429	92	323	34
Peak Hour Factor	0.50	0.83	0.64	0.63	0.69	0.60	0.87	0.77	0.73	0.49	0.64	0.53
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	86	393	302	244	883	161	179	567	697	152	458	48
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.21	0.21	0.14	0.29	0.29	0.10	0.30	0.30	0.09	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	38.9	33.9	35.2	153.5	24.1	24.2	69.3	24.2	20.9	41.1	0.0	28.7
Ln Grp LOS	D	C	D	F	C	C	E	C	C	D	A	C
Approach Vol, veh/h	455			642			803			449		
Approach Delay, s/veh	34.8			82.6			31.2			31.2		
Approach LOS	C			F			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	4.0	2.0	4.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	16.0	23.3	14.0	29.1	8.7	30.7	11.7	31.4				
Change Period (Y+Rc), s	* 4.7	6.4	* 5.7	* 6.4	* 4.7	* 6.4	* 4.7	6.4				
Max Green (Gmax), s	* 11	35.5	* 8.3	* 33	* 8	* 40	* 8	33.0				
Max Allow Headway (MAH), s	2.8	7.7	3.7	5.3	2.7	8.3	3.8	7.3				
Max Q Clear (g_c+I1), s	13.3	11.7	9.1	16.4	3.3	8.5	6.1	19.1				
Green Ext Time (g_e), s	0.0	5.3	0.0	2.0	0.0	5.5	0.0	5.8				
Prob of Phs Call (p_c)	1.00	1.00	0.97	1.00	0.50	1.00	0.88	1.00				
Prob of Max Out (p_x)	1.00	0.09	1.00	0.02	0.02	0.03	1.00	0.54				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	1914	1664	3000	1870								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1469	175	548	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

1: 1st St & Main St

OY 2028+P AM Peak Hour

11/14/2024

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	290	0	155	0	30	0	92	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	11.3	0.0	7.1	0.0	1.3	0.0	4.1	0.0
Cycle Q Clear Time (g_c), s	11.3	0.0	7.1	0.0	1.3	0.0	4.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	244	0	179	0	86	0	152	0
V/C Ratio (X)	1.19	0.00	0.86	0.00	0.35	0.00	0.61	0.00
Avail Cap (c_a), veh/h	244	0	179	0	173	0	173	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	35.6	0.0	36.5	0.0	38.0	0.0	36.4	0.0
Incr Delay (d2), s/veh	117.9	0.0	32.8	0.0	0.9	0.0	4.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	153.5	0.0	69.3	0.0	38.9	0.0	41.1	0.0
1st-Term Q (Q1), veh/ln	4.8	0.0	2.9	0.0	0.6	0.0	1.8	0.0
2nd-Term Q (Q2), veh/ln	8.0	0.0	1.6	0.0	0.0	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	12.8	0.0	4.6	0.0	0.6	0.0	2.0	0.0
%ile Storage Ratio (RQ%)	1.75	0.00	0.54	0.00	0.09	0.00	0.76	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	11.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T		T	
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	218	0	0	0	174	0	219
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	1870
Q Serve Time (g_s), s	0.0	9.2	0.0	0.0	0.0	6.3	0.0	7.6
Cycle Q Clear Time (g_c), s	0.0	9.2	0.0	0.0	0.0	6.3	0.0	7.6
Lane Grp Cap (c), veh/h	0	365	0	0	0	523	0	567
V/C Ratio (X)	0.00	0.60	0.00	0.00	0.00	0.33	0.00	0.39
Avail Cap (c_a), veh/h	0	765	0	0	0	851	0	749
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	29.7	0.0	0.0	0.0	22.8	0.0	22.7
Incr Delay (d2), s/veh	0.0	4.3	0.0	0.0	0.0	1.3	0.0	1.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	33.9	0.0	0.0	0.0	24.1	0.0	24.2
1st-Term Q (Q1), veh/ln	0.0	3.7	0.0	0.0	0.0	2.6	0.0	3.1
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	0.0	0.2	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis

1: 1st St & Main St

OY 2028+P AM Peak Hour

11/14/2024

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.1	0.0	0.0	0.0	2.8	0.0	3.4
%ile Storage Ratio (RQ%)	0.00	0.21	0.00	0.00	0.00	0.15	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	207	0	357	0	178	0	429
Grp Sat Flow (s), veh/h/ln	0	1606	0	1839	0	1772	0	1585
Q Serve Time (g_s), s	0.0	9.7	0.0	14.4	0.0	6.5	0.0	17.1
Cycle Q Clear Time (g_c), s	0.0	9.7	0.0	14.4	0.0	6.5	0.0	17.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1585.1
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.3
Prop RT Outside Lane (P_R)	0.00	0.91	0.00	0.10	0.00	0.31	0.00	1.00
Lane Grp Cap (c), veh/h	0	330	0	506	0	521	0	697
V/C Ratio (X)	0.00	0.63	0.00	0.70	0.00	0.34	0.00	0.62
Avail Cap (c_a), veh/h	0	692	0	745	0	849	0	852
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	29.9	0.0	26.9	0.0	22.8	0.0	17.7
Incr Delay (d2), s/veh	0.0	5.3	0.0	1.8	0.0	1.4	0.0	3.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	35.2	0.0	28.7	0.0	24.2	0.0	20.9
1st-Term Q (Q1), veh/ln	0.0	3.5	0.0	6.1	0.0	2.6	0.0	5.6
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.3	0.0	0.2	0.0	0.6
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.0	0.0	6.3	0.0	2.8	0.0	6.2
%ile Storage Ratio (RQ%)	0.00	0.20	0.00	0.51	0.00	0.16	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	45.9
HCM 6th LOS	D

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis

2: Brawley Ave & 1st St & K St

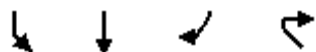
OY 2028+P AM Peak Hour

11/14/2024

												
Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL2
Lane Configurations												
Traffic Volume (vph)	28	78	2	28	12	99	26	64	22	572	75	55
Future Volume (vph)	28	78	2	28	12	99	26	64	22	572	75	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7		5.7			5.7	5.7	4.7	5.4		
Lane Util. Factor		1.00		1.00			1.00	1.00	1.00	0.95		
Frt		1.00		0.85			1.00	0.85	1.00	0.98		
Flt Protected		0.99		1.00			0.96	1.00	0.95	1.00		
Satd. Flow (prot)		1832		1583			1793	1583	1770	3482		
Flt Permitted		0.99		1.00			0.96	1.00	0.95	1.00		
Satd. Flow (perm)		1832		1583			1793	1583	1770	3482		
Peak-hour factor, PHF	0.62	0.64	0.50	0.67	0.46	0.80	0.62	0.58	0.56	0.68	0.74	0.72
Adj. Flow (vph)	45	122	4	42	26	124	42	110	39	841	101	76
RTOR Reduction (vph)	0	0	0	35	0	0	0	79	0	0	0	0
Lane Group Flow (vph)	0	171	0	7	0	0	192	31	39	942	0	0
Turn Type	Split	NA		Perm	Split	Split	NA	Perm	Prot	NA		Prot
Protected Phases	3	3			4	4	4		1	6		5
Permitted Phases				3				4				
Actuated Green, G (s)		15.5		15.5			16.9	16.9	3.8	47.3		
Effective Green, g (s)		15.5		15.5			16.9	16.9	3.8	47.3		
Actuated g/C Ratio		0.16		0.16			0.18	0.18	0.04	0.49		
Clearance Time (s)		5.7		5.7			5.7	5.7	4.7	5.4		
Vehicle Extension (s)		4.0		4.0			4.0	4.0	2.0	6.0		
Lane Grp Cap (vph)		294		254			314	277	69	1706		
v/s Ratio Prot		c0.09					c0.11		0.02	c0.27		
v/s Ratio Perm				0.00				0.02				
v/c Ratio		0.58		0.03			0.61	0.11	0.57	0.55		
Uniform Delay, d1		37.5		34.1			36.8	33.5	45.5	17.2		
Progression Factor		1.00		1.00			1.00	1.00	1.00	1.00		
Incremental Delay, d2		3.4		0.1			4.0	0.2	6.2	0.8		
Delay (s)		40.9		34.2			40.8	33.7	51.7	18.0		
Level of Service		D		C			D	C	D	B		
Approach Delay (s)		39.6					38.2			19.4		
Approach LOS		D					D			B		
Intersection Summary												
HCM 2000 Control Delay			26.4				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			96.5				Sum of lost time (s)			21.5		
Intersection Capacity Utilization			55.1%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 2: Brawley Ave & 1st St & K St

OY 2028+P AM Peak Hour
11/14/2024



Movement	SBL	SBT	SBR	NWR2
Lane Configurations				
Traffic Volume (vph)	29	424	21	105
Future Volume (vph)	29	424	21	105
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.4	5.4		4.0
Lane Util. Factor	1.00	0.95		1.00
Frt	1.00	0.99		0.86
Flt Protected	0.95	1.00		1.00
Satd. Flow (prot)	1770	3509		1611
Flt Permitted	0.27	1.00		1.00
Satd. Flow (perm)	496	3509		1611
Peak-hour factor, PHF	0.75	0.72	0.58	0.75
Adj. Flow (vph)	39	589	36	140
RTOR Reduction (vph)	0	2	0	140
Lane Group Flow (vph)	115	623	0	0
Turn Type	Perm	NA		custom
Protected Phases		2		
Permitted Phases	2			
Actuated Green, G (s)	38.8	38.8		0.0
Effective Green, g (s)	38.8	38.8		0.0
Actuated g/C Ratio	0.40	0.40		0.00
Clearance Time (s)	5.4	5.4		
Vehicle Extension (s)	6.0	6.0		
Lane Grp Cap (vph)	199	1410		0
v/s Ratio Prot		0.18		
v/s Ratio Perm	0.23			
v/c Ratio	0.58	0.44		0.00
Uniform Delay, d1	22.5	21.0		48.2
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	7.9	0.6		0.0
Delay (s)	30.3	21.6		48.2
Level of Service	C	C		D
Approach Delay (s)		23.0		
Approach LOS		C		
Intersection Summary				

HCM Signalized Intersection Capacity Analysis

OY 2028+P AM Peak Hour

3: Malan St & Brawley Ave

11/14/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	56	255	213	45	37	148	549	121	18	506	9
Future Volume (vph)	3	56	255	213	45	37	148	549	121	18	506	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7	4.7		4.7		4.7	6.4		4.7	6.4	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.98		1.00	0.97		1.00	1.00	
Flt Protected		1.00	1.00		0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1857	1583		1762		1770	3446		1770	3529	
Flt Permitted		1.00	1.00		0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1857	1583		1762		1770	3446		1770	3529	
Peak-hour factor, PHF	0.50	0.66	0.94	0.87	0.67	0.57	0.88	0.75	0.78	0.50	0.75	0.67
Adj. Flow (vph)	6	85	271	245	67	65	168	732	155	36	675	13
RTOR Reduction (vph)	0	0	238	0	6	0	0	13	0	0	1	0
Lane Group Flow (vph)	0	91	33	0	371	0	168	874	0	36	687	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3									
Actuated Green, G (s)		10.3	10.3		23.8		12.0	35.9		5.3	29.2	
Effective Green, g (s)		10.3	10.3		23.8		12.0	35.9		5.3	29.2	
Actuated g/C Ratio		0.11	0.11		0.25		0.13	0.37		0.06	0.30	
Clearance Time (s)		4.7	4.7		4.7		4.7	6.4		4.7	6.4	
Vehicle Extension (s)		3.0	3.0		3.0		2.0	6.0		2.0	6.0	
Lane Grp Cap (vph)		199	170		437		221	1291		97	1075	
v/s Ratio Prot		c0.05			c0.21		c0.09	c0.25		0.02	0.19	
v/s Ratio Perm			0.02									
v/c Ratio		0.46	0.19		0.85		0.76	0.68		0.37	0.64	
Uniform Delay, d1		40.1	39.0		34.3		40.5	25.1		43.6	28.7	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.7	0.6		14.2		12.9	2.2		0.9	2.9	
Delay (s)		41.8	39.5		48.5		53.4	27.3		44.5	31.7	
Level of Service		D	D		D		D	C		D	C	
Approach Delay (s)		40.1			48.5			31.5			32.3	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			35.5				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			95.8				Sum of lost time (s)			20.5		
Intersection Capacity Utilization			62.8%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

OY 2028+P AM Peak Hour

4: Brawley Ave & Panno Dr/Wildcat Dr

11/14/2024

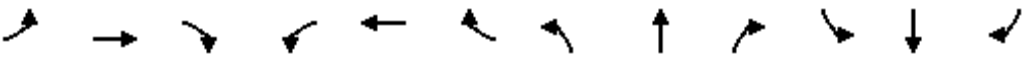
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	111	57	13	19	43	123	25	625	37	227	573	155
Future Volume (vph)	111	57	13	19	43	123	25	625	37	227	573	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	5.7	5.7	5.7		5.7	7.5	5.7	5.7	7.5	5.7
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00		0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.90		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	3433	1679		3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	3433	1679		3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.66	0.79	0.75	0.70	0.57	0.85	0.58	0.75	0.60	0.76	0.92	0.80
Adj. Flow (vph)	168	72	17	27	75	145	43	833	62	299	623	194
RTOR Reduction (vph)	0	0	14	0	55	0	0	0	30	0	0	92
Lane Group Flow (vph)	168	72	3	27	165	0	43	833	32	299	623	102
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	3		4	4		1	6		5	2	3
Permitted Phases			3						6			2
Actuated Green, G (s)	15.7	15.7	15.7	15.5	15.5		7.1	35.5	51.0	8.1	36.5	52.2
Effective Green, g (s)	15.7	15.7	15.7	15.5	15.5		7.1	35.5	51.0	8.1	36.5	52.2
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.16		0.07	0.36	0.51	0.08	0.37	0.53
Clearance Time (s)	5.7	5.7	5.7	5.7	5.7		5.7	7.5	5.7	5.7	7.5	5.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		2.0	7.0	3.0	2.0	7.0	3.0
Lane Grp Cap (vph)	279	558	250	535	261		245	1263	812	279	1299	831
v/s Ratio Prot	c0.09	0.02		0.01	c0.10		0.01	c0.24	0.01	c0.09	0.18	0.02
v/s Ratio Perm			0.00						0.01			0.04
v/c Ratio	0.60	0.13	0.01	0.05	0.63		0.18	0.66	0.04	1.07	0.48	0.12
Uniform Delay, d1	38.9	36.0	35.3	35.7	39.3		43.4	26.9	12.0	45.7	24.2	12.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.6	0.1	0.0	0.0	4.9		1.6	2.3	0.0	74.2	1.0	0.1
Delay (s)	42.6	36.1	35.3	35.7	44.2		45.0	29.2	12.0	119.8	25.1	12.0
Level of Service	D	D	D	D	D		D	C	B	F	C	B
Approach Delay (s)		40.3			43.3			28.8			48.2	
Approach LOS		D			D			C			D	
Intersection Summary												
HCM 2000 Control Delay			39.8			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			99.4			Sum of lost time (s)			24.6			
Intersection Capacity Utilization			63.4%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Legion Rd/Future Legion Rd & Brawley Ave

OY 2028+P AM Peak Hour

11/14/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔↔	↔	↕↕	↔	↔↔	↕↕	
Traffic Volume (vph)	114	57	133	157	74	132	134	435	87	105	425	62
Future Volume (vph)	114	57	133	157	74	132	134	435	87	105	425	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.7		5.7	5.7	4.7	7.5	7.5	4.7	7.5	
Lane Util. Factor		1.00	1.00		1.00	0.88	1.00	0.95	1.00	0.97	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected		0.97	1.00		0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1806	1583		1804	2787	1770	3539	1583	3433	3450	
Flt Permitted		0.97	1.00		0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1806	1583		1804	2787	1770	3539	1583	3433	3450	
Peak-hour factor, PHF	0.71	0.61	0.90	0.79	0.70	0.62	0.79	0.88	0.98	0.67	0.84	0.61
Adj. Flow (vph)	161	93	148	199	106	213	170	494	89	157	506	102
RTOR Reduction (vph)	0	0	100	0	0	136	0	0	64	0	12	0
Lane Group Flow (vph)	0	254	48	0	305	77	170	494	25	157	596	0
Turn Type	Split	NA	pm+ov	Split	NA	pt+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	3	3	1	4	4	4 5	1	6		5	2	
Permitted Phases			3						6			
Actuated Green, G (s)		20.3	34.4		24.8	38.6	14.1	30.3	30.3	8.1	24.3	
Effective Green, g (s)		20.3	34.4		24.8	38.6	14.1	30.3	30.3	8.1	24.3	
Actuated g/C Ratio		0.19	0.32		0.23	0.36	0.13	0.28	0.28	0.08	0.23	
Clearance Time (s)		5.7	4.7		5.7		4.7	7.5	7.5	4.7	7.5	
Vehicle Extension (s)		3.0	2.0		3.0		2.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)		342	508		417	1004	233	1001	447	259	782	
v/s Ratio Prot		c0.14	0.01		c0.17	0.03	c0.10	0.14		0.05	c0.17	
v/s Ratio Perm			0.02						0.02			
v/c Ratio		0.74	0.09		0.73	0.08	0.73	0.49	0.06	0.61	0.76	
Uniform Delay, d1		40.9	25.4		38.1	22.5	44.7	32.0	28.0	48.0	38.7	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		8.4	0.0		6.5	0.0	9.3	0.4	0.1	2.7	4.4	
Delay (s)		49.4	25.5		44.6	22.6	54.0	32.4	28.0	50.7	43.1	
Level of Service		D	C		D	C	D	C	C	D	D	
Approach Delay (s)		40.6			35.5			36.7			44.7	
Approach LOS		D			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			39.6									
HCM 2000 Level of Service										D		
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			107.1							23.6		
Intersection Capacity Utilization			55.3%							B		
ICU Level of Service												
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Capacity Analysis

6: Project Dwy #1/Existing Dwy & Future Legion Rd

OY 2028+P AM Peak Hour

11/14/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	60	69	0	145	0	45	0	0	0	0	173
Future Volume (veh/h)	120	60	69	0	145	0	45	0	0	0	0	173
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	130	65	75	0	158	0	49	0	0	0	0	188
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	166	521	441	4	344	0	87	1019	863	0	0	645
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.09	0.28	0.28	0.00	0.10	0.00	0.05	0.00	0.00	0.00	0.00	0.41
Unsig. Movement Delay												
Ln Grp Delay, s/veh	37.4	13.8	14.1	0.0	22.7	0.0	29.2	0.0	0.0	0.0	0.0	11.3
Ln Grp LOS	D	B	B	A	C	A	C	A	A	A	A	B
Approach Vol, veh/h	270			158			49			188		
Approach Delay, s/veh	25.2			22.7			29.2			11.3		
Approach LOS	C			C			C			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	5	6	7	8				
Case No	3.0		2.0	3.0	2.0	8.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	32.2		0.0	18.7	7.0	25.2	9.2	9.4				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	27.7		5.0	18.8	5.0	18.2	5.8	18.0				
Max Allow Headway (MAH), s	0.0		0.0	4.7	3.9	5.7	3.9	5.4				
Max Q Clear (g_c+I1), s	0.0		0.0	3.8	3.4	6.1	5.6	4.1				
Green Ext Time (g_e), s	0.0		0.0	0.4	0.0	0.9	0.0	0.7				
Prob of Phs Call (p_c)	1.00		0.00	1.00	0.50	1.00	0.84	0.99				
Prob of Max Out (p_x)	0.00		0.00	0.00	1.00	0.00	1.00	0.01				
Left-Turn Movement Data												
Assigned Mvmt				3		5	1	7				
Mvmt Sat Flow, veh/h				1781		1781	0	1781				
Through Movement Data												
Assigned Mvmt	2			4		6		8				
Mvmt Sat Flow, veh/h	1870			1870		0		3647				
Right-Turn Movement Data												
Assigned Mvmt	12			14		16		18				
Mvmt Sat Flow, veh/h	1585			1585		1585		0				
Left Lane Group Data												
Assigned Mvmt	0	0	3	0	5	1	7	0				
Lane Assignment	L (Prot)			L (Prot)			L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis
6: Project Dwy #1/Existing Dwy & Future Legion Rd

OY 2028+P AM Peak Hour

11/14/2024

Lanes in Grp	0	0	1	0	1	0	1	0
Grp Vol (v), veh/h	0	0	0	0	49	0	130	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	1.4	0.0	3.6	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	1.4	0.0	3.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	20.7	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	0	0	4	0	87	0	166	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.56	0.00	0.78	0.00
Avail Cap (c_a), veh/h	0	0	175	0	175	0	203	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	23.6	0.0	22.6	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	5.5	0.0	14.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	29.2	0.0	37.4	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.5	0.0	1.4	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.7	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.7	0.0	2.1	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.04	0.00	0.54	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T				T
Lanes in Grp	0	1	0	1	0	0	0	2
Grp Vol (v), veh/h	0	0	0	65	0	0	0	158
Grp Sat Flow (s), veh/h/ln	0	1870	0	1870	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	1.3	0.0	0.0	0.0	2.1
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	1.3	0.0	0.0	0.0	2.1
Lane Grp Cap (c), veh/h	0	1019	0	521	0	0	0	344
V/C Ratio (X)	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.46
Avail Cap (c_a), veh/h	0	1019	0	691	0	0	0	1258
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	13.7	0.0	0.0	0.0	21.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	13.8	0.0	0.0	0.0	22.7
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
6: Project Dwy #1/Existing Dwy & Future Legion Rd

OY 2028+P AM Peak Hour

11/14/2024

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.9
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		T+R			
Lanes in Grp	0	1	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	75	0	188	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	1.8	0.0	4.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	1.8	0.0	4.1	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	863	0	441	0	645	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.17	0.00	0.29	0.00	0.00
Avail Cap (c_a), veh/h	0	863	0	586	0	645	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	13.9	0.0	10.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	1.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	14.1	0.0	11.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.6	0.0	1.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.6	0.0	1.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.04	0.00	0.08	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	21.0
HCM 6th LOS	C

Intersection						
Int Delay, s/veh	1.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘↗	
Traffic Vol, veh/h	50	10	0	114	31	0
Future Vol, veh/h	50	10	0	114	31	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	11	0	124	34	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	65	0	178	54
Stage 1	-	-	-	-	54	-
Stage 2	-	-	-	-	124	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1537	-	812	1013
Stage 1	-	-	-	-	969	-
Stage 2	-	-	-	-	902	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1537	-	812	1013
Mov Cap-2 Maneuver	-	-	-	-	812	-
Stage 1	-	-	-	-	969	-
Stage 2	-	-	-	-	902	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		9.6	
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	812	-	-	1537	-	
HCM Lane V/C Ratio	0.041	-	-	-	-	
HCM Control Delay (s)	9.6	-	-	0	-	
HCM Lane LOS	A	-	-	A	-	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

Intersection						
Int Delay, s/veh	5.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	21	29	0	21	93	0
Future Vol, veh/h	21	29	0	21	93	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	32	0	23	101	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	55	0	46	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	23	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1550	-	964	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1000	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1550	-	964	1054
Mov Cap-2 Maneuver	-	-	-	-	964	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1000	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		9.2	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	964		-	-	-	1550
HCM Lane V/C Ratio	0.105		-	-	-	-
HCM Control Delay (s)	9.2		0	-	-	0
HCM Lane LOS	A		A	-	-	A
HCM 95th %tile Q(veh)	0.3		-	-	-	0

HCM 6th Signalized Intersection Capacity Analysis 9: Future Mead Rd & Brawley Ave

OY 2028+P AM Peak Hour
11/14/2024

										
Movement	WBL	WBR	NBT	NBR	SBL	SBT				
Lane Configurations										
Traffic Volume (veh/h)	25	0	655	39	0	715				
Future Volume (veh/h)	25	0	655	39	0	715				
Number	3	18	2	12	1	6				
Initial Q, veh	0	0	0	0	0	0				
Ped-Bike Adj (A_pbT)	1.00	1.00		1.00	1.00					
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00				
Work Zone On Approach	No		No			No				
Lanes Open During Work Zone										
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870				
Adj Flow Rate, veh/h	27	0	712	42	0	777				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				
Percent Heavy Veh, %	2	2	2	2	2	2				
Opposing Right Turn Influence	Yes				Yes					
Cap, veh/h	58	52	2602	1160	5	2602				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				
Prop Arrive On Green	0.03	0.00	0.73	0.73	0.00	0.73				
Unsig. Movement Delay										
Ln Grp Delay, s/veh	23.9	0.0	2.0	1.5	0.0	2.1				
Ln Grp LOS	C	A	A	A	A	A				
Approach Vol, veh/h	27		754			777				
Approach Delay, s/veh	23.9		1.9			2.1				
Approach LOS	C		A			A				
Timer:		1	2	3	4	5	6	7	8	
Assigned Phs		1	2	8			6			
Case No		2.0	7.0	9.0			4.0			
Phs Duration (G+Y+Rc), s		0.0	32.5	5.7			32.5			
Change Period (Y+Rc), s		4.5	4.5	4.5			4.5			
Max Green (Gmax), s		5.0	18.5	18.0			28.0			
Max Allow Headway (MAH), s		0.0	4.7	3.8			4.7			
Max Q Clear (g_c+I1), s		0.0	4.6	2.6			4.9			
Green Ext Time (g_e), s		0.0	3.7	0.0			4.7			
Prob of Phs Call (p_c)		0.00	1.00	0.25			1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00			0.00			
Left-Turn Movement Data										
Assigned Mvmt		1	5	3						
Mvmt Sat Flow, veh/h		1781	0	1781						
Through Movement Data										
Assigned Mvmt			2	8			6			
Mvmt Sat Flow, veh/h			3647	0			3647			
Right-Turn Movement Data										
Assigned Mvmt			12	18			16			
Mvmt Sat Flow, veh/h			1585	1585			0			
Left Lane Group Data										
Assigned Mvmt		1	5	3	0	0	0	0	0	
Lane Assignment		L (Prot)		L						

HCM 6th Signalized Intersection Capacity Analysis 9: Future Mead Rd & Brawley Ave

OY 2028+P AM Peak Hour

11/14/2024

Lanes in Grp	1	0	1	0	0	0	0	0
Grp Vol (v), veh/h	0	0	27	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	28.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	5	0	58	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.46	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	233	0	838	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	18.2	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	5.7	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	23.9	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment	T				T			
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	712	0	0	0	777	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	2.6	0.0	0.0	0.0	2.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.6	0.0	0.0	0.0	2.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	2602	0	0	0	2602	0	0
V/C Ratio (X)	0.00	0.27	0.00	0.00	0.00	0.30	0.00	0.00
Avail Cap (c_a), veh/h	0	2602	0	0	0	2602	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	1.7	0.0	0.0	0.0	1.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	2.0	0.0	0.0	0.0	2.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
9: Future Mead Rd & Brawley Ave

OY 2028+P AM Peak Hour

11/14/2024

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment		R	R					
Lanes in Grp	0	1	1	0	0	0	0	0
Grp Vol (v), veh/h	0	42	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1160	52	0	0	0	0	0
V/C Ratio (X)	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1160	746	0	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	2.4
HCM 6th LOS	A

Intersection						
Int Delay, s/veh	7.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	39	0	0	0	0	25
Future Vol, veh/h	39	0	0	0	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	42	0	0	0	0	27

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1	0	85
Stage 1	-	-	1
Stage 2	-	-	84
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1622	-	916
Stage 1	-	-	1022
Stage 2	-	-	939
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1622	-	892
Mov Cap-2 Maneuver	-	-	892
Stage 1	-	-	995
Stage 2	-	-	939

Approach	EB	WB	SB
HCM Control Delay, s	7.3	0	8.4
HCM LOS	A		

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	1084
HCM Lane V/C Ratio	0.026	-	-	-	0.025
HCM Control Delay (s)	7.3	-	-	-	8.4
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

HCM Signalized Intersection Capacity Analysis

11: Keystone Rd & SR-86

OY 2028+P AM Peak Hour

11/14/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	35	4	33	19	43	20	513	45	41	562	46
Future Volume (vph)	48	35	4	33	19	43	20	513	45	41	562	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.5			8.5		5.7	8.4	8.4	5.7	8.4	8.4
Lane Util. Factor		1.00			1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.99			0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97			0.98		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1796			1720		1770	3539	1583	1770	3539	1583
Flt Permitted		0.56			0.81		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1028			1420		1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.65	0.75	0.50	0.52	0.75	0.65	0.59	0.88	0.67	0.56	0.95	0.57
Adj. Flow (vph)	74	47	8	63	25	66	34	583	67	73	592	81
RTOR Reduction (vph)	0	2	0	0	27	0	0	0	48	0	0	56
Lane Group Flow (vph)	0	127	0	0	127	0	34	583	19	73	592	25
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		3			4		1	6		5	2	
Permitted Phases	3			4					6			2
Actuated Green, G (s)		14.4			14.1		4.4	26.7	26.7	6.0	28.3	28.3
Effective Green, g (s)		14.4			14.1		4.4	26.7	26.7	6.0	28.3	28.3
Actuated g/C Ratio		0.16			0.15		0.05	0.29	0.29	0.07	0.31	0.31
Clearance Time (s)		8.5			8.5		5.7	8.4	8.4	5.7	8.4	8.4
Vehicle Extension (s)		3.0			3.0		2.0	6.0	6.0	2.0	6.0	6.0
Lane Grp Cap (vph)		160			216		84	1023	457	115	1085	485
v/s Ratio Prot							0.02	0.16		c0.04	c0.17	
v/s Ratio Perm		c0.12			c0.09				0.01			0.02
v/c Ratio		0.80			0.59		0.40	0.57	0.04	0.63	0.55	0.05
Uniform Delay, d1		37.5			36.4		42.7	27.9	23.6	42.1	26.6	22.5
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		23.3			4.0		1.2	1.5	0.1	8.1	1.3	0.1
Delay (s)		60.8			40.4		43.8	29.4	23.7	50.2	27.9	22.7
Level of Service		E			D		D	C	C	D	C	C
Approach Delay (s)		60.8			40.4			29.6			29.5	
Approach LOS		E			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			32.9			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			92.3			Sum of lost time (s)			31.1			
Intersection Capacity Utilization			49.4%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Capacity Analysis

1: 1st St & Main St

OY 2028+P PM Peak Hour

11/22/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	233	213	197	232	27	231	197	227	32	118	19
Future Volume (veh/h)	22	233	213	197	232	27	231	197	227	32	118	19
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	256	323	318	264	29	262	249	252	51	144	25
Peak Hour Factor	0.75	0.91	0.66	0.62	0.88	0.93	0.88	0.79	0.90	0.63	0.82	0.75
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	80	481	429	352	1367	149	297	440	686	111	187	32
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.27	0.27	0.20	0.42	0.42	0.17	0.24	0.24	0.06	0.12	0.12
Unsig. Movement Delay												
Ln Grp Delay, s/veh	44.9	32.0	39.3	56.3	17.6	17.6	58.8	36.0	19.3	45.8	0.0	46.0
Ln Grp LOS	D	C	D	E	B	B	E	D	B	D	A	D
Approach Vol, veh/h	608			611			763			220		
Approach Delay, s/veh	36.5			37.8			38.3			46.0		
Approach LOS	D			D			D			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	4.0	2.0	4.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	23.4	32.0	21.5	17.8	9.0	46.5	10.6	28.7				
Change Period (Y+Rc), s	* 4.7	6.4	* 5.7	* 6.4	* 4.7	* 6.4	* 4.7	6.4				
Max Green (Gmax), s	* 22	35.1	* 18	* 33	* 8	* 50	* 9.3	41.4				
Max Allow Headway (MAH), s	2.8	7.7	3.7	5.3	2.7	8.3	3.8	7.5				
Max Q Clear (g_c+I1), s	18.5	19.7	15.6	10.5	3.5	6.9	4.6	13.1				
Green Ext Time (g_e), s	0.2	5.9	0.2	0.9	0.0	4.8	0.0	6.5				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	0.53	1.00	0.74	1.00				
Prob of Max Out (p_x)	0.55	0.46	1.00	0.00	0.02	0.00	0.31	0.07				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	1777	1552	3232	1870								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	270	352	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

OY 2028+P PM Peak Hour

1: 1st St & Main St

11/22/2024

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	318	0	262	0	29	0	51	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	16.5	0.0	13.6	0.0	1.5	0.0	2.6	0.0
Cycle Q Clear Time (g_c), s	16.5	0.0	13.6	0.0	1.5	0.0	2.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	352	0	297	0	80	0	111	0
V/C Ratio (X)	0.90	0.00	0.88	0.00	0.36	0.00	0.46	0.00
Avail Cap (c_a), veh/h	414	0	346	0	150	0	175	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	37.1	0.0	38.6	0.0	43.9	0.0	42.9	0.0
Incr Delay (d2), s/veh	19.2	0.0	20.3	0.0	1.0	0.0	2.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	56.3	0.0	58.8	0.0	44.9	0.0	45.8	0.0
1st-Term Q (Q1), veh/ln	7.1	0.0	5.7	0.0	0.6	0.0	1.1	0.0
2nd-Term Q (Q2), veh/ln	1.9	0.0	1.7	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	8.9	0.0	7.4	0.0	0.7	0.0	1.2	0.0
%ile Storage Ratio (RQ%)	1.23	0.00	0.87	0.00	0.10	0.00	0.48	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T		T	
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	256	0	0	0	144	0	249
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	1870
Q Serve Time (g_s), s	0.0	11.6	0.0	0.0	0.0	4.8	0.0	11.1
Cycle Q Clear Time (g_c), s	0.0	11.6	0.0	0.0	0.0	4.8	0.0	11.1
Lane Grp Cap (c), veh/h	0	481	0	0	0	751	0	440
V/C Ratio (X)	0.00	0.53	0.00	0.00	0.00	0.19	0.00	0.57
Avail Cap (c_a), veh/h	0	658	0	0	0	934	0	817
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	29.5	0.0	0.0	0.0	17.2	0.0	31.9
Incr Delay (d2), s/veh	0.0	2.5	0.0	0.0	0.0	0.4	0.0	4.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	32.0	0.0	0.0	0.0	17.6	0.0	36.0
1st-Term Q (Q1), veh/ln	0.0	4.7	0.0	0.0	0.0	1.9	0.0	4.8
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.5

HCM 6th Signalized Intersection Capacity Analysis

1: 1st St & Main St

OY 2028+P PM Peak Hour

11/22/2024

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.1	0.0	0.0	0.0	2.0	0.0	5.3
%ile Storage Ratio (RQ%)	0.00	0.25	0.00	0.00	0.00	0.11	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	323	0	169	0	149	0	252
Grp Sat Flow (s), veh/h/ln	0	1585	0	1822	0	1807	0	1585
Q Serve Time (g_s), s	0.0	17.7	0.0	8.5	0.0	4.9	0.0	10.2
Cycle Q Clear Time (g_c), s	0.0	17.7	0.0	8.5	0.0	4.9	0.0	10.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1585.1
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.7
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.15	0.00	0.19	0.00	1.00
Lane Grp Cap (c), veh/h	0	429	0	219	0	764	0	686
V/C Ratio (X)	0.00	0.75	0.00	0.77	0.00	0.19	0.00	0.37
Avail Cap (c_a), veh/h	0	587	0	635	0	950	0	1006
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	31.7	0.0	40.4	0.0	17.2	0.0	18.1
Incr Delay (d2), s/veh	0.0	7.7	0.0	5.6	0.0	0.4	0.0	1.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	39.3	0.0	46.0	0.0	17.6	0.0	19.3
1st-Term Q (Q1), veh/ln	0.0	6.4	0.0	3.8	0.0	2.0	0.0	3.5
2nd-Term Q (Q2), veh/ln	0.0	0.9	0.0	0.3	0.0	0.1	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	7.3	0.0	4.1	0.0	2.1	0.0	3.7
%ile Storage Ratio (RQ%)	0.00	0.37	0.00	0.33	0.00	0.12	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	38.4
HCM 6th LOS	D

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis

2: Brawley Ave & 1st St & K St

OY 2028+P PM Peak Hour

11/14/2024

												
Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL2
Lane Configurations												
Traffic Volume (vph)	30	66	1	26	14	114	53	50	32	606	110	23
Future Volume (vph)	30	66	1	26	14	114	53	50	32	606	110	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7		5.7			5.7	5.7	4.7	5.4		
Lane Util. Factor		1.00		1.00			1.00	1.00	1.00	0.95		
Frt		1.00		0.85			1.00	0.85	1.00	0.98		
Flt Protected		0.99		1.00			0.97	1.00	0.95	1.00		
Satd. Flow (prot)		1828		1583			1800	1583	1770	3453		
Flt Permitted		0.99		1.00			0.97	1.00	0.95	1.00		
Satd. Flow (perm)		1828		1583			1800	1583	1770	3453		
Peak-hour factor, PHF	0.79	0.74	0.25	0.67	0.54	0.73	0.66	0.73	0.72	0.83	0.78	0.43
Adj. Flow (vph)	38	89	4	39	26	156	80	68	44	730	141	53
RTOR Reduction (vph)	0	0	0	34	0	0	0	54	0	0	0	0
Lane Group Flow (vph)	0	131	0	5	0	0	262	14	44	871	0	0
Turn Type	Split	NA		Perm	Split	Split	NA	Perm	Prot	NA		Prot
Protected Phases	3	3			4	4	4		1	6		5
Permitted Phases				3				4				
Actuated Green, G (s)		13.7		13.7			20.8	20.8	5.3	48.2		
Effective Green, g (s)		13.7		13.7			20.8	20.8	5.3	48.2		
Actuated g/C Ratio		0.14		0.14			0.21	0.21	0.05	0.48		
Clearance Time (s)		5.7		5.7			5.7	5.7	4.7	5.4		
Vehicle Extension (s)		4.0		4.0			4.0	4.0	2.0	6.0		
Lane Grp Cap (vph)		251		217			376	330	94	1672		
v/s Ratio Prot		c0.07					c0.15		0.02	c0.25		
v/s Ratio Perm				0.00				0.01				
v/c Ratio		0.52		0.02			0.70	0.04	0.47	0.52		
Uniform Delay, d1		39.9		37.1			36.4	31.4	45.7	17.7		
Progression Factor		1.00		1.00			1.00	1.00	1.00	1.00		
Incremental Delay, d2		2.5		0.1			6.0	0.1	1.3	0.7		
Delay (s)		42.4		37.2			42.4	31.5	47.1	18.4		
Level of Service		D		D			D	C	D	B		
Approach Delay (s)		41.2					40.1			19.8		
Approach LOS		D					D			B		
Intersection Summary												
HCM 2000 Control Delay			26.7				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			99.5				Sum of lost time (s)			21.5		
Intersection Capacity Utilization			57.2%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 2: Brawley Ave & 1st St & K St

OY 2028+P PM Peak Hour
11/14/2024



Movement	SBL	SBT	SBR	NWR2
Lane Configurations				
Traffic Volume (vph)	27	469	24	37
Future Volume (vph)	27	469	24	37
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.4	5.4		4.0
Lane Util. Factor	1.00	0.95		1.00
Frt	1.00	0.99		0.86
Flt Protected	0.95	1.00		1.00
Satd. Flow (prot)	1770	3506		1611
Flt Permitted	0.31	1.00		1.00
Satd. Flow (perm)	573	3506		1611
Peak-hour factor, PHF	0.65	0.75	0.57	0.73
Adj. Flow (vph)	42	625	42	51
RTOR Reduction (vph)	0	3	0	51
Lane Group Flow (vph)	95	664	0	0
Turn Type	Perm	NA		custom
Protected Phases		2		
Permitted Phases	2			
Actuated Green, G (s)	38.2	38.2		0.0
Effective Green, g (s)	38.2	38.2		0.0
Actuated g/C Ratio	0.38	0.38		0.00
Clearance Time (s)	5.4	5.4		
Vehicle Extension (s)	6.0	6.0		
Lane Grp Cap (vph)	219	1346		0
v/s Ratio Prot		0.19		
v/s Ratio Perm	0.17			
v/c Ratio	0.43	0.49		0.00
Uniform Delay, d1	22.7	23.3		49.8
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	3.8	0.8		0.0
Delay (s)	26.5	24.1		49.8
Level of Service	C	C		D
Approach Delay (s)		24.4		
Approach LOS		C		
Intersection Summary				

HCM Signalized Intersection Capacity Analysis

3: Malan St & Brawley Ave

OY 2028+P PM Peak Hour

11/14/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	54	241	147	61	20	237	678	153	9	580	12
Future Volume (vph)	2	54	241	147	61	20	237	678	153	9	580	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7	4.7		4.7		4.7	6.4		4.7	6.4	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.98		1.00	0.97		1.00	1.00	
Flt Protected		1.00	1.00		0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1854	1583		1776		1770	3433		1770	3526	
Flt Permitted		1.00	1.00		0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1854	1583		1776		1770	3433		1770	3526	
Peak-hour factor, PHF	0.25	0.71	0.86	0.71	0.85	0.57	0.84	0.97	0.88	0.50	0.76	0.63
Adj. Flow (vph)	8	76	280	207	72	35	282	699	174	18	763	19
RTOR Reduction (vph)	0	0	251	0	4	0	0	15	0	0	1	0
Lane Group Flow (vph)	0	84	29	0	310	0	282	858	0	18	781	0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3									
Actuated Green, G (s)		10.1	10.1		19.3		18.3	43.6		3.5	28.8	
Effective Green, g (s)		10.1	10.1		19.3		18.3	43.6		3.5	28.8	
Actuated g/C Ratio		0.10	0.10		0.20		0.19	0.45		0.04	0.30	
Clearance Time (s)		4.7	4.7		4.7		4.7	6.4		4.7	6.4	
Vehicle Extension (s)		3.0	3.0		3.0		2.0	6.0		2.0	6.0	
Lane Grp Cap (vph)		193	164		353		333	1543		63	1046	
v/s Ratio Prot		c0.05			c0.17		c0.16	0.25		0.01	c0.22	
v/s Ratio Perm			0.02									
v/c Ratio		0.44	0.18		0.88		0.85	0.56		0.29	0.75	
Uniform Delay, d1		40.8	39.7		37.7		38.0	19.6		45.5	30.8	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.6	0.5		21.0		17.1	0.9		0.9	4.9	
Delay (s)		42.3	40.2		58.7		55.1	20.5		46.4	35.7	
Level of Service		D	D		E		E	C		D	D	
Approach Delay (s)		40.7			58.7			29.0			35.9	
Approach LOS		D			E			C			D	
Intersection Summary												
HCM 2000 Control Delay			36.2				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			97.0				Sum of lost time (s)			20.5		
Intersection Capacity Utilization			63.5%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Brawley Ave & Panno Dr/Wildcat Dr

OY 2028+P PM Peak Hour

11/14/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	66	28	39	48	165	39	806	43	214	681	107
Future Volume (vph)	84	66	28	39	48	165	39	806	43	214	681	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	5.7	5.7	5.7		5.7	7.5	5.7	5.7	7.5	5.7
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00		0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.89		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	3433	1654		3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	3433	1654		3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.66	0.65	0.64	0.78	0.80	0.93	0.73	0.84	0.58	0.97	0.89	0.84
Adj. Flow (vph)	127	102	44	50	60	177	53	960	74	221	765	127
RTOR Reduction (vph)	0	0	38	0	84	0	0	0	35	0	0	61
Lane Group Flow (vph)	127	102	6	50	153	0	53	960	39	221	765	66
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	3		4	4		1	6		5	2	3
Permitted Phases			3						6			2
Actuated Green, G (s)	13.3	13.3	13.3	14.9	14.9		7.0	36.6	51.5	8.0	37.6	50.9
Effective Green, g (s)	13.3	13.3	13.3	14.9	14.9		7.0	36.6	51.5	8.0	37.6	50.9
Actuated g/C Ratio	0.14	0.14	0.14	0.15	0.15		0.07	0.38	0.53	0.08	0.39	0.52
Clearance Time (s)	5.7	5.7	5.7	5.7	5.7		5.7	7.5	5.7	5.7	7.5	5.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		2.0	7.0	3.0	2.0	7.0	3.0
Lane Grp Cap (vph)	241	483	216	525	253		246	1329	837	281	1366	827
v/s Ratio Prot	c0.07	0.03		0.01	c0.09		0.02	c0.27	0.01	c0.06	0.22	0.01
v/s Ratio Perm			0.00						0.02			0.03
v/c Ratio	0.53	0.21	0.03	0.10	0.61		0.22	0.72	0.05	0.79	0.56	0.08
Uniform Delay, d1	39.1	37.4	36.4	35.5	38.5		42.6	26.0	11.1	43.9	23.4	11.6
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1	0.2	0.1	0.1	4.1		2.0	3.1	0.0	19.6	1.3	0.0
Delay (s)	41.2	37.6	36.5	35.5	42.6		44.6	29.2	11.1	63.5	24.7	11.6
Level of Service	D	D	D	D	D		D	C	B	E	C	B
Approach Delay (s)		39.1			41.3			28.7			30.9	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			31.9			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			97.4			Sum of lost time (s)			24.6			
Intersection Capacity Utilization			71.3%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Legion Rd/Future Legion Rd & Brawley Ave

OY 2028+P PM Peak Hour

11/14/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	62	151	133	55	247	108	518	190	282	400	50
Future Volume (vph)	72	62	151	133	55	247	108	518	190	282	400	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.7		5.7	5.7	4.7	7.5	7.5	4.7	7.5	
Lane Util. Factor		1.00	1.00		1.00	0.88	1.00	0.95	1.00	0.97	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected		0.98	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1819	1583		1796	2787	1770	3539	1583	3433	3483	
Flt Permitted		0.98	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1819	1583		1796	2787	1770	3539	1583	3433	3483	
Peak-hour factor, PHF	0.77	0.62	0.81	0.76	0.93	0.94	0.94	0.82	0.85	0.78	0.79	0.84
Adj. Flow (vph)	94	100	186	175	59	263	115	632	224	362	506	60
RTOR Reduction (vph)	0	0	132	0	0	169	0	0	163	0	6	0
Lane Group Flow (vph)	0	194	54	0	234	94	115	632	61	362	560	0
Turn Type	Split	NA	pm+ov	Split	NA	pt+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	3	3	1	4	4	4 5	1	6		5	2	
Permitted Phases			3						6			
Actuated Green, G (s)		16.0	26.8		18.9	32.9	10.8	24.9	24.9	8.3	22.4	
Effective Green, g (s)		16.0	26.8		18.9	32.9	10.8	24.9	24.9	8.3	22.4	
Actuated g/C Ratio		0.17	0.29		0.21	0.36	0.12	0.27	0.27	0.09	0.24	
Clearance Time (s)		5.7	4.7		5.7		4.7	7.5	7.5	4.7	7.5	
Vehicle Extension (s)		3.0	2.0		3.0		2.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)		317	462		370	999	208	960	429	310	850	
v/s Ratio Prot		c0.11	0.01		c0.13	0.03	0.06	c0.18		c0.11	0.16	
v/s Ratio Perm			0.02						0.04			
v/c Ratio		0.61	0.12		0.63	0.09	0.55	0.66	0.14	1.17	0.66	
Uniform Delay, d1		35.0	23.8		33.2	19.5	38.2	29.6	25.3	41.7	31.2	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		3.5	0.0		3.5	0.0	1.8	1.6	0.2	104.6	1.9	
Delay (s)		38.5	23.8		36.7	19.6	40.0	31.3	25.5	146.3	33.1	
Level of Service		D	C		D	B	D	C	C	F	C	
Approach Delay (s)		31.3			27.6			31.0			77.3	
Approach LOS		C			C			C			E	
Intersection Summary												
HCM 2000 Control Delay			45.9									
HCM 2000 Level of Service										D		
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			91.7							23.6		
Intersection Capacity Utilization			54.2%							A		
ICU Level of Service												
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Capacity Analysis
6: Project Dwy #1/Existing Dwy & Future Legion Rd

OY 2028+P PM Peak Hour

11/14/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	197	152	185	0	98	0	198	0	0	0	0	140
Future Volume (veh/h)	197	152	185	0	98	0	198	0	0	0	0	140
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	214	165	201	0	107	0	215	0	0	0	0	152
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	262	553	469	3	278	0	263	1054	893	0	0	547
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.15	0.30	0.30	0.00	0.08	0.00	0.15	0.00	0.00	0.00	0.00	0.35
Unsig. Movement Delay												
Ln Grp Delay, s/veh	37.1	17.7	18.8	0.0	28.9	0.0	37.2	0.0	0.0	0.0	0.0	16.4
Ln Grp LOS	D	B	B	A	C	A	D	A	A	A	A	B
Approach Vol, veh/h	580			107			215			152		
Approach Delay, s/veh	25.2			28.9			37.2			16.4		
Approach LOS	C			C			D			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	5	6	7	8				
Case No	3.0		2.0	3.0	2.0	8.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	40.5		0.0	23.4	13.9	26.6	13.9	9.5				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	36.0		5.0	25.5	12.5	19.0	12.5	18.0				
Max Allow Headway (MAH), s	0.0		0.0	4.7	3.9	5.7	3.9	5.4				
Max Q Clear (g_c+I1), s	0.0		0.0	8.5	9.5	6.4	9.4	3.8				
Green Ext Time (g_e), s	0.0		0.0	1.5	0.2	0.7	0.2	0.4				
Prob of Phs Call (p_c)	1.00		0.00	1.00	0.98	1.00	0.98	1.00				
Prob of Max Out (p_x)	0.00		0.00	0.01	1.00	0.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt				3		5	1	7				
Mvmt Sat Flow, veh/h				1781		1781	0	1781				
Through Movement Data												
Assigned Mvmt	2			4		6		8				
Mvmt Sat Flow, veh/h	1870			1870		0		3647				
Right-Turn Movement Data												
Assigned Mvmt	12			14		16		18				
Mvmt Sat Flow, veh/h	1585			1585		1585		0				
Left Lane Group Data												
Assigned Mvmt	0	0	3	0	5	1	7	0				
Lane Assignment	L (Prot)			L (Prot)			L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis
6: Project Dwy #1/Existing Dwy & Future Legion Rd

OY 2028+P PM Peak Hour

11/14/2024

Lanes in Grp	0	0	1	0	1	0	1	0
Grp Vol (v), veh/h	0	0	0	0	215	0	214	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	7.5	0.0	7.4	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	7.5	0.0	7.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	22.1	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	0	0	3	0	263	0	262	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.82	0.00	0.82	0.00
Avail Cap (c_a), veh/h	0	0	139	0	348	0	348	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	26.4	0.0	26.4	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	10.8	0.0	10.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	37.2	0.0	37.1	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	3.0	0.0	3.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.8	0.0	0.8	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	3.8	0.0	3.8	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.21	0.00	0.97	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T				T
Lanes in Grp	0	1	0	1	0	0	0	2
Grp Vol (v), veh/h	0	0	0	165	0	0	0	107
Grp Sat Flow (s), veh/h/ln	0	1870	0	1870	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	4.4	0.0	0.0	0.0	1.8
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.4	0.0	0.0	0.0	1.8
Lane Grp Cap (c), veh/h	0	1054	0	553	0	0	0	278
V/C Ratio (X)	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.38
Avail Cap (c_a), veh/h	0	1054	0	746	0	0	0	1001
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	17.4	0.0	0.0	0.0	28.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	17.7	0.0	0.0	0.0	28.9
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis 6: Project Dwy #1/Existing Dwy & Future Legion Rd

OY 2028+P PM Peak Hour
11/14/2024

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.8
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		T+R			
Lanes in Grp	0	1	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	201	0	152	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	6.5	0.0	4.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	6.5	0.0	4.4	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	893	0	469	0	547	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.43	0.00	0.28	0.00	0.00
Avail Cap (c_a), veh/h	0	893	0	632	0	547	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	18.1	0.0	15.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	1.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	18.8	0.0	16.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.3	0.0	1.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	2.3	0.0	1.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.16	0.00	0.10	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	26.8
HCM 6th LOS	C

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘↗	
Traffic Vol, veh/h	119	33	0	79	19	0
Future Vol, veh/h	119	33	0	79	19	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	129	36	0	86	21	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	165	0	215	129
Stage 1	-	-	-	-	129	-
Stage 2	-	-	-	-	86	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1413	-	773	921
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	937	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1413	-	773	921
Mov Cap-2 Maneuver	-	-	-	-	773	-
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	937	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		9.8	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	773	-	-	1413	-	
HCM Lane V/C Ratio	0.027	-	-	-	-	
HCM Control Delay (s)	9.8	-	-	0	-	
HCM Lane LOS	A	-	-	A	-	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

HCM 6th TWSC
8: Project Dwy #3 & Future Legion Rd

OY 2028+P PM Peak Hour
11/14/2024

Intersection						
Int Delay, s/veh	2.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	21	98	0	21	58	0
Future Vol, veh/h	21	98	0	21	58	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	107	0	23	63	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	130	0	46	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	23	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1455	-	964	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1000	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1455	-	964	1054
Mov Cap-2 Maneuver	-	-	-	-	964	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1000	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		9	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	964		-	-	-	1455
HCM Lane V/C Ratio	0.065		-	-	-	-
HCM Control Delay (s)	9		0	-	-	0
HCM Lane LOS	A		A	-	-	A
HCM 95th %tile Q(veh)	0.2		-	-	-	0

HCM 6th Signalized Intersection Capacity Analysis
9: Future Mead Rd & Brawley Ave

OY 2028+P PM Peak Hour

11/14/2024

									
Movement	WBL	WBR	NBT	NBR	SBL	SBT			
Lane Configurations									
Traffic Volume (veh/h)	111	0	816	104	0	684			
Future Volume (veh/h)	111	0	816	104	0	684			
Number	3	18	2	12	1	6			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00	1.00		1.00	1.00				
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No		No			No			
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	121	0	887	113	0	743			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	163	145	2443	1090	4	2443			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.09	0.00	0.69	0.69	0.00	0.69			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	24.5	0.0	3.1	2.3	0.0	2.8			
Ln Grp LOS	C	A	A	A	A	A			
Approach Vol, veh/h	121		1000			743			
Approach Delay, s/veh	24.5		3.0			2.8			
Approach LOS	C		A			A			
Timer:		1	2	3	4	5	6	7	8
Assigned Phs		1	2	8			6		
Case No		2.0	7.0	9.0			4.0		
Phs Duration (G+Y+Rc), s		0.0	32.5	8.2			32.5		
Change Period (Y+Rc), s		4.5	4.5	4.5			4.5		
Max Green (Gmax), s		5.0	18.5	18.0			28.0		
Max Allow Headway (MAH), s		0.0	4.6	3.8			4.7		
Max Q Clear (g_c+I1), s		0.0	6.2	4.7			5.4		
Green Ext Time (g_e), s		0.0	4.5	0.2			4.4		
Prob of Phs Call (p_c)		0.00	1.00	0.75			1.00		
Prob of Max Out (p_x)		0.00	0.00	0.00			0.00		
Left-Turn Movement Data									
Assigned Mvmt		1	5	3					
Mvmt Sat Flow, veh/h		1781	0	1781					
Through Movement Data									
Assigned Mvmt			2	8			6		
Mvmt Sat Flow, veh/h			3647	0			3647		
Right-Turn Movement Data									
Assigned Mvmt			12	18			16		
Mvmt Sat Flow, veh/h			1585	1585			0		
Left Lane Group Data									
Assigned Mvmt		1	5	3	0	0	0	0	0
Lane Assignment		L (Prot)		L					

HCM 6th Signalized Intersection Capacity Analysis
9: Future Mead Rd & Brawley Ave

OY 2028+P PM Peak Hour

11/14/2024

Lanes in Grp	1	0	1	0	0	0	0	0
Grp Vol (v), veh/h	0	0	121	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	28.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	4	0	163	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.74	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	219	0	787	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	18.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	6.5	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	24.5	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment	T			T				
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	887	0	0	0	743	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	4.2	0.0	0.0	0.0	3.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.2	0.0	0.0	0.0	3.4	0.0	0.0
Lane Grp Cap (c), veh/h	0	2443	0	0	0	2443	0	0
V/C Ratio (X)	0.00	0.36	0.00	0.00	0.00	0.30	0.00	0.00
Avail Cap (c_a), veh/h	0	2443	0	0	0	2443	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	2.7	0.0	0.0	0.0	2.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.1	0.0	0.0	0.0	2.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis 9: Future Mead Rd & Brawley Ave

OY 2028+P PM Peak Hour
11/14/2024

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment		R	R					
Lanes in Grp	0	1	1	0	0	0	0	0
Grp Vol (v), veh/h	0	113	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	0	0	0	0
Q Serve Time (g_s), s	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1090	145	0	0	0	0	0
V/C Ratio (X)	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1090	701	0	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	4.3
HCM 6th LOS	A

Intersection						
Int Delay, s/veh	8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	104	0	0	0	0	111
Future Vol, veh/h	104	0	0	0	0	111
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	113	0	0	0	0	121
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1	0	-	0	227	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	226	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1622	-	-	-	761	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	812	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1622	-	-	-	708	1084
Mov Cap-2 Maneuver	-	-	-	-	708	-
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	812	-
Approach	EB	WB		SB		
HCM Control Delay, s	7.4	0		8.7		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1622	-	-	-	1084	
HCM Lane V/C Ratio	0.07	-	-	-	0.111	
HCM Control Delay (s)	7.4	-	-	-	8.7	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q(veh)	0.2	-	-	-	0.4	

HCM Signalized Intersection Capacity Analysis

11: Keystone Rd & SR-86

OY 2028+P PM Peak Hour

11/14/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↕	↗	↗	↕	↗
Traffic Volume (vph)	58	22	15	42	31	51	11	739	18	71	671	52
Future Volume (vph)	58	22	15	42	31	51	11	739	18	71	671	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.5			8.5		5.7	8.4	8.4	5.7	8.4	8.4
Lane Util. Factor		1.00			1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.98			0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97			0.98		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1770			1731		1770	3539	1583	1770	3539	1583
Flt Permitted		0.52			0.82		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		951			1444		1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.73	0.66	0.70	0.67	0.81	0.78	0.50	0.80	0.71	0.94	0.92	0.65
Adj. Flow (vph)	79	33	21	63	38	65	22	924	25	76	729	80
RTOR Reduction (vph)	0	5	0	0	24	0	0	0	17	0	0	51
Lane Group Flow (vph)	0	128	0	0	142	0	22	924	8	76	729	29
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		3			4		1	6		5	2	
Permitted Phases	3			4					6			2
Actuated Green, G (s)		14.1			15.0		3.0	33.4	33.4	6.2	36.6	36.6
Effective Green, g (s)		14.1			15.0		3.0	33.4	33.4	6.2	36.6	36.6
Actuated g/C Ratio		0.14			0.15		0.03	0.33	0.33	0.06	0.37	0.37
Clearance Time (s)		8.5			8.5		5.7	8.4	8.4	5.7	8.4	8.4
Vehicle Extension (s)		3.0			3.0		2.0	6.0	6.0	2.0	6.0	6.0
Lane Grp Cap (vph)		134			217		53	1184	529	109	1297	580
v/s Ratio Prot							0.01	c0.26		c0.04	c0.21	
v/s Ratio Perm		c0.13			c0.10				0.01			0.02
v/c Ratio		0.95			0.66		0.42	0.78	0.02	0.70	0.56	0.05
Uniform Delay, d1		42.5			40.0		47.5	29.9	22.2	45.9	25.2	20.4
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		63.2			6.9		1.9	4.2	0.0	14.5	1.2	0.1
Delay (s)		105.8			46.9		49.5	34.1	22.2	60.4	26.4	20.5
Level of Service		F			D		D	C	C	E	C	C
Approach Delay (s)		105.8			46.9			34.2			28.8	
Approach LOS		F			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			37.3			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.79									
Actuated Cycle Length (s)			99.8			Sum of lost time (s)			31.1			
Intersection Capacity Utilization			55.2%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

This page intentionally left blank

Michael Baker
INTERNATIONAL