PEPPER INDUSTRIAL BUILDING

TRAFFIC IMPACT ANALYSIS

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1 EXECUTIVE SUMMARY

This Traffic Impact Analysis (TIA) has been prepared by EPD Solutions, Inc. (EPD) to analyze the proposed Pepper Avenue Specific Plan Amendment and Industrial Development Project which is generally located on the east side of Pepper Avenue south of Interstate-210 (APNs 0264-201-05, -06, and portions of-26) in the City of Rialto (City). The proposed Specific Plan Amendment would modify the existing Planning Areas (PAs) in the northeast portion of the Specific Plan area and redesignate the Specific Plan zoning of approximately 35.56-acres of land on the east side of Pepper Avenue that is adjacent to the south of SR-210 from Community Commercial to Light Industrial. Under the Light Industrial designation, the development proposes the construction of a 475,000 square foot warehouse building. The development project site is currently vacant. To account for fluctuations and changes in the site plan, this TIA will analyze a warehouse building consisting of 485,000 square feet. The proposed warehouse building would generate approximately 1,390 daily passenger car equivalent (PCE) trips which includes 138 AM peak hour and 146 PM peak hour PCE trips.

The following intersections and roadway segments comprise of the study area.

Study Area Intersections:

1. Pepper Avenue/SR-210 WB Ramps
2. Pepper Avenue/SR-210 EB Ramps
3. Pepper Avenue/North Project Driveway (future)
4. Pepper Avenue/Automobile Driveway (future)
5. Pepper Avenue/Truck Driveway (future)
6. Pepper Avenue/Winchester Drive – Terrace Road
7. Pepper Avenue/Baseline Road

Study Area Roadway Segments

1. Pepper Avenue from Baseline Road to Winchester-Terrace Road
2. Pepper Avenue from Winchester-Terrace Road to SR-210 EB Ramps

The study area intersections were evaluated during the AM and PM peak hours, which are defined as the hours with the highest traffic volumes during the 6 AM to 9 AM and 3 PM to 6 PM peak commute periods.

AM and PM peak hour traffic operations were evaluated for the following scenarios:

- Existing Conditions
- Project Opening Day (Existing + Ambient Growth)
- Project Opening Day with Project
- Future Conditions (Opening Day with Project plus Cumulative Projects)
- General Plan
- General Plan with Project

LOS Analysis Results

All study area intersections and roadway segments would operate at satisfactory LOS in all analysis scenarios except for the intersection of Pepper Avenue/SR-210 WB Ramps. This intersection would be impacted by the project in the Future and General Plan with Project scenarios. However, changing the intersection's phasing to split phase in the north-south direction and changing the northbound lane geometry from one left-turn lane and two through lanes to one left-turn lane, one left-through lane, and one through lane would mitigate the project's impact at the intersection.

Queueing Analysis Results

Queueing analysis has been conducted for intersections where queueing applies. Most analyzed intersections would provide sufficient queuing length in the worst-case scenario (General Plan with Project/Mitigation). However, at some intersection approaches, the queue of left-turn vehicles would be within the transition of the left-turn lane which should not cause a queueing impact. It is to be noted that it is recommended for the southbound left-turn lane at the intersection of Pepper Avenue/North Project Driveway to provide a queue length of 175 feet to avoid a queueing impact.

2 INTRODUCTION

This Traffic Impact Analysis (TIA) has been prepared by EPD Solutions, Inc. (EPD) to analyze the potential transportation-related effects of the proposed Pepper Avenue Specific Plan Amendment and Industrial Development Project which is generally located on the east side of Pepper Avenue south of Interstate-210 (APNs 0264-201-05, -06, and portions of -26) in the City of Rialto (City). The development project site is currently vacant. The proposed Specific Plan Amendment would modify the existing Planning Areas (PAs) in the northeast portion of the Specific Plan area and redesignate the Specific Plan zoning of approximately 35.56-acres of land on the east side of Pepper Avenue that is adjacent to the south of SR-210 from Community Commercial to Light Industrial. Under the Light Industrial designation, the development proposes the construction of a 475,000 square foot warehouse building. However, to account for the fluctuations in site plan development, this TIA will analyze 485,000 square feet of warehouse uses. The scope of work for this TIA was reviewed and approved by the City of Rialto and is provided in Appendix A. The TIA was prepared according to the approved scope of work using methodologies and significance criteria consistent as per the City of Rialto Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment (LOS) (Draft, October 2021).

2.1 Project Description

As noted previously, the project includes both a Specific Plan Amendment and construction of an industrial development project. The Specific Plan Amendment would redesignate the Specific Plan zoning of approximately 35.56-acres of land on the east side of Pepper Avenue that is adjacent to the south of SR-210 from Community Commercial to Light Industrial. The Specific Plan Amendment would facilitate the proposed industrial development project which is evaluate in this TIA. The proposed development project is located on a 23.83-acre site on the east side of Pepper Avenue south of the SR-210 freeway (APNs 0264-201-05, -06, and -26). The development project site is currently vacant. The location of the project is shown in Figure 1 and the project site plan is shown in Figure 2. A full-size site plan as well as a plan showing truck turning movements is provided in Appendix D. The project proposes the construction of a 475,0000 square feet warehouse building. To account for variations and development of the site plan, this TIA will analyze 485,000 square feet of warehouse uses. The project will be accessible via three driveways on Pepper Avenue. The north project driveway would be signalized and would be shared with the Specific Plan areas PA 1 and PA 10. To the north of the development project. The center driveway (referred to as the project Automobile Driveway) is located approximately 287 feet south of the northern driveway and it would be limited to right-in/right-out movements only. The northern and middle driveways would serve passenger cars destined to/from the project site. The southern driveway (referred to as the Truck Driveway) is located approximately 656 feet south of the northern driveway, it would be unsignalized and would be limited to southbound (inbound) left-turns and westbound (outbound) right-turns. The southern driveway would serve truck traffic generated by the project and would provide access to the loading dock area. The warehouse building is expected to have 62 dock positions, 196 trailer parking stalls, and 276 parking spaces for passenger cars.

Figure 1: Project Location

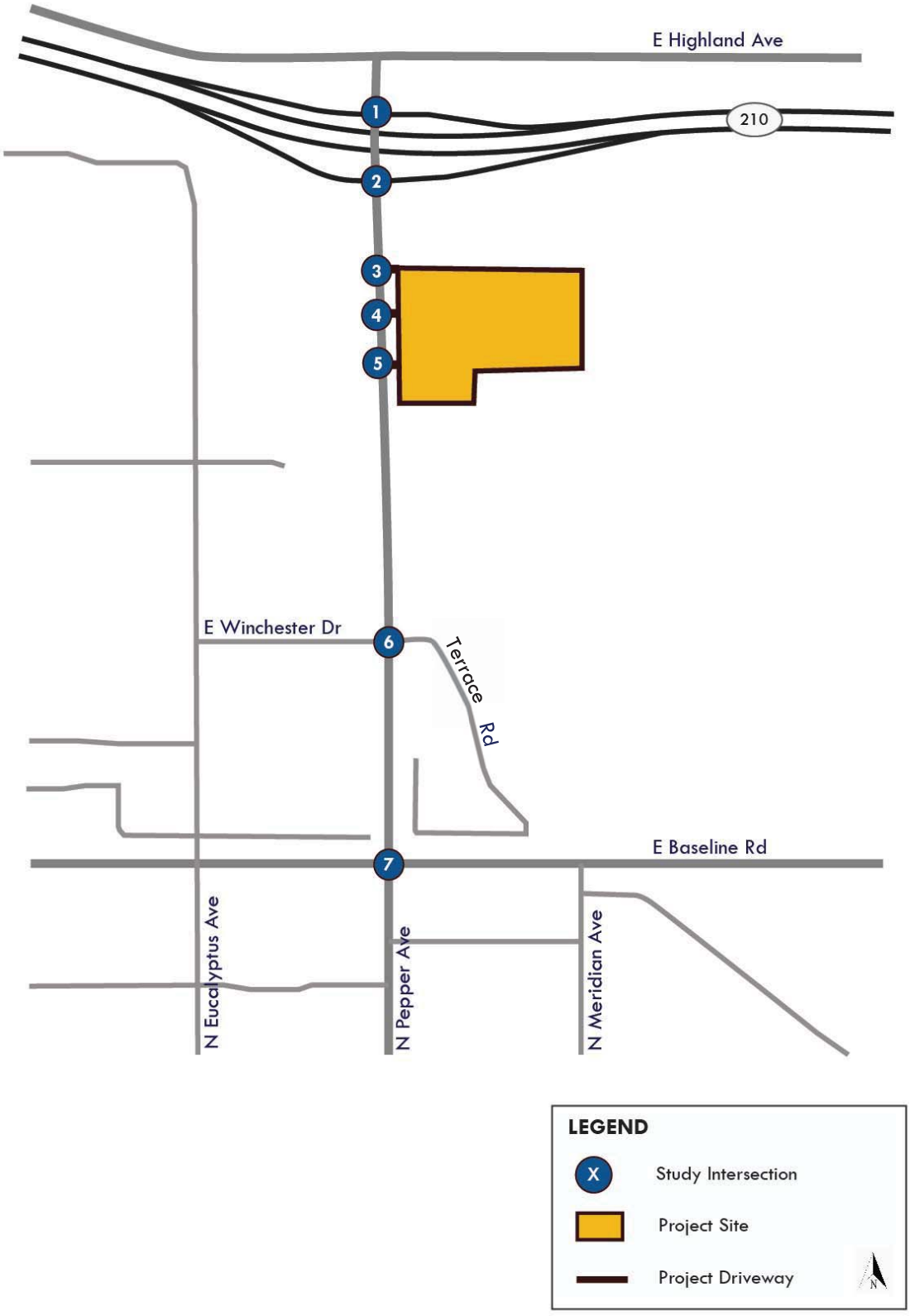
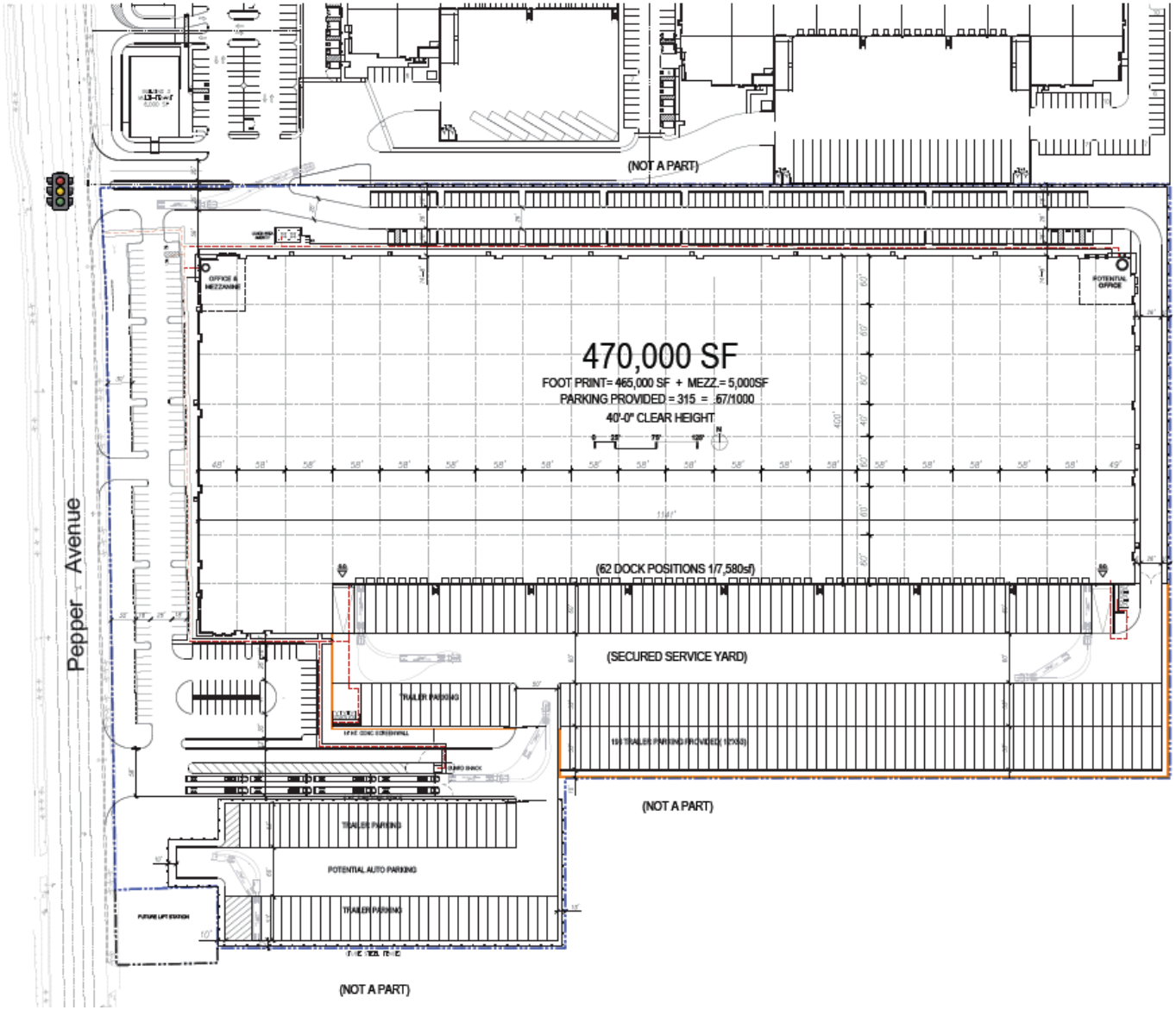


Figure 2: Project Site Plan



2.2 Study Area and Analysis Scenarios

The City of Rialto Traffic Impact Analysis (TIA) Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment (LOS) Guidelines provides thresholds for determining when a TIA is needed and guidance on selecting study area intersections. As per the TIA Guidelines, a TIA report is required if a project is likely to have a traffic impact on the City's circulation system. The TIA is to consider the following traffic impacts:

- Increased traffic volumes on any street
- Any operational traffic issues (i.e. traffic signal operations, increased delay, restricted pedestrian movements, modified roadway access, limited sight distance, inadequate ingress/egress, inadequate storage volume for required turning movements, etc.), or other concerns identified by the City.

The TIA Guidelines state that a major traffic study is required for any project that generates 50 or more trips during any peak hour without consideration of pass-by trips. The intersections selected for the study shall follow the following criteria:

- At a minimum, the study area shall include any intersection of "Collector" to higher classification street, with "Collector" or higher classification, shown on Rialto Circulation Element, at which the proposed project will add 50 or more A.M. or P.M. peak hour trips within 5 miles of the Project. PCE factors apply to this threshold.

The study area was selected to include those intersections and roadway segments to which the project would add 50 or more peak hour trips on a "Collector" or higher classification. This TIA includes the analysis of signalized intersections and two-way stop-controlled intersections. The following intersections were included in the analysis:

1. Pepper Avenue/SR-210 WB Ramps
2. Pepper Avenue/SR-210 EB Ramps
3. Pepper Avenue/North Project Driveway (future)
4. Pepper Avenue/Automobile Driveway (future)
5. Pepper Avenue/Truck Driveway (future)
6. Pepper Avenue/Winchester Drive – Terrace Road
7. Pepper Avenue/Baseline Road

The following roadway segments were included in the analysis:

1. Pepper Avenue between Baseline Road and Winchester Drive-Terrace Road
2. Pepper Avenue between Winchester Drive-Terrace Road and SR-210

The study area is shown on Figure 3 – Project Study Area. Study area intersections were evaluated during the AM and PM peak hours, which are defined as the hour with the highest traffic volumes during the 6 AM to 9 AM and 3 PM to 6 PM peak commute periods. The daily traffic volume was evaluated for study area roadway segments. The following scenarios are included in this analysis:

- Existing Conditions

- Project Opening Day (Existing + Ambient Growth)
- Project Opening Day with Project
- Future Conditions (Opening Day with Project plus Cumulative Projects)
- General Plan
- General Plan with Project

EPD contracted with a traffic counting and data collection firm to collected traffic counts at the study area intersections and roadway segments in October of 2021. At the time counts were collected, schools and businesses would be considered normal operations, and no adjustments would be necessary.

Figure 3: Project Study Area



2.3 Methodology

Intersection operations are evaluated using Level of Service (LOS), which is a measure of the delay experienced by drivers on a roadway facility. LOS A indicates free-flow traffic conditions and is generally the best operating conditions. LOS F is an extremely congested condition and is the worst operating condition from the driver's perspective. In this report, LOS at signalized and unsignalized intersections is calculated using the Highway Capacity Manual (HCM), 6th Edition methodology.

LOS at signalized intersections is defined in terms of the weighted average control delay for the intersection as a whole. Control delay is a measure of the increase in travel time that is experienced due to traffic signal control and is expressed in terms of average control delay per vehicle (in seconds). Control delay is determined based on the intersection geometry and volume, signal cycle length, phasing and coordination along the arterial corridor. Table 1 shows the relationship between control delay and LOS.

Table 1: Relationship between Control Delay and LOS at a Signalized Intersection

LOS	Delay (Seconds per Vehicle)
A	≤ 10
B	>10 – 20
C	>20 – 35
D	>35 – 55
E	>55 – 80
F	>80

Unsignalized intersections are categorized as either all-way stop control (AWSC) or two-way stop control (TWSC). LOS at AWSC intersections is determined by the weighted average control delay of the overall intersection. The HCM TWSC intersection methodology calculates LOS based on the delay experienced by drivers on the minor (stop-controlled) approaches to the intersection. For TWSC intersections, LOS is determined for each minor-street movement, as well as the major-street left-turns. The relationship between delay and LOS at Unsignalized intersections is shown in Table 2.

Table 2: Relationship between Delay and LOS an Unsignalized Intersection

LOS	Delay (seconds)
A	0-10
B	>10 – 15
C	>15 – 25
D	>25 – 35
E	>35 – 50
F	>50

Intersection and roadway analysis parameters were taken from the City's TIA Guidelines.

2.4 Significance Criteria

City of Rialto
The City of Rialto Traffic Impact Analysis Guidelines provides the following criteria for the determination of unsatisfactory traffic effects.

The City's General Plan recommends a LOS standard of D. Intersections already operating at worse than LOS C would be required to implement improvements to reduce delay caused by the project to acceptable operations according to increases in delay shown in Table 3.

Table 3: Thresholds for Acceptable Intersection Operation in City of Rialto

With Project LOS	Acceptable Increase in Delay
A/B	+10.0 Seconds
C	+8.0 Seconds
D	+5.0 Seconds
E	+2.0 Seconds
F	+1.0 Seconds

The City's Roadway Segment Capacities and corresponding LOS for acceptable operations is illustrated in Table 4. The City's General Plan recommends an LOS standard of D. For roadways under the Congestion Management Program, LOS E is acceptable.

Table 4: City of Rialto Roadway Segment Capacity [1]

		Two-Way Traffic Volume (ADT)[2]		
Roadway Classification	No. of Lanes	Service Level C	Service Level D	Service Level E
Local	2	2,500 - 2,799	2,800 - 3,099	3,100 +
Collector (60' or 64')	2	9,900 - 11,199	11,200 - 12,499	12,500 +
Industrial (45')	2	9,900 – 11,199	11,200 – 12,499	12,500 +
Arterial[3]	2	14,400 – 16,199	16,200 – 17,999	18,000 +
Secondary Highway	4	16,900 – 19,399	19,400 – 21,199	22,000 +
Modified Arterial (100')	4	26,200 – 29,599	29,600 – 32,999	33,000 +
Arterial (120')	6	38,700 – 44,099	44,100 – 49,499	49,500 +

[1] All capacity figures are based on optimum conditions and are intended as guidelines for planning purposes only
[2] Maximum two-way ADT values are based on the 1999 Modified Highway Capacity Manual Level of Service Tables
[3] Two lane roads designated as future arterials that conform to arterial design standards for vertical and horizontal alignments are analyzed as arterials.

San Bernardino County Congestion Management Program (CMP)
The San Bernardino County CMP sets a LOS standard of E for intersections or roadway segments on the CMP system of roadways. LOS E would apply as the standard at the following intersections:

7. Pepper Avenue/Baseline Road

There are no roadway segments that require analysis under the San Bernardino CMP.

California Department of Transportation (Caltrans)

The Caltrans *Guide for the Preparation of Traffic Impact Studies* (December 2002) required that State Highway facilities be analyzed when project traffic was added to the facility. As per the guidelines, LOS D is the required standard at intersections under the jurisdiction of Caltrans. In response to implementation of SB743, Caltrans released the *Vehicle Miles Traveled-Focused Transportation Impact Study Guide*, May 20, 2020. According to the latest guide, "With this guidance, the Department will transition away from requesting LOS or other vehicle operations analyses of land use projects."

3 BASELINE CONDITIONS

This section discusses the baseline (without project) conditions. Baseline conditions are those conditions that exist within the study area in the existing condition and that are forecast to occur in the future, without the proposed project.

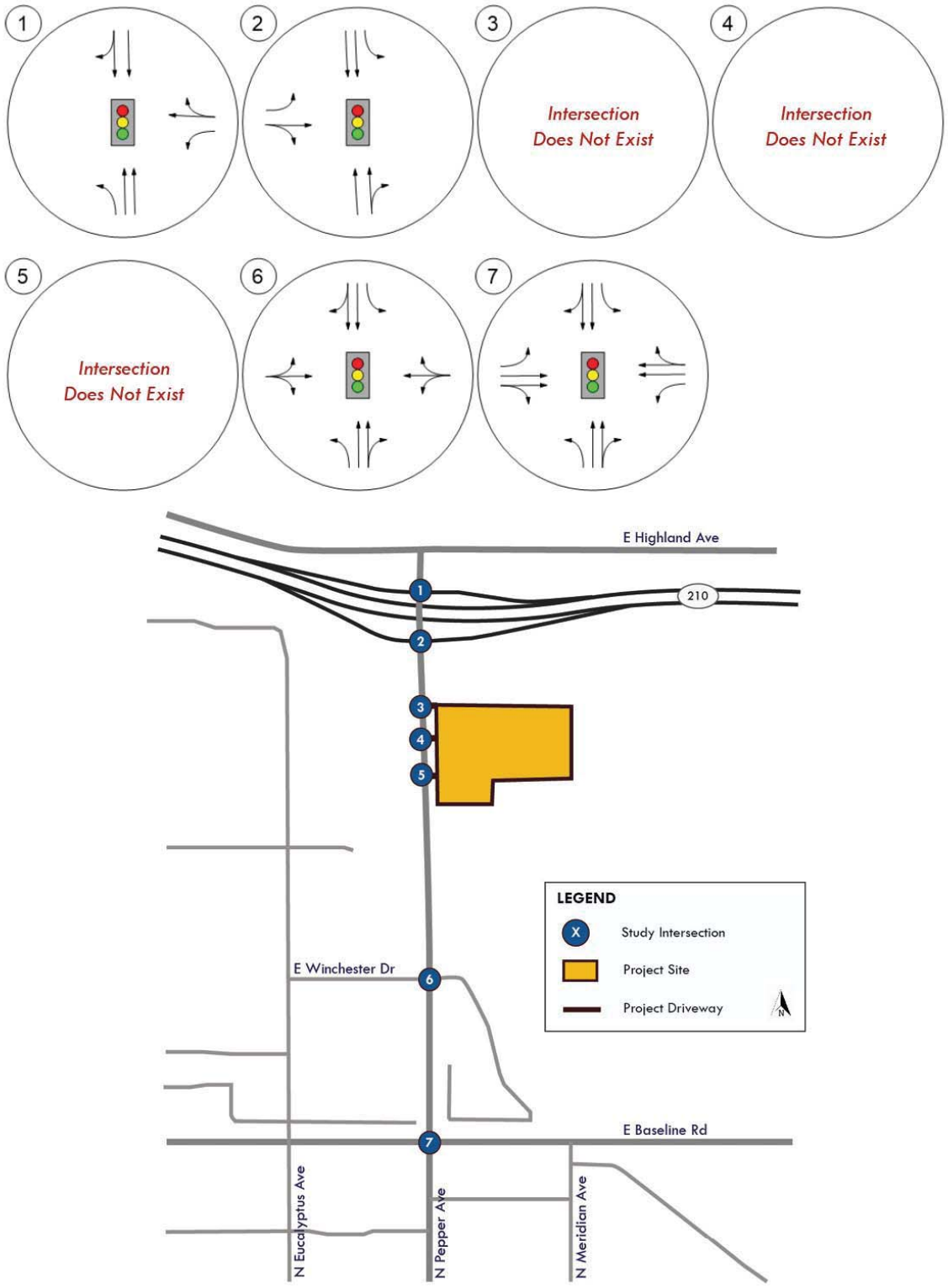
3.1 Existing Transportation System

The project site is located on the east side of Pepper Avenue south of Interstate-210 (APNs 0264-201-05, -06, and portions of -26) in the City of Rialto (City). Access to the project site is provided from Pepper Avenue. The posted speed limit on Pepper Avenue is 45 MPH. Regional access to the project site is provided by SR-210 which connects to SR-215 approximately 2.5 miles east of the project site.

There are currently sidewalks with landscaping along the project frontage on Pepper Avenue. There are no marked bicycle lanes on Pepper Avenue along the project site and parking is not allowed on Pepper Avenue between Winchester Drive-Terrace Road and the SR-210 Freeway. Transit service is provided in the project area by Omnitrans. There is currently no transit service on Pepper Avenue, however Omnitrans Route 312 provides service along Highland Avenue, approximately 1,400 feet north of the project site.

The existing traffic control and intersection geometrics at study area intersections are shown in Figure 4.

Figure 4: Existing Conditions Lane Geometries and Traffic Control



3.2 Existing Conditions Traffic Volumes and Intersection Operations

Existing AM and PM peak hour traffic volumes at the study area intersections are shown in Figures 5 and 6. The existing Levels of Service at the study area intersections were determined using the HCM methodology, described previously in section 2.3. Table 5 shows the existing AM and PM peak hour levels of service at study intersections. All LOS calculations are provided in *Appendix* C. As shown in Table 5, all of the study area intersections operate at a satisfactory LOS D or better under the Existing Conditions scenario.

Table 5: Existing Conditions AM and PM Peak Hour Level of Service

		AM Peak		PM Peak	
Intersection	**Control Type**	**Delay**	**LOS**	**Delay**	**LOS**
1. Pepper Ave/SR-210 WB Ramps	Signal	31.1	C	24.0	C
2. Pepper Ave/SR-210 EB Ramps	Signal	18.6	B	19.2	B
3. Pepper Ave/North Project Driveway	Signal	-	-	-	-
4. Pepper Ave/Auto Driveway (RIRO Only)	TWSC	-	-	-	-
5. Pepper Ave/Truck Driveway	TWSC	-	-	-	-
6. Pepper Ave/Winchester Dr-Terrace Rd	Signal	11.5	B	5.0	A
7. Pepper Ave/Baseline Rd	Signal	27.2	C	30.7	A

TWSC = Two Way Stop Control
Delay Reported in Seconds per Vehicle
LOS = Level of Service
RIRO = Right-in/Right-out only

3.3 Existing Conditions Roadway Segment Analysis

The Existing Conditions LOS at the roadway segments were determined through comparison of the daily roadway volumes with the capacity shown in the City's TIA Guidelines. Table 6 shows the existing LOS for daily roadway segments. All LOS calculations are provided in Appendix C. As shown in Table 6, all roadway segments operate at satisfactory levels (above the LOS D threshold).

Table 6: Existing Conditions Roadway Segment Analysis

Roadway Segment	Typed of Roadway	Threshold of Significance	Threshold Capacity	Existing Roadway ADT
1. Pepper Avenue: Baseline to Winchester-Terrace	Modified Arterial	D	32,999	20,955
2. Pepper Ave: Winchester-Terrace to Project North Driveway	Modified Arterial	D	32,999	22,129
3. Pepper Ave: Project North Driveway to SR -210 EB Ramp	Modified Arterial	D	32,999	22,129

Note: The City's General Plan Street Classification Map shows Pepper Avenue as a Major Arterial. However, the TIA Guidelines do not include this classification. Therefore, Modified Arterial (100') 4 lanes is used for the Capacity of Pepper Avenue.

Figure 5: Existing Conditions AM Peak Hour Traffic Volumes

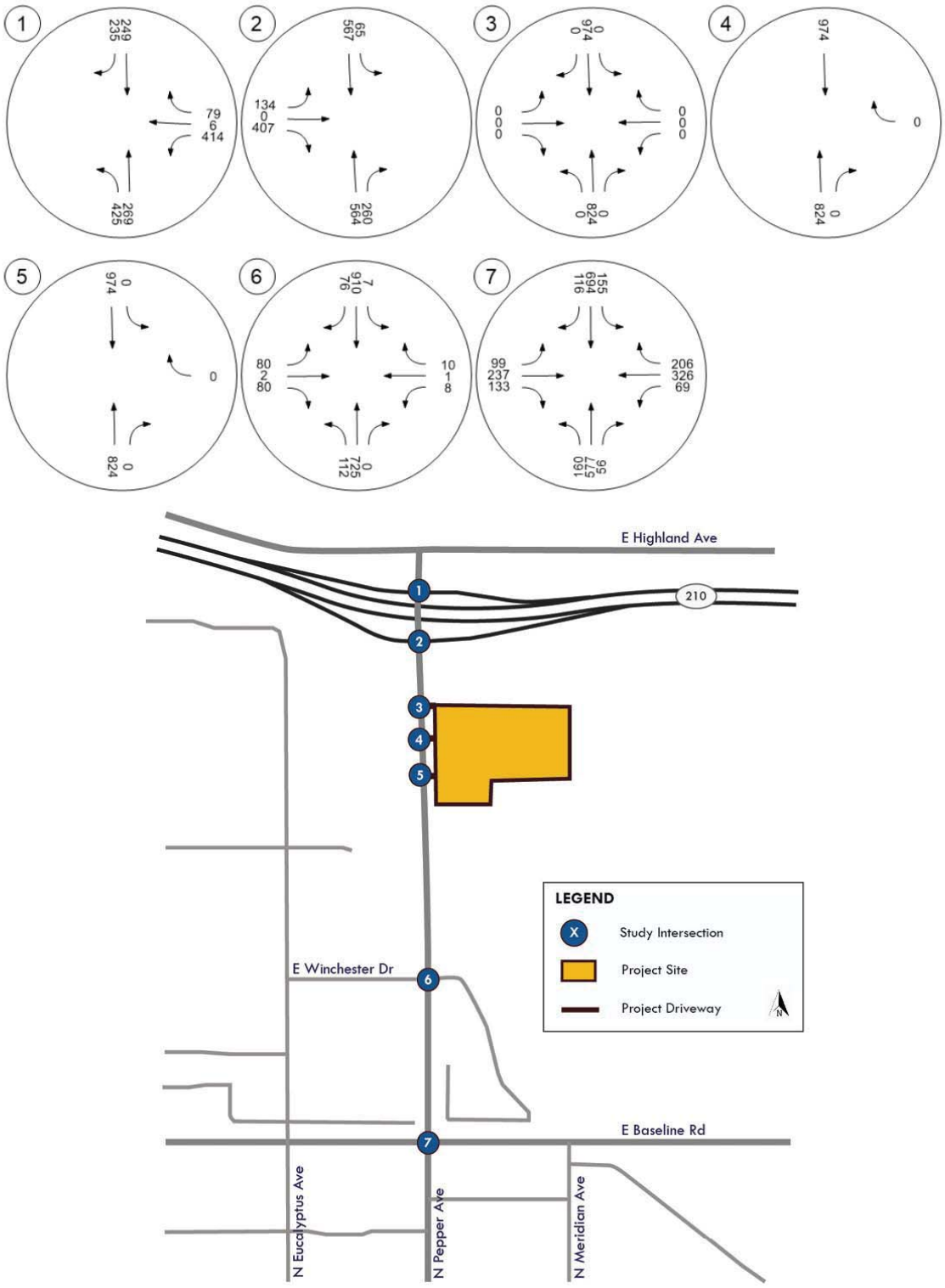
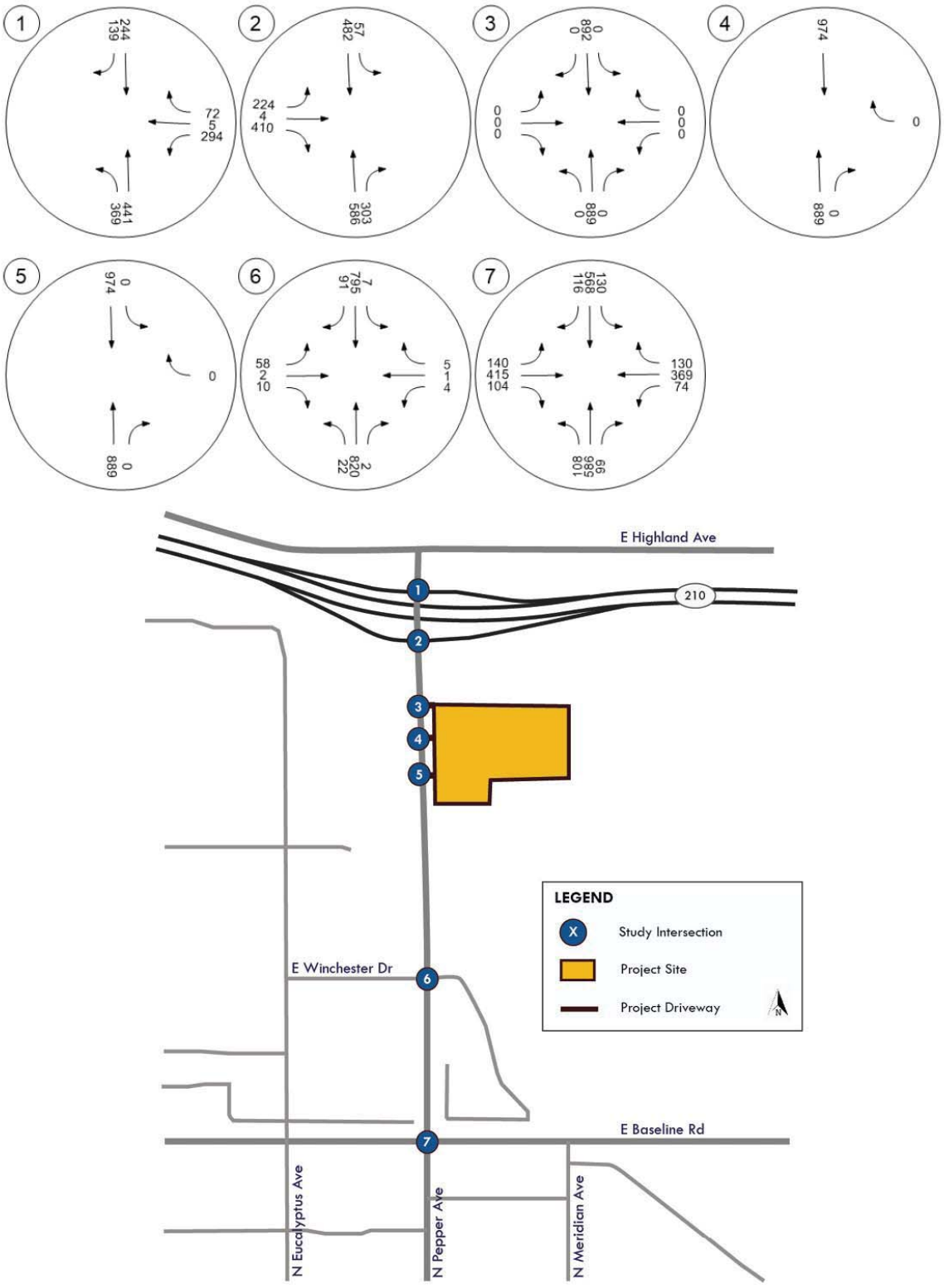


Figure 6 : Existing Conditions PM Peak Hour Traffic Volumes



3.4 Project Opening Day Traffic Volumes and Intersection Operations

Project Opening Day (2023) traffic volumes were developed by applying a growth rate of two percent per year to the existing (2021) traffic volumes as approved in the Scoping Agreement. The Project Opening Day (2023) Baseline traffic volumes are illustrated in Figures 7 and 8. Table 7 below shows the Project Opening Day AM and PM peak hour levels of service at study intersections. As shown in Table 7, all study area intersections would operate with a satisfactory LOS in the Project Opening Day (2023) condition.

Table 7: Project Opening Day AM and PM Peak Hour Level of Service

		AM Peak		PM Peak	
Intersection	**Control Type**	**Delay**	**LOS**	**Delay**	**LOS**
1. Pepper Ave/SR-210 WB Ramps	Signal	32.1	C	24.2	C
2. Pepper Ave/SR-210 EB Ramps	Signal	18.6	B	21.1	C
3. Pepper Ave/North Project Driveway	Signal	-	-	-	-
4. Pepper Ave/Auto Driveway (RIRO Only)	TWSC	-	-	-	-
5. Pepper Ave/Truck Driveway	TWSC	-	-	-	-
6. Pepper Ave/Winchester Dr-Terrace Rd	Signal	11.5	B	5.0	A
7. Pepper Ave/Baseline Rd	Signal	27.6	C	31.0	C

TWSC = Two Way Stop Control
Delay Reported in Seconds per Vehicle
LOS = Level of Service
RIRO = Right-in/Right-out only

3.5 Project Opening Day Conditions Roadway Segment Analysis

The Project Opening Day LOS at the roadway segments were determined through comparison of the daily roadway volumes with the capacity shown in the City's TIA Guidelines. Table 8 shows the existing LOS for daily roadway segments. All LOS calculations are provided in Appendix C. As shown in Table 8, all roadway segments operate at satisfactory levels (above the LOS D threshold).

Table 8: Project Opening Day Roadway Segment Analysis

	Roadway Segment	Type of Roadway	Threshold of Significance	Threshold Capacity	Opening Day Roadway ADT*
1.	Pepper Avenue: Baseline to Winchester-Terrace	Modified Arterial	LOS D	32,999	21,793
2.	Pepper Ave: Winchester-Terrace to Project North Driveway	Modified Arterial	LOS E	32,999	23,014
3.	Pepper Ave: Project North Driveway to SR-210 EB Ramp	Modified Arterial	LOS E	32,999	23,014

*4% Growth applied to existing ADT
Note: The City's General Plan Street Classification Map shows Pepper Avenue as a Major Arterial. However, the TIA Guidelines do not include this classification. Therefore, Modified Arterial (100') 4 lanes is used for the Capacity of Pepper Avenue.

Figure 7: Project Opening Day AM Peak Hour Traffic Volumes

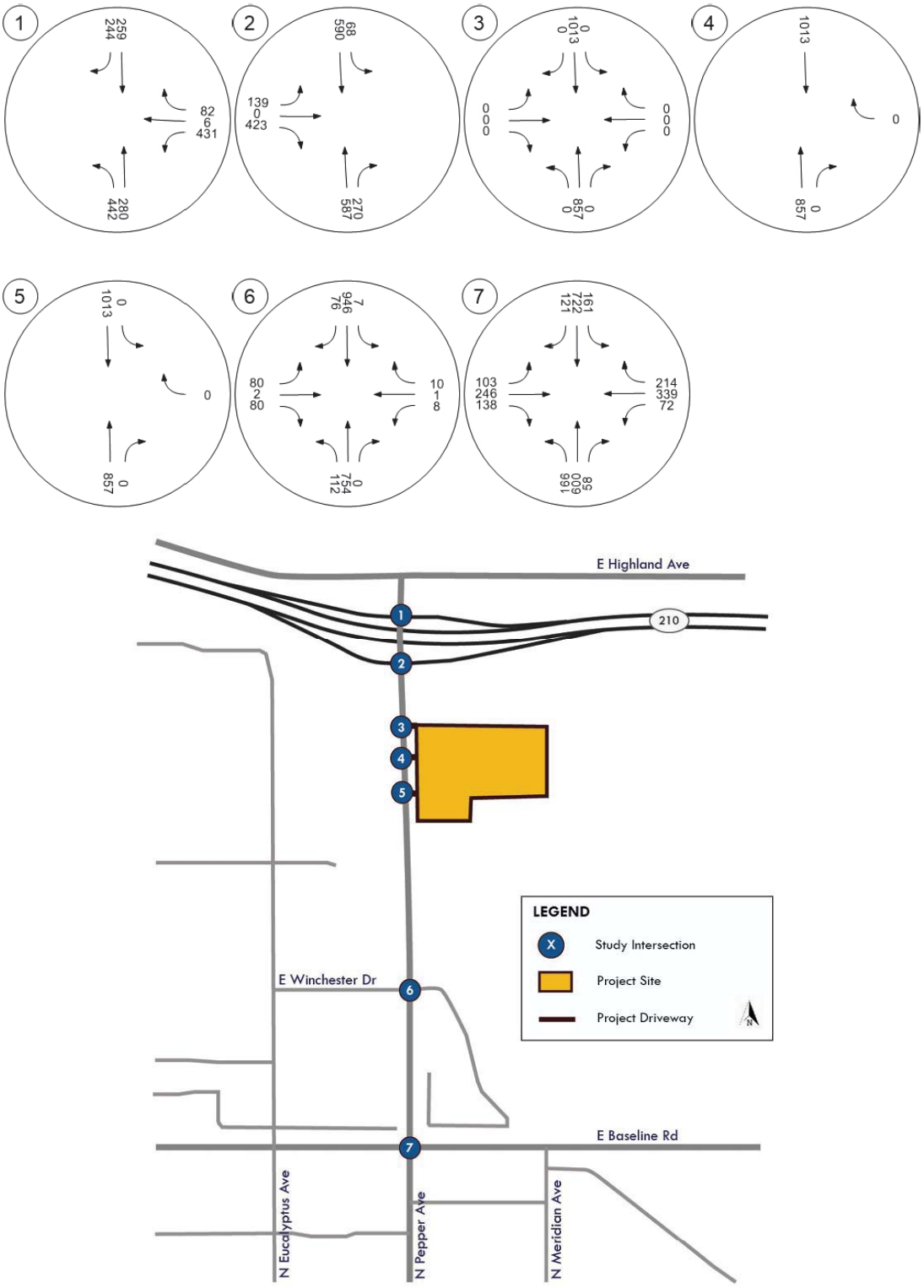
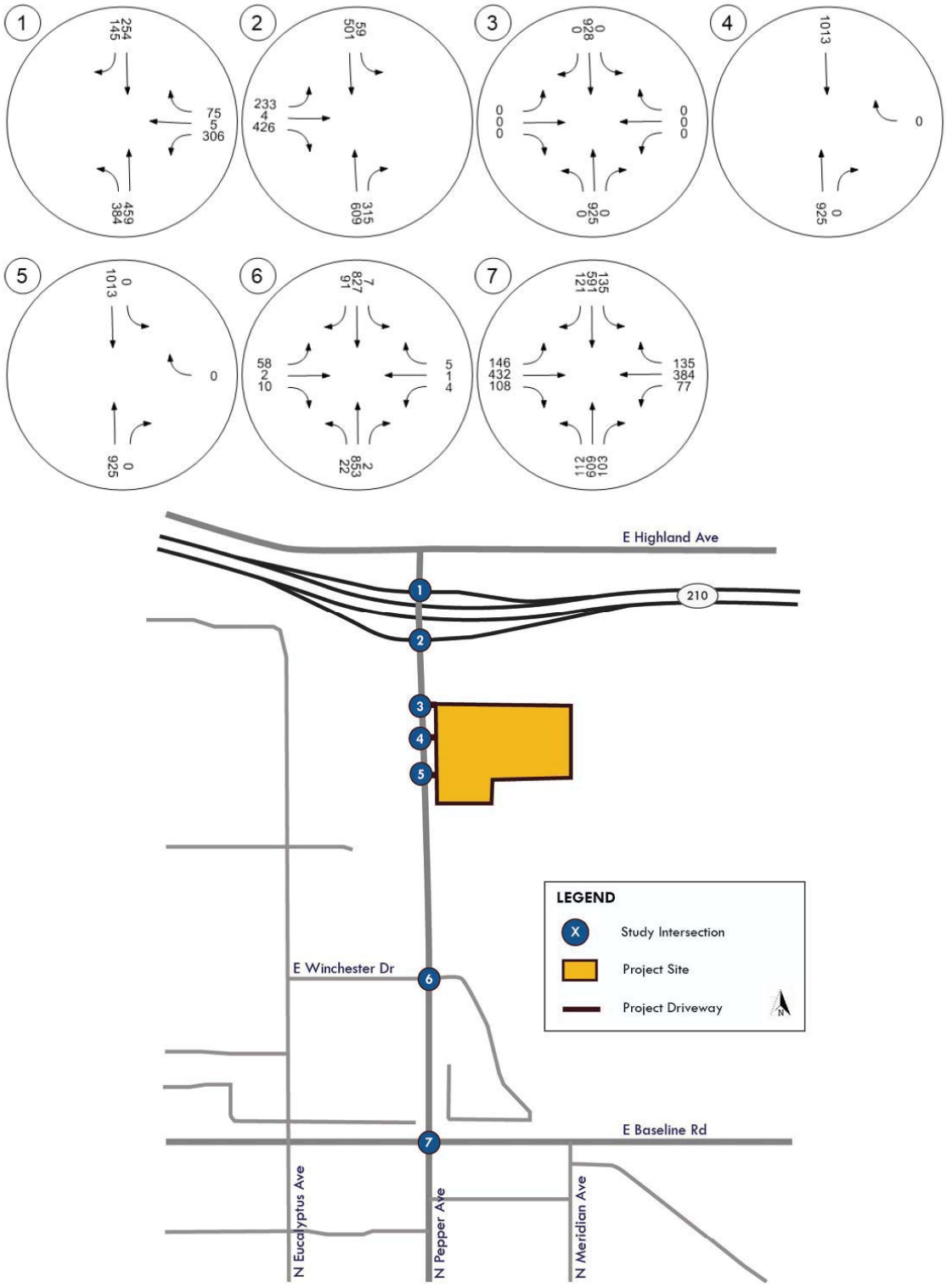


Figure 8: Project Opening Day PM Peak Hour Traffic Volumes



3.6 General Plan Condition

General Plan buildout (2040) traffic volumes were developed by adding observed growth from the San Bernardino County Transportation Analysis Model (SBTAM) to the existing traffic volumes. The baseline 2016 SBTAM model network does not include Pepper Avenue connecting to Highland Boulevard or the Pepper Avenue interchange. Therefore, the growth in roadway volumes on Pepper Avenue from the 2016 and 2040 models cannot be utilized as it would provide erroneous results. This data could not be used to post-process turn movement volumes using the typical NCHRP iterative methodology. To forecast the growth to General Plan conditions within the project study area, EPD determined the average growth on Riverside Avenue and on State Street near the 210 Freeway. The average growth on these two arterials was deemed to be representative of the growth that could be expected on Pepper Avenue between SR-210 and Baseline Road. Using this method, a 1 percent per year linear growth rate was identified and applied to the existing traffic volumes. Using this method, a growth of 24 percent was applied to the existing 2021 traffic volumes to forecast future 2040 General Plan conditions.

EPD also examined the socioeconomic data in the model for the Pepper Avenue Specific Plan area to determine whether the growth rate would reflect the planned development adjacent to the project site. The employment shown in that area did not include significant employment in either 2016 or 2040 conditions. Therefore, in addition to a 24 percent growth, the traffic from cumulative projects 7 and 8 (Pepper Avenue Development and Foothill Freeway Commerce Center) were also included in the General Plan Buildout traffic volumes.

The General Plan buildout traffic volumes are illustrated in Figures 9 and 10. Table 9 shows the General Plan AM and PM peak hour levels of service at study intersections. As shown in Table 9, all intersections would continue to operate at a Satisfactory LOS.

Table 9: General Plan AM and PM Peak Hour Level of Service

		AM Peak		PM Peak	
Intersection	**Control Type**	**Delay**	**LOS**	**Delay**	**LOS**
1. Pepper Ave/SR-210 WB Ramps	Signal	47.6	D	26.8	C
2. Pepper Ave/SR-210 EB Ramps	Signal	21.2	C	20.1	C
3. Pepper Ave/North Project Driveway	Signal	-	-	-	-
4. Pepper Ave/Auto Driveway (RIRO Only)	TWSC	-	-	-	-
5. Pepper Ave/Truck Driveway	TWSC	-	-	-	-
6. Pepper Ave/Winchester Dr-Terrace Rd	Signal	8.4	A	4.7	A
7. Pepper Ave/Baseline Rd	Signal	29.4	C	30.2	C

TWSC = Two Way Stop Control
Delay Reported in Seconds per Vehicle
LOS = Level of Service
RIRO = Right-in/Right-out only

3.7 General Plan Conditions Roadway Segment Analysis

The General Plan LOS at the roadway segments were determined through comparison of the daily roadway volumes with the capacity shown in the City's TIA Guidelines. Table 10 shows the General Plan LOS for daily roadway segments. All LOS calculations are provided in Appendix C. As shown in Table 10, all roadway segments would operate at satisfactory levels (above the respective LOS D or E threshold).

Table 10: General Plan Buildout Roadway Segment Analysis

	Roadway Segment	Typed of Roadway	Threshold of Significance	Threshold Capacity	GP Buildout Roadway ADT*
1.	Pepper Avenue: Baseline to Winchester-Terrace	Modified Arterial	LOS D	32,999	28,236
2.	Pepper Ave: Winchester-Terrace to Project North Driveway	Modified Arterial	LOS E	32,999	25,412
3.	Pepper Ave: Project North Driveway to SR-210 EB Ramp	Modified Arterial	LOS E	32,999	33,837

*24% Growth applied to existing ADT

Note: The City's General Plan Street Classification Map shows Pepper Avenue as a Major Arterial. However, the TIA Guidelines do not include this classification. Therefore, Modified Arterial (100') 4 lanes is used for the Capacity of Pepper Avenue.

Figure 9: General Plan AM Peak Hour Traffic Volumes

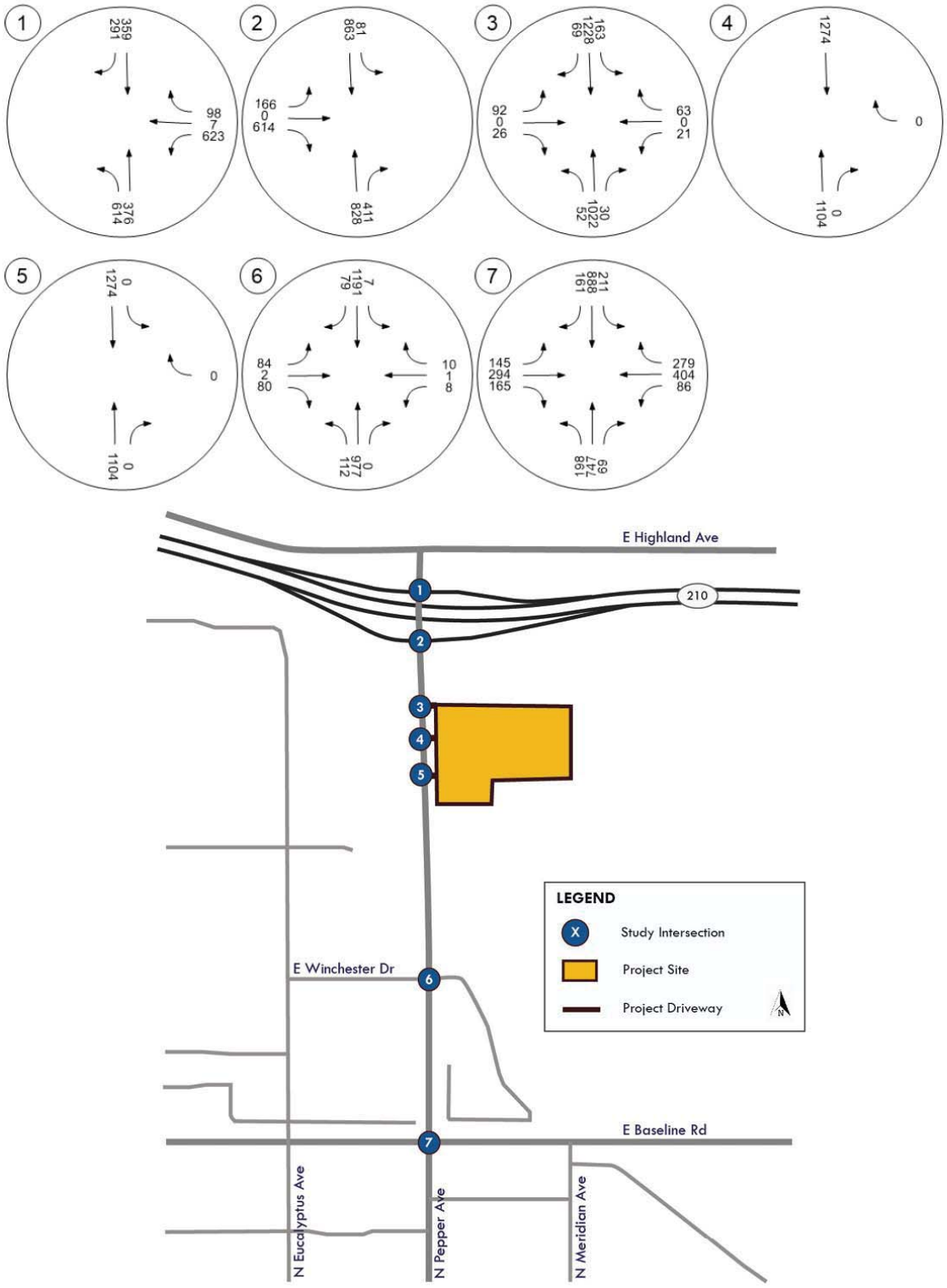
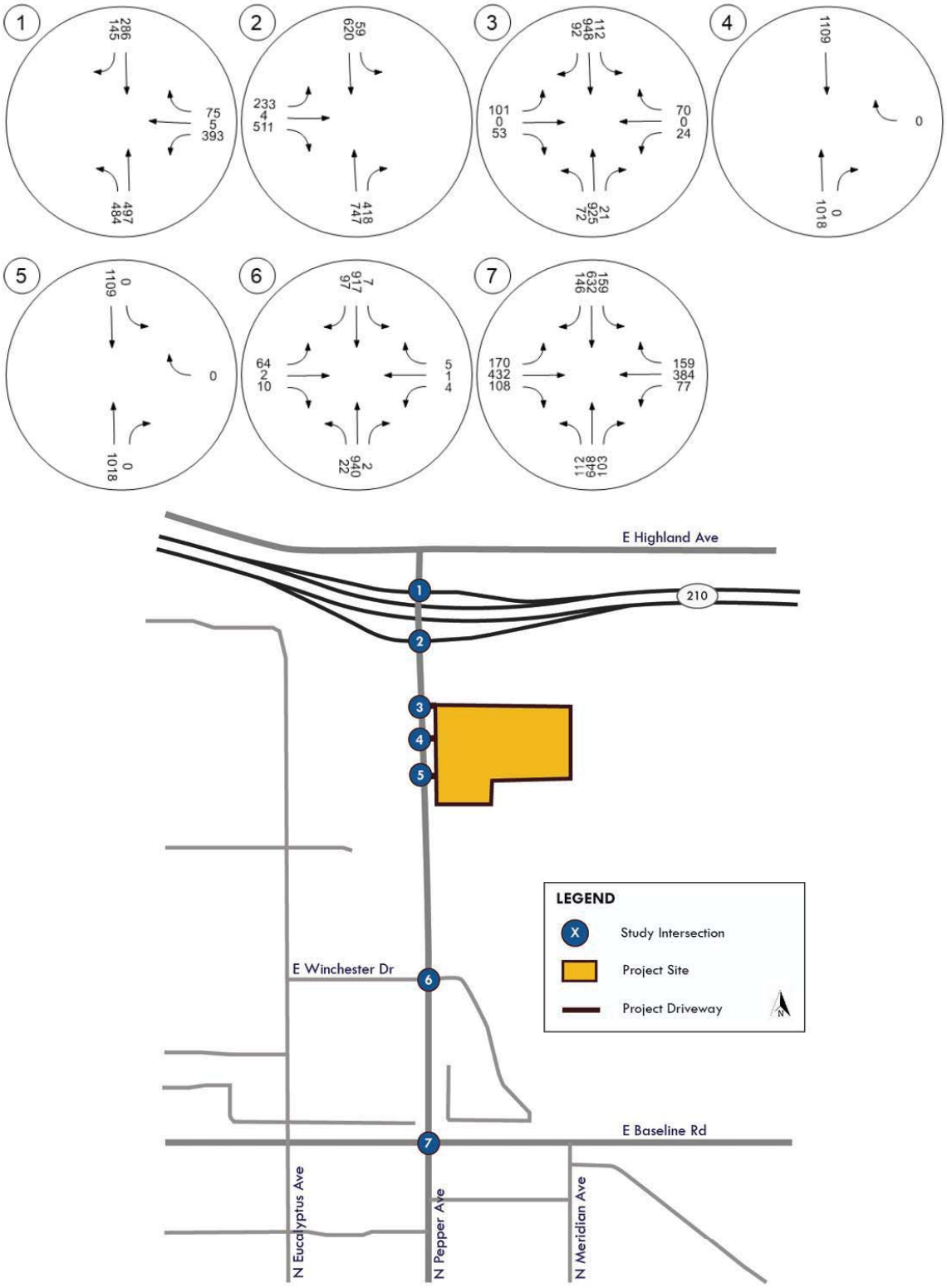


Figure 10: General Plan PM Peak Hour Traffic Volumes



4 PROPOSED PROJECT

4.1 Project Trip Generation

Vehicle trips were generated for the project using trip rates for the warehouse land use from the Institute of Transportation Engineers (ITE) Trip Generation (11th Edition, 2021), a vehicle mix from the Rialto Traffic Impact Analysis Report Guidelines, December 2013, and Passenger Car Equivalent (PCE) factors from the San Bernardino County CMP, Appendix B – Guidelines for CMP Traffic Impact Analysis Reports in San Bernardino County, 2016. The project trip generation is shown in Table 11. The proposed warehouse would generate approximately 1,390 daily PCE trips which includes 138 AM peak hour and 146 PM peak hour PCE trips.

4.2 Project Trips

Project trips were distributed to the study area intersections based on the location of the project and logical routes of travel to and from the site. Project trips were assigned to the study area intersections by multiplying the project trip generation by the trip distribution percent at each location. As noted in the project description, the project will be accessible via three driveways on Pepper Avenue. The north project driveway would be signalized and would be shared with the Specific Plan areas PA 1 and PA 10. The north project driveway would serve project automobile traffic only as well as automobile and truck traffic generated by the future (cumulative) project to the north of the project site. The center driveway would be used by passenger cars only and would be limited to right-in/right-out movements, whereas the southern driveway would serve truck traffic and would be limited to southbound (inbound) left-turns and westbound (outbound) right-turns.

The project trip distributions assumes that all of the project's passenger car traffic from the north would enter the project using the northern shared driveway. Outbound project passenger car trips would be split evenly between the northern shared signalized driveway and unsignalized right-in/right-out driveway. All trucks would enter and exit the project through the southern truck driveway.

The project trip distribution for the passenger cars associated with the warehouse building is shown in Figure 11. The project trip distribution for the trucks associated with the warehouse building is shown in Figure 12. The project trip assignment for AM and PM peak hours are shown in Figure 13 and Figure 14, respectively.

Table 11: Project Trip Generation

				AM Peak Hour			PM Peak Hour		
Land Use		**Units**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Trip Rates									
Warehouse[1]		TSF	1.71	0.13	0.04	0.17	0.05	0.13	0.18
Total Vehicle Trip Generation									
Proposed Warehouse	485	TSF	829	63	19	82	24	63	87
Vehicle Mix[2]		***Percent***							
Passenger Vehicles		60.00%	498	38	11	49	15	38	52
2-Axle Trucks		0.80%	7	1	0	1	0	1	1
3-Axle Trucks		11.20%	93	7	2	9	3	7	10
4+-Axle Trucks		28.00%	232	18	5	23	7	18	24
		100%	829	63	19	82	24	63	87
PCE Trip Generation[3]		***PCE Factor***							
Passenger Vehicles		1.0	498	38	11	49	15	38	52
2-Axle Trucks		1.5	10	1	0	1	0	1	1
3-Axle Trucks		2.0	186	14	4	18	5	14	20
4+-Axle Trucks		3.0	697	53	16	69	21	53	73
Total PCE Trip Generation			1390	106	32	138	41	105	146

TSF = Thousand Square Feet

PCE = Passenger Car Equivalent

[1] Trip rates from the Institute of Transportation Engineers, *Trip Generation,11th Edition, 2021*. Land Use Code 150 - Warehouse.

[2] Vehicle Mix from the Rialto Traffic Impact Analysis Report Guidelines, December 2013.

[3] Passenger Car Equivalent (PCE) factors from San Bernardino County CMP, Appendix B - Guidelines for CMP Traffic Impact Analysis Reports in San Bernardino County, 2016

Figure 11: Project Passenger Car Trip Distribution

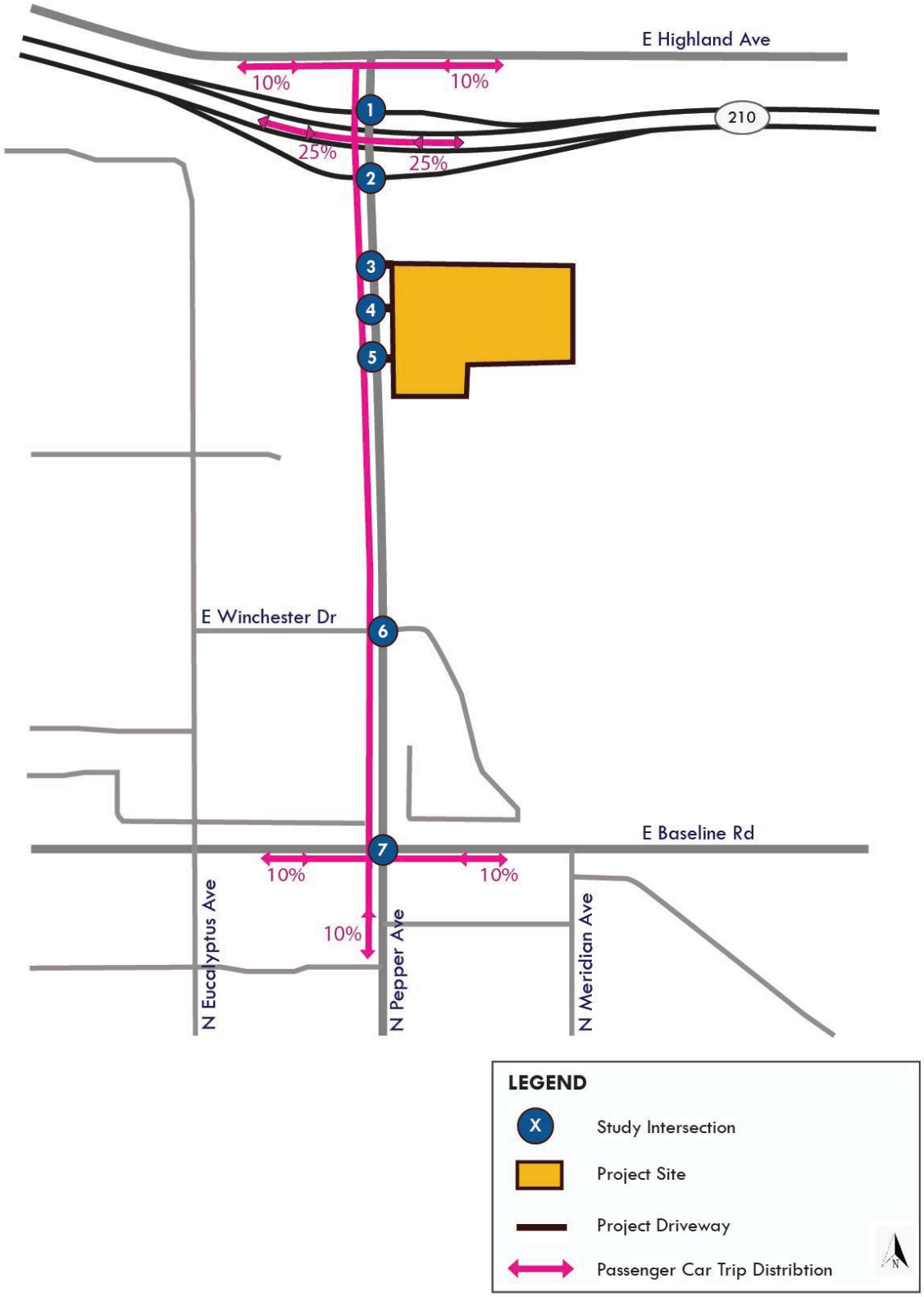


Figure 12: Project Truck Trip Distribution



Figure 13: Project AM Peak Hour Trip Assignment

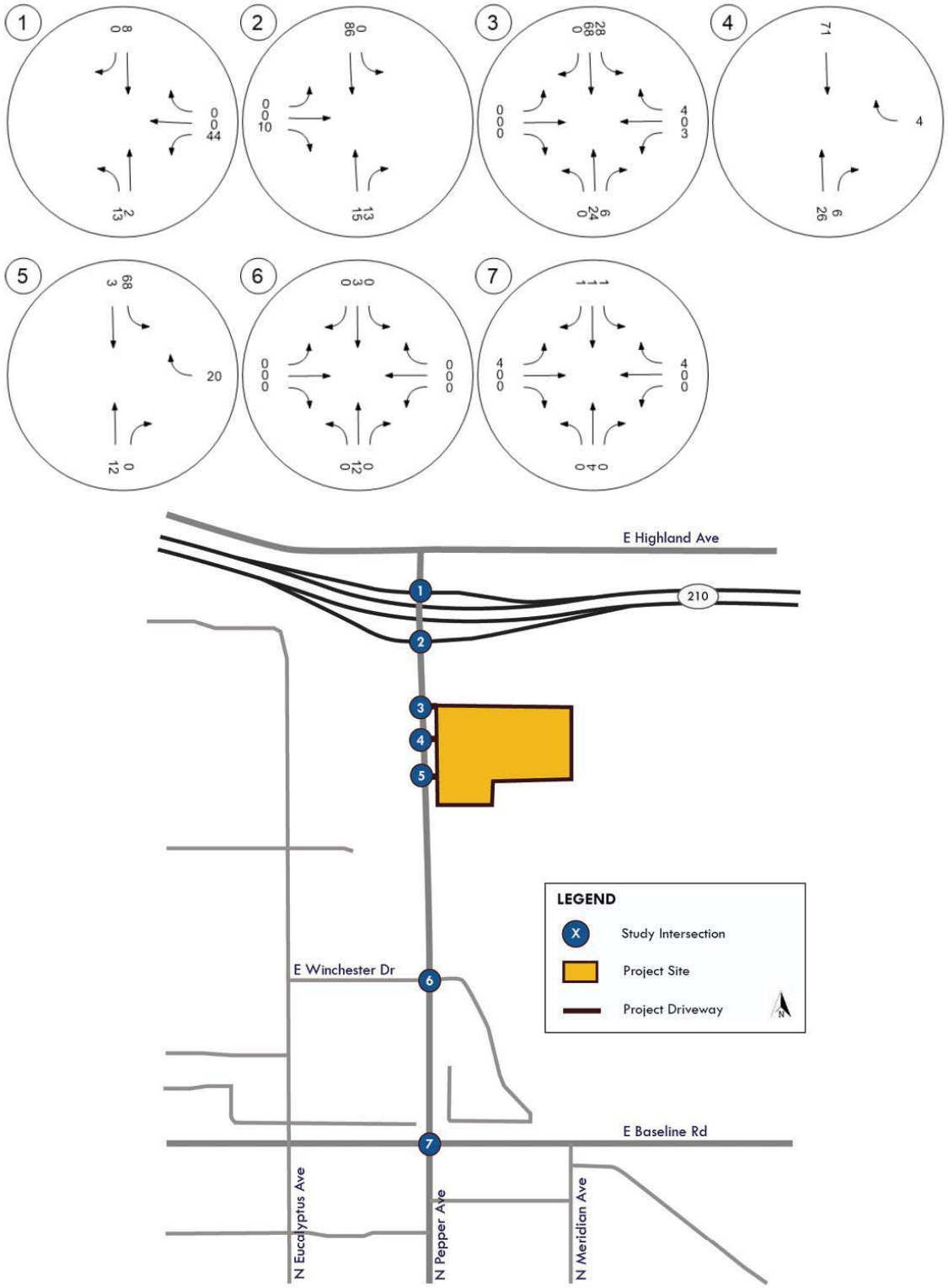
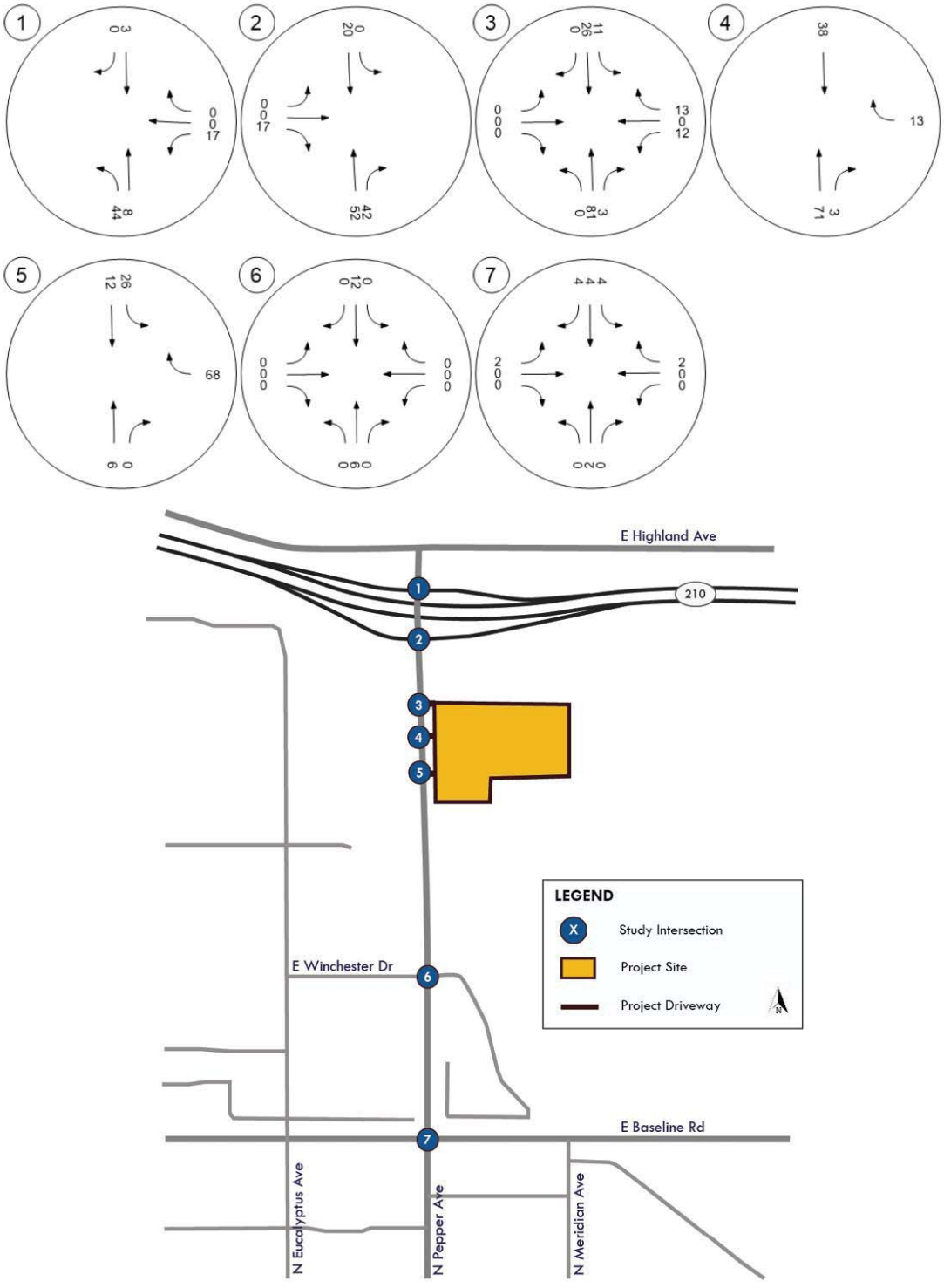


Figure 14: Project PM Peak Hour Trip Assignment



5 PROJECT EFFECT ON LOS

5.1 Project Opening Day with Project Traffic Volumes and Intersection Operations

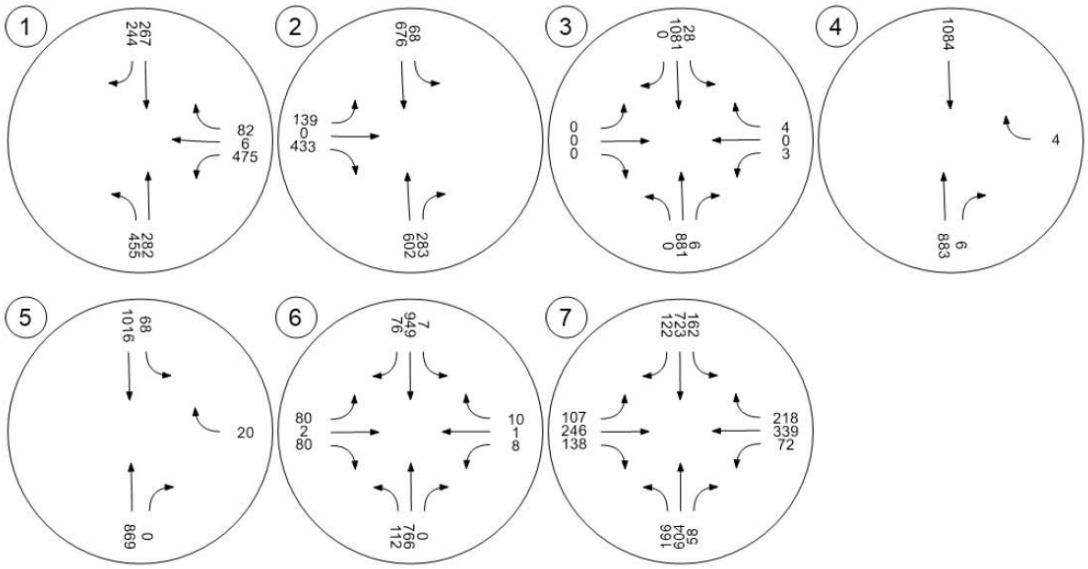
The Project Opening Day with Project traffic volumes were developed by adding the project trip assignment to the Project Opening Day traffic volumes. The Project Opening Day traffic volumes are shown in Figures 15 and 16. Levels of Service at the study area intersections were determined using the HCM methodology, described previously in section 2.3. Table 12 shows the Opening Day plus Project AM and PM peak hour levels of service at study intersections. All LOS calculations are provided in *Appendix* C. As shown in Table 12, all intersections would operate with a satisfactory LOS, and no mitigation measures would be required.

Table 12: Project Opening Day With Project AM and PM Peak Hour Level of Service

		Project Opening Day				Project Opening plus Project							
		AM Peak		PM Peak		AM Peak		PM Peak		Increase in Delay		Impact	
Intersection	Control Type	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM	AM	PM
1. Pepper Ave/SR-210 WB Ramps	Signal	32.1	C	24.2	C	34.1	C	25.6	C	2	1.4	No	No
2. Pepper Ave/SR-210 EB Ramps	Signal	18.6	B	21.1	C	18.2	B	20.2	C	-0.4	-0.9	No	No
3. Pepper Ave/North Project Driveway	Signal	-	-	-	-	4.2	A	4.4	A	-	-	No	No
4. Pepper Ave/Auto Driveway (RIRO Only)	TWSC	-	-	-	-	11.9	B	13.0	B	-	-	No	No
5. Pepper Ave/Truck Driveway	TWSC	-	-	-	-	12.0	B	13.6	B	-	-	No	No
6. Pepper Ave/Winchester Dr-Terrace Rd	Signal	11.5	B	5.0	A	11.5	B	5.0	A	0.0	0.0	No	No
7. Pepper Ave/Baseline Rd	Signal	27.6	C	31.00	C	27.8	C	31.0	C	0.2	0	No	No

TWSC = Two Way Stop Control
Delay Reported in Seconds per Vehicle
LOS = Level of Service

Figure 15: Project Opening Day With Project AM Peak Hour Volumes



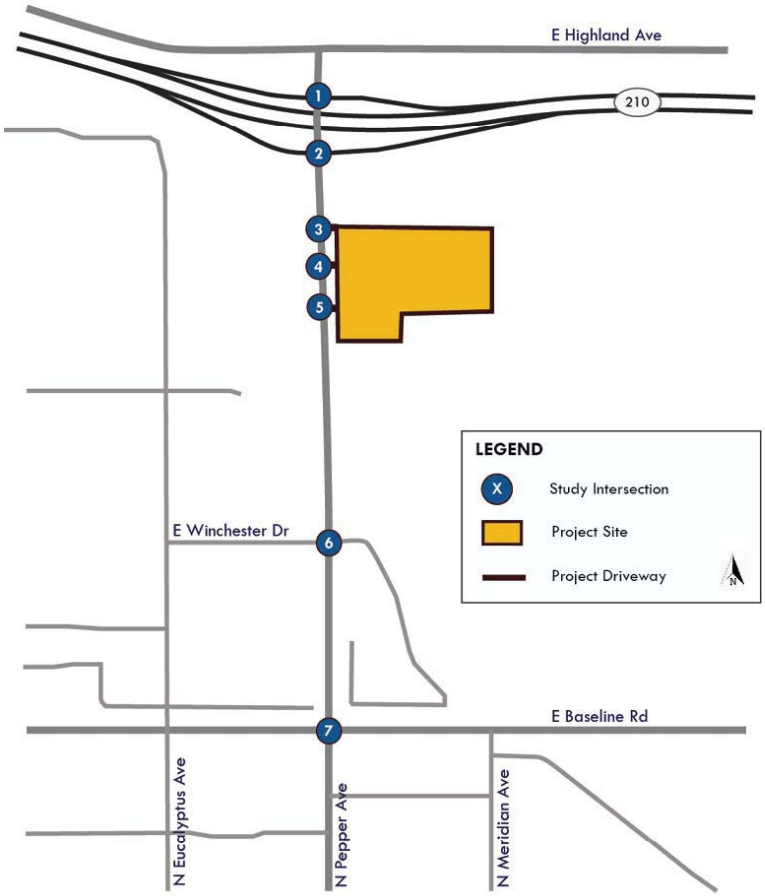
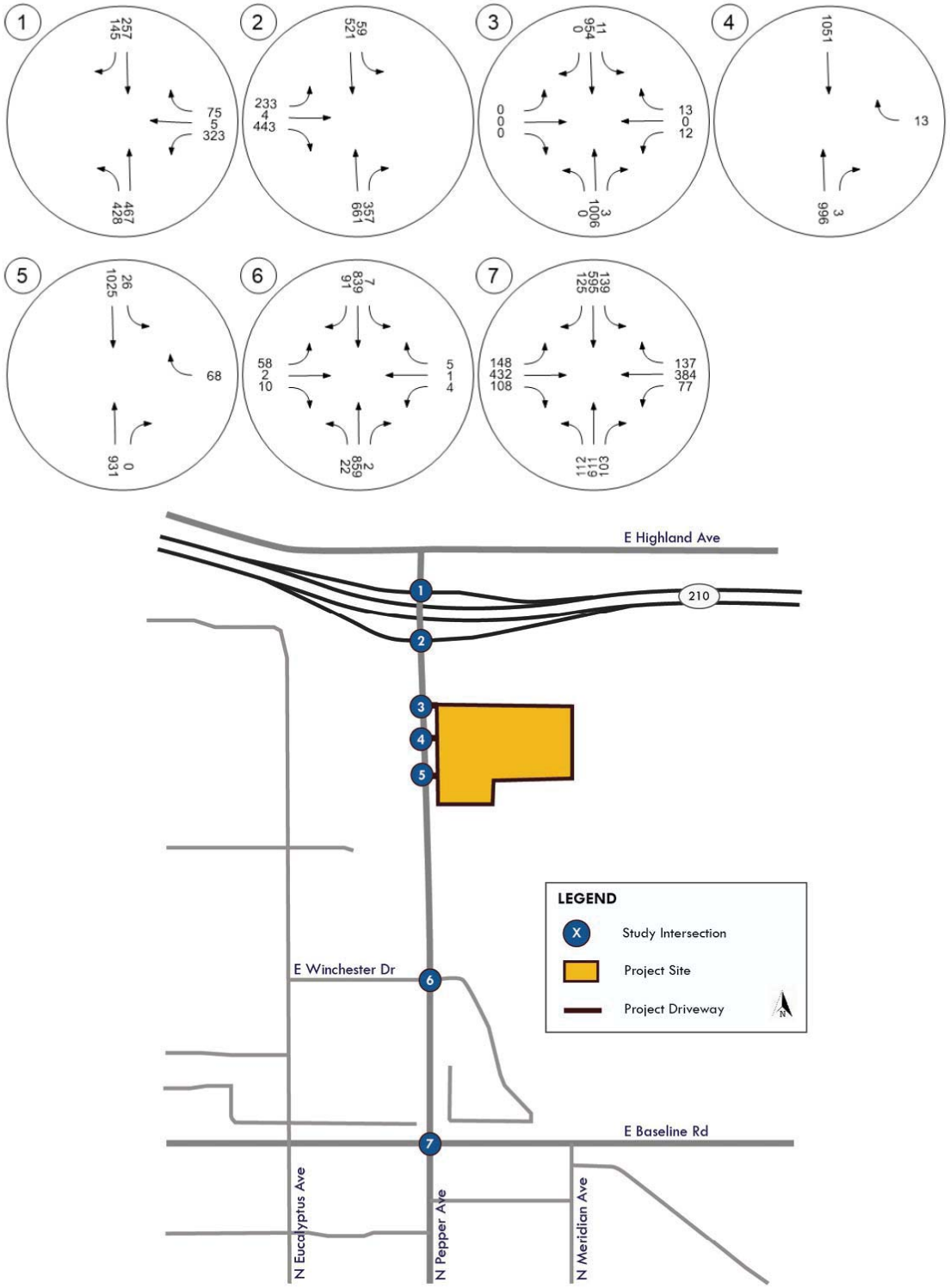


Figure 16: Project Opening Day With Project PM Peak Hour Volumes



5.2 Project Opening Day With Project Roadway Segment Analysis

The Project Opening Day with Project LOS at the roadway segments were determined through comparison of the daily roadway volumes with the capacity shown in the City's TIA Guidelines. Table 13 shows the General Plan LOS for daily roadway segments. All LOS calculations are provided in Appendix C. As shown in Table 13, all roadway segments operate at satisfactory levels (above the respective LOS D or E threshold), and no impacts are expected.

Table 13: Project Opening Day With Project Roadway Segment Level of Service

Roadway Segment	Typed of Roadway	Threshold of Significance	Threshold Capacity	Opening Day Roadway ADT*	Project Volume on Roadway Segment	Opening Day Roadway ADT + Project Volume	Impact
1. Pepper Avenue: Baseline to Winchester-Terrace	Modified Arterial	LOS D	32,999	21,793	420	22,213	No
2. Pepper Ave: Winchester-Terrace to Project North Driveway	Modified Arterial	LOS E	32,999	23,014	508	23,522	No
3. Pepper Ave: Project North Driveway to SR-210 EB Ramp	Modified Arterial	LOS E	32,999	23,014	1,060	24,074	No

*4% Growth applied to existing ADT plus Cumulative Projects
Note: The City's General Plan Street Classification Map shows Pepper Avenue as a Major Arterial. However, the TIA Guidelines do not include this classification. Therefore, Modified Arterial (100') 4 lanes is used for the Capacity of Pepper Avenue.

5.3 Future Conditions (Opening Day with Project plus Cumulative Projects)

Future conditions (Opening Day) traffic volumes were developed by applying a growth rate of two percent per year to the existing (2021) traffic volumes and adding traffic generated by other approved and pending development projects.

A total of 8 cumulative development projects within the City of Rialto were included in the Future Conditions (Opening Day) traffic volumes. These projects were selected from a list of cumulative projects provided by the city and are those projects which would add measurable traffic to the project study area intersections. Other projects were deemed to be either too small or too far away to contribute measurable traffic to the study area. The current development projects map for the City of San Bernardino was also consulted and it was determined that there were no cumulative projects in the City of San Bernardino that would add measurable traffic to the study area. The locations of the cumulative projects are shown in Figure 17. The project trip generation for each cumulative project was calculated using trip rates from the Institute of Transportation Engineers, *Trip Generation,* 11th Edition, or taken from each project's respective traffic study. Table 14 shows the trip generation for each cumulative project, and the cumulative detailed assignment can be found in Appendix D. The Future Conditions traffic volumes are illustrated in Figures 18 and 19.

As noted in Table 14, the Cumulative Projects include the remaining buildout for the Pepper Avenue Specific Plan. In some cases, a future development is in the planning process and a preliminary site plan was available for review. This is the case for the Foothill Freeway Commerce Center, which is the project located north of and adjacent to the proposed project. The shared project driveway would be the southern driveway for the Foothill Freeway Commerce Center. All automobile and truck traffic entering the Foothill Freeway Commerce Center from the north would enter through the shared signalized driveway (study intersection #3). Outbound truck traffic from the Foothill Freeway Commerce Center would also use intersection #3, whereas automobile traffic would be split between the two cumulative project driveways. It should be noted that the full project trip generation for the Foothill Freeway Commerce Center, including pass-by trips, was added to the inbound and outbound turn movements in intersection #3. Pass-by trips were subtracted from the through movements at this intersection. This adjustment can be observed in the LOS worksheets in the "Pass-by Trips" volume adjustment.

The Future Conditions (Opening Day with Project plus Cumulative Projects) Levels of Service at the study area intersections were determined using the HCM methodology, described previously in section 2.3. Table 15 shows the Future Conditions AM and PM peak hour levels of service at study intersections. All LOS calculations are provided in *Appendix* C. As shown in Table 15, the intersection of Pepper Avenue/SR-210 Westbound Ramps would operate at unsatisfactory LOS E in the Future conditions. Recommended improvements at this intersection are discussed in Section 8 of this report.

Table 14: Cumulative Projects Trip Generation

				AM Peak Hour			PM Peak Hour		
Land Use		**Units**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Trip Rates									
Warehousing[1]		TSF	1.71	0.13	0.04	0.17	0.05	0.13	0.18
Single Family Residential Detached[2]		DU	9.43	0.18	0.52	0.70	0.59	0.35	0.94
Multifamily Housing (Mid-Rise) Not Near Transit[3]		DU	4.54	0.09	0.28	0.37	0.24	0.15	0.39
Convenience Store/Gas Station[4]		TSF	700.43	28.26	28.26	56.52	27.26	27.26	54.52
Fast Food Restaurant with Drive-Through Window[5]		TSF	467.48	22.75	21.86	44.61	17.18	15.85	33.03
Strip Retail Plaza[6]		TSF	54.45	1.42	0.94	2.36	3.30	3.30	6.59
Coffee/Donut Shop with Drive-Through Window[7]		TSF	533.57	43.80	42.08	85.88	19.50	19.50	38.99
Cumulative Projects Trip Generation									
1. Olive Avenue Development Project (Industrial)[8]	679.607	TSF	1,981	149	45	194	58	157	215
2. Fitzgerald Avenue Warehouse	45.659	TSF	78	6	2	8	2	6	8
Vehicle Mix (Fitzgerald Ave Warehouse)[9]		***Percent***							
Passenger Vehicles		60.00%	47	4	1	5	1	4	5
2-Axle Trucks		0.80%	1	0	0	0	0	0	0
3-Axle Trucks		11.20%	9	1	0	1	0	1	1
4+-Axle Trucks		28.00%	22	2	0	2	1	2	2
		100%	78	6	2	8	2	6	8
PCE Trip Generation (Fitzgerald Ave Warehouse)[10]		***PCE Factor***							
Passenger Vehicles		1.0	47	4	1	5	1	4	5
2-Axle Trucks		1.5	1	0	0	0	0	0	0
3-Axle Trucks		2.0	17	1	0	2	1	1	2
4+-Axle Trucks		3.0	66	5	1	7	2	5	7
Total PCE Trip Generation (Fitzgerald Ave Warehouse)			131	10	3	13	4	10	13
3. Renaissance Residential	1,229	DU	5580	105	350	455	292	187	479
4. Lytle Creek Specific Plan (SFR)[11]	6,500	DU		2,090	2,900	4,990	4,303	3,669	7,972
5. Tract 20199 - The Depot (SFR)	56	DU	528	10	29	39	33	19	53
6. Frontier Rialto Apartments	204	DU	926	17	58	75	49	31	80
7. Pepper Avenue Development									
Convenience Store/Gas Station	5.100	TSF	3572	144	144	288	139	139	278
Fast Food Restaurant with Drive-Through Window	4.800	TSF	2244	109	105	214	82	76	159
Strip Retail Plaza	4.100	TSF	223	6	4	10	14	14	27
Pass-By Trips[12]			-2908	-143	-141	-284	-119	-116	-235
Total Pepper Avenue Development			3131	116	112	228	116	113	229

Table14 (cont.): Cumulative Projects Trip Generation

				AM Peak Hour			PM Peak Hour		
Land Use		**Units**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
8. Foothill Freeway Commerce Center (Pepper Ave Specific Plan PA 1 and 10)									
Warehouse	250.185	TSF	428	33	10	43	13	32	45
Convenience Store/Gas Station	4.600	TSF	3222	130	130	260	125	125	251
Fast Food Restaurant with Drive-Through Window	2.400	TSF	1122	55	52	107	41	38	79
Coffee Shop with Drive-Through	2.400	TSF	1281	105	101	206	47	47	94
Strip Retail Plaza	3.600	TSF	196	5	3	8	12	12	24
Pass-By Trips[13]			-2812	-159	-156	-315	-114	-113	-227
Vehicle Mix (Foothill Freeway Commerce Center Warehouse)[10]		***Percent***							
Passenger Vehicles		60.00%	257	20	6	26	8	19	27
2-Axle Trucks		0.80%	3	0	0	0	0	0	0
3-Axle Trucks		11.20%	48	4	1	5	1	4	5
4+-Axle Trucks		28.00%	120	9	3	12	4	9	13
		100%	428	33	10	43	13	32	45
PCE Trip Generation (Foothill Fwy Commerce Center Warehouse)[11]		***PCE Factor***							
Passenger Vehicles		1.0	257	20	6	26	8	19	27
2-Axle Trucks		1.5	5	0	0	1	0	0	1
3-Axle Trucks		2.0	96	7	2	10	3	7	10
4+-Axle Trucks		3.0	359	28	8	36	11	27	38
Total Warehouse PCE Trip Generation			717	55	16	71	21	54	75
Total PCE Trip Generation (Foothill Freeway Commerce Center)			3725	191	147	338	132	164	296
9. Pepper Avenue Development (Pepper Ave Specific Plan PA's 6, 7, 8)									
Commercial Retail	69.350		2961	42	25	67	123	134	257
Total Cumulative Trip Generation			18964	2730	3670	6400	5110	4484	9593

TSF = Thousand Square Feet

DU = Dwelling Units

PCE = Passenger Car Equivalent

[1] Trip rates from the Institute of Transportation Engineers, *Trip Generation,11th Edition, 2021* . Land Use Code 150- Warehousing.

[2] Trip rates from the Institute of Transportation Engineers, *Trip Generation,11th Edition, 2021* . Land Use Code 210- Single Family Residential Detached.

[3] Trip rates from the Institute of Transportation Engineers, *Trip Generation,11th Edition, 2021* . Land Use Code 221 - Multifamily Housing (Mid-Rise) Not Close to Transit.

[4] Trip rates from the Institute of Transportation Engineers, *Trip Generation,11th Edition, 2021* . Land Use Code 945 - Convenience Store/Gas Station (9-15 Vehicle Fueling Positions).

[5] Trip rates from the Institute of Transportation Engineers, *Trip Generation,11th Edition, 2021* . Land Use Code 934 - Fast-Food Restaurant with Drive-Through Window.

[6] Trip rates from the Institute of Transportation Engineers, *Trip Generation,11th Edition, 2021* . Land Use Code 822 - Strip Retail Plaza (<40 TSF).

[7] Trip rates from the Institute of Transportation Engineers, *Trip Generation,11th Edition, 2021* . Land Use Code 937 - Coffee/Donut Shop with Drive-Through Window.

[8] Trip rates from the Pepper Avenue Specific Plan Traffic Impact Analysis (Urban Crossroads, 2016), Trip rates from the Institute of Transportation Engineers, *Trip Generation, 9th Edition, 2012*.

[9] Project Trip Generation from Rialto Olive Avenue Development, Traffic Impact Study, Novemeber 2021. Project trips shown in PCE.

[10] Vehicle Mix from the Rialto Traffic Impact Analysis Report Guidelines, December 2013.

[11] Passenger Car Equivalent (PCE) factors from San Bernardino County CMP, Appendix B - Guidelines for CMP Traffic Impact Analysis Reports in San Bernardino County, 2016

[12] Project Trip Generation from Traffic Impact Analysis Report for the Lytle Creek Ranch Planned Develoment Project, Crain & Associates, February 2008. No daily trip generation is provided in the TIA.[7]

[13] Pass-by trips from ITE, *Trip Generation Handbook, 3rd Edition, 2017.* Gas Station Pass-By is 62% AM, 56% PM. Fast Food pass-by is 49% AM, 50% PM. 50% used for Daily.

Figure 17: Cumulative Project Location Map

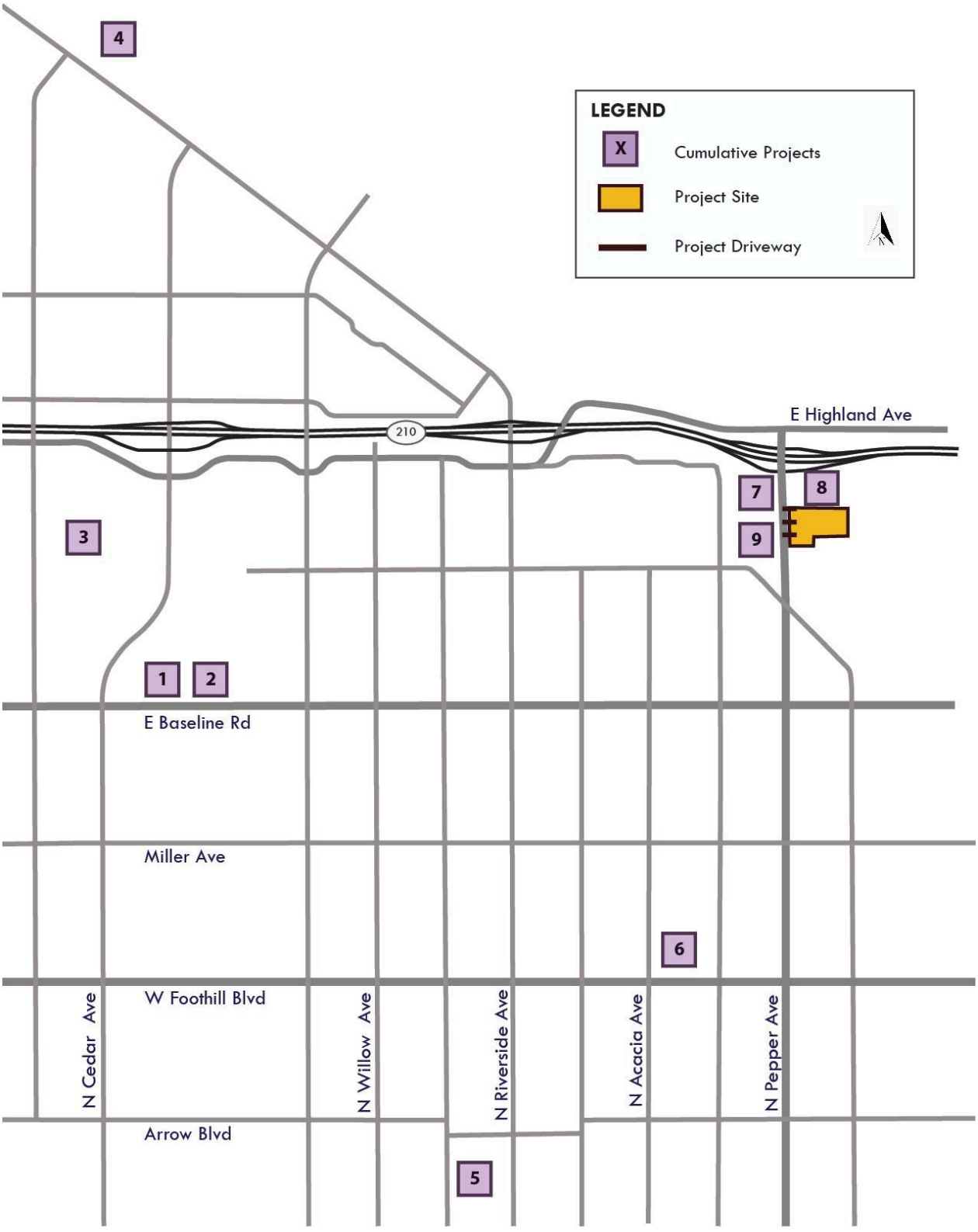


Figure 18: Future Conditions AM Peak Hour Volumes

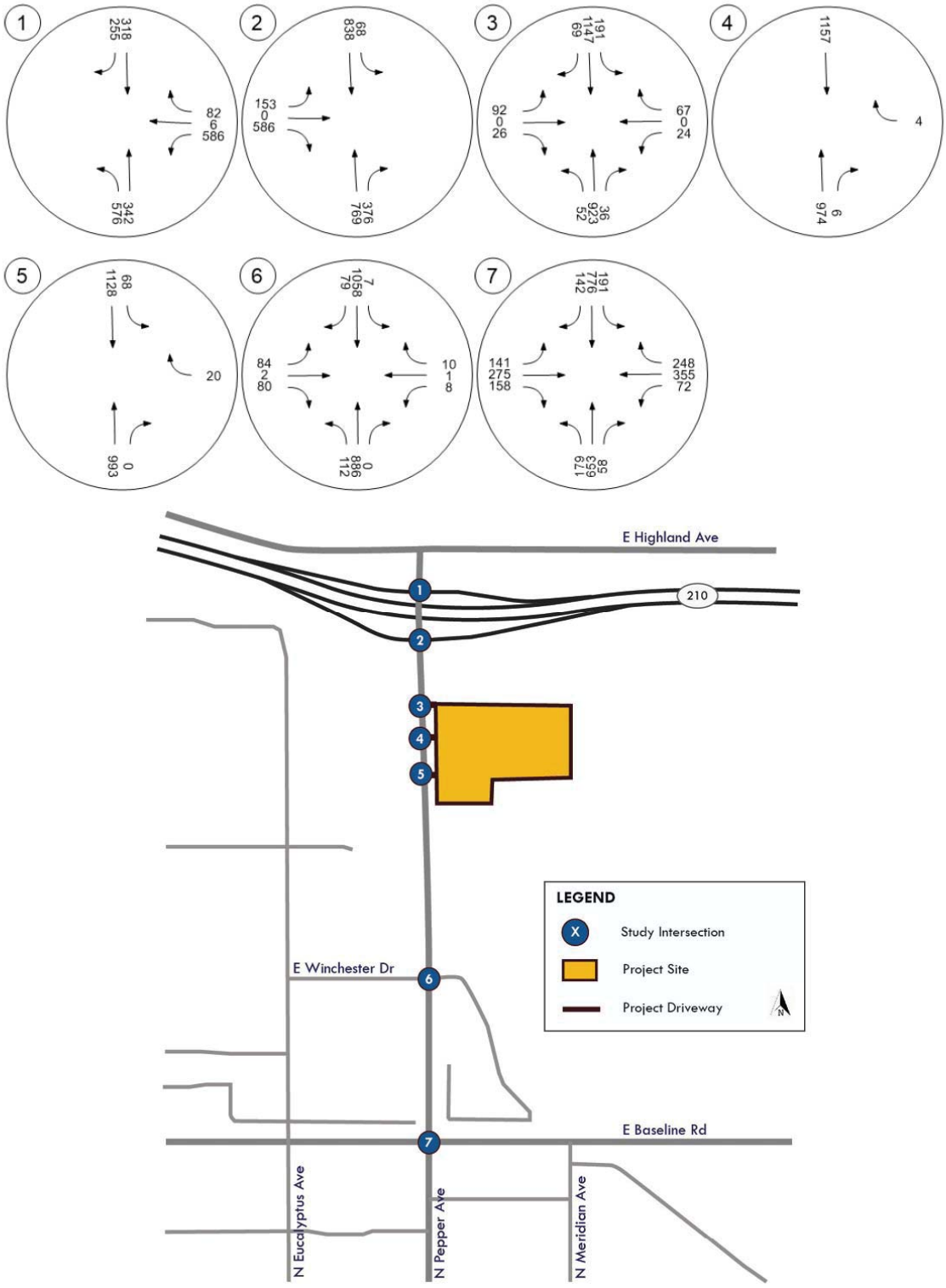


Figure 19: Future Conditions PM Peak Hour Volumes

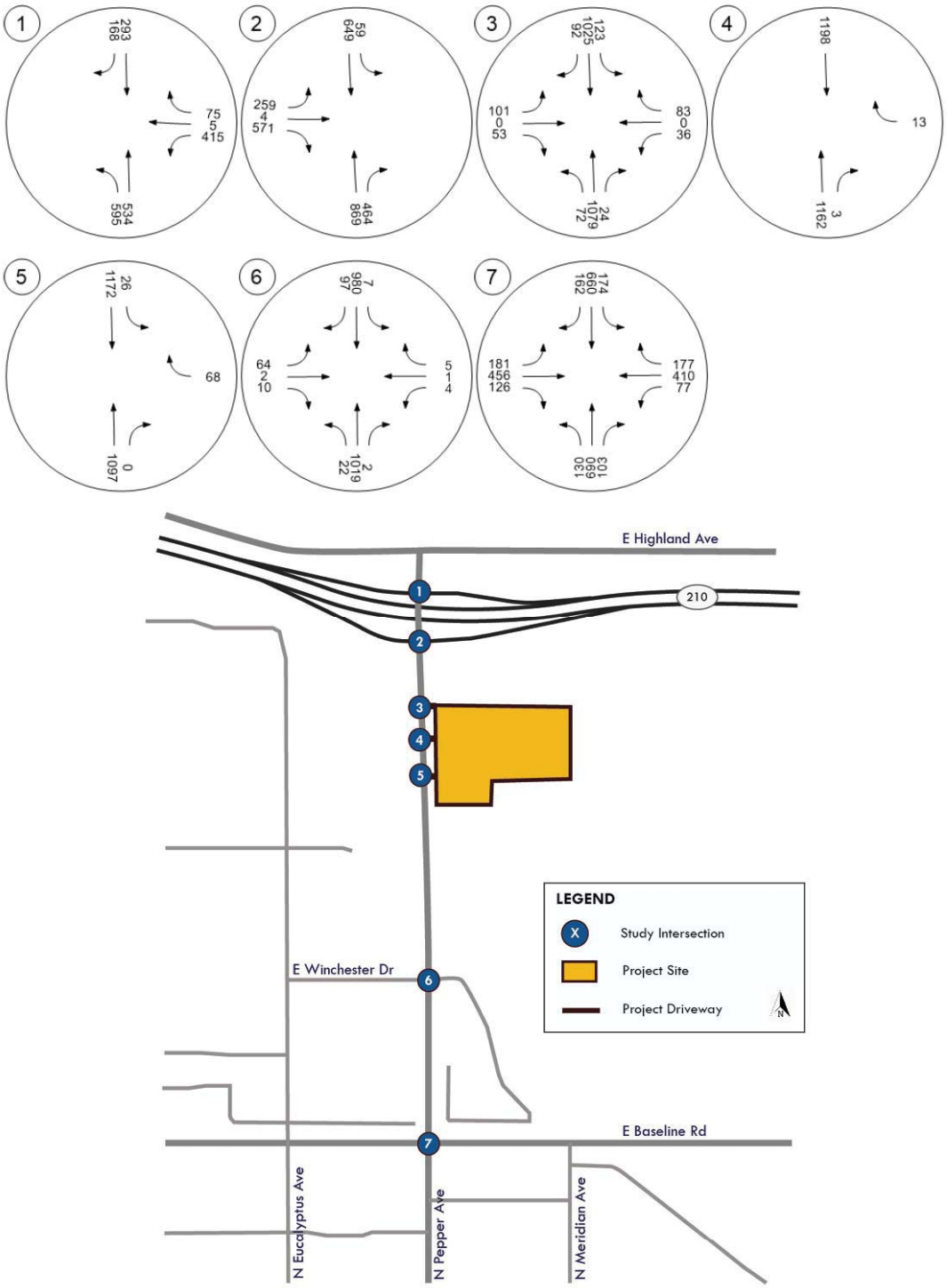


Table 15: Future Conditions AM and PM Peak Hour Level of Service

		Future (Opening Year plus Cumulative plus Project)							Future plus Mitigation				
		AM Peak		PM Peak		Impact		Recommended Improvements	AM Peak		PM Peak		Impact
Intersection	Control Type	Delay	LOS	Delay	LOS	AM	PM		Delay	LOS	Delay	LOS	
1. Pepper Ave/SR-210 WB Ramps	Signal	56.8	E	32.1	C	Yes	No	Change intersection phasing to split phase in the north-south direction and change the northbound lane geometry to one left-through lane, and one through lane.	40.3	D	-	-	No
2. Pepper Ave/SR-210 EB Ramps	Signal	21.7	C	23.6	C	No	No	-	-	-	-	-	-
3. Pepper Ave/North Project Driveway	Signal	19.0	B	20.0	B	No	No	-	-	-	-	-	-
4. Pepper Ave/Auto Driveway (RIRO Only)	TWSC	12.4	B	14.3	B	No	No	-	-	-	-	-	-
5. Pepper Ave/Truck Driveway	TWSC	12.8	B	15.2	C	No	No	-	-	-	-	-	-
6. Pepper Ave/Winchester Dr-Terrace Rd	Signal	12.0	B	5.2	A	No	No	-	-	-	-	-	-
7. Pepper Ave/Baseline Rd	Signal	29.4	C	32.0	C	No	No	-	-	-	-	-	

TWSC = Two Way Stop Control
Delay Reported in Seconds per Vehicle
LOS = Level of Service
RIRO = Right-in/Right-out only

5.4 Future Conditions (Opening Day with Project plus Cumulative Projects) Roadway Segment Analysis

The Future Conditions LOS at the roadway segments were determined through comparison of the daily roadway volumes with the capacity shown in the City's TIA Guidelines. Table 16 shows the Future Conditions LOS for daily roadway segments. All LOS calculations are provided in Appendix C. As shown in Table 16, all roadway segments operate at satisfactory levels (above the respective LOS D or E threshold), and no impacts are expected.

Table 16: Future Conditions AM and PM Roadway Segment Level of Service

	Roadway Segment	Typed of Roadway	Threshold of Significance	Threshold Capacity	Future Roadway ADT*	Project Volume on Roadway Segment	Future Roadway ADT + Project Volume	Impact
1.	Pepper Avenue: Baseline to Winchester-Terrace	Modified Arterial	LOS D	32,999	24,991	420	25,411	No
2.	Pepper Ave: Winchester-Terrace to Project North Driveway	Modified Arterial	LOS E	32,999	26,356	1,390	27,746	No
3.	Pepper Ave: Project North Driveway to SR-210 EB Ramp	Modified Arterial	LOS E	32,999	30,778	1,390	32,168	No

*24% Growth applied to existing ADT
Note: The City's General Plan Street Classification Map shows Pepper Avenue as a Major Arterial. However, the TIA Guidelines do not include this classification. Therefore, Modified Arterial (100') 4 lanes is used for the Capacity of Pepper Avenue.

5.5 General Plan with Project

General Plan buildout with project traffic volumes were developed by adding the project's trip assignment to the General Plan buildout volumes discussed previously. The General Plan buildout with project traffic volumes are illustrated in Figures 20 and 21. Table 17 shows the General Plan with project AM and PM peak hour levels of service at study intersections. As shown in Table 17, the intersection of Pepper Avenue/SR-210 Westbound Ramps would continue to operate at unsatisfactory LOS E with addition of the project. Recommended improvements at this intersection are discussed in Section 8 of this report.

Table 17: General Plan With Project AM and PM Peak Hour Level of Service

		General Plan				General Plan plus Project								General Plan Plus Mitigation				
		AM Peak		PM Peak		AM Peak		PM Peak		Increase in Delay		Impact			AM Peak		PM Peak		Impact
Intersection	Control Type	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM	AM	PM	Recommended Improvements	Delay	LOS	Delay	LOS	
1. Pepper Ave/SR-210 WB Ramps	Signal	47.6	D	26.8	C	54.2	D	28.2	C	6.6	1.4	Yes	No	Change intersection phasing to split phase in the north-south direction and change the northbound lane geometry to one left-through lane, and one through lane.	39.1	D	-	-	No
2. Pepper Ave/SR-210 EB Ramps	Signal	21.2	C	20.1	C	21.3	C	20.4	C	0.1	0.3	No	No	-	-	-	-	-	-
3. Pepper Ave/North Project Driveway	Signal	-	-	-	-	18.6	B	17.8	B	-	-	No	No	-	-	-	-	-	-
4. Pepper Ave/Auto Driveway (RIRO Only)	TWSC					12.7	B	12.6	B			No	No	-	-	-	-	-	-
5. Pepper Ave/Truck Driveway	TWSC	-	-	-	-	12.9	B	13.1	B	-	-	No	No	-	-	-	-	-	-
6. Pepper Ave/Winchester Dr-Terrace Rd	Signal	8.4	A	4.7	A	8.4	A	4.7	A	0	0	No	No	-	-	-	-	-	-
7. Pepper Ave/Baseline Rd	Signal	29.4	C	30.2	C	29.6	C	30.2	C	0.2	0	No	No	-	-	-	-	-	

TWSC = Two Way Stop Control
Delay Reported in Seconds per Vehicle
LOS = Level of Service

Figure 20: General Plan with Project AM Peak Hour Volumes

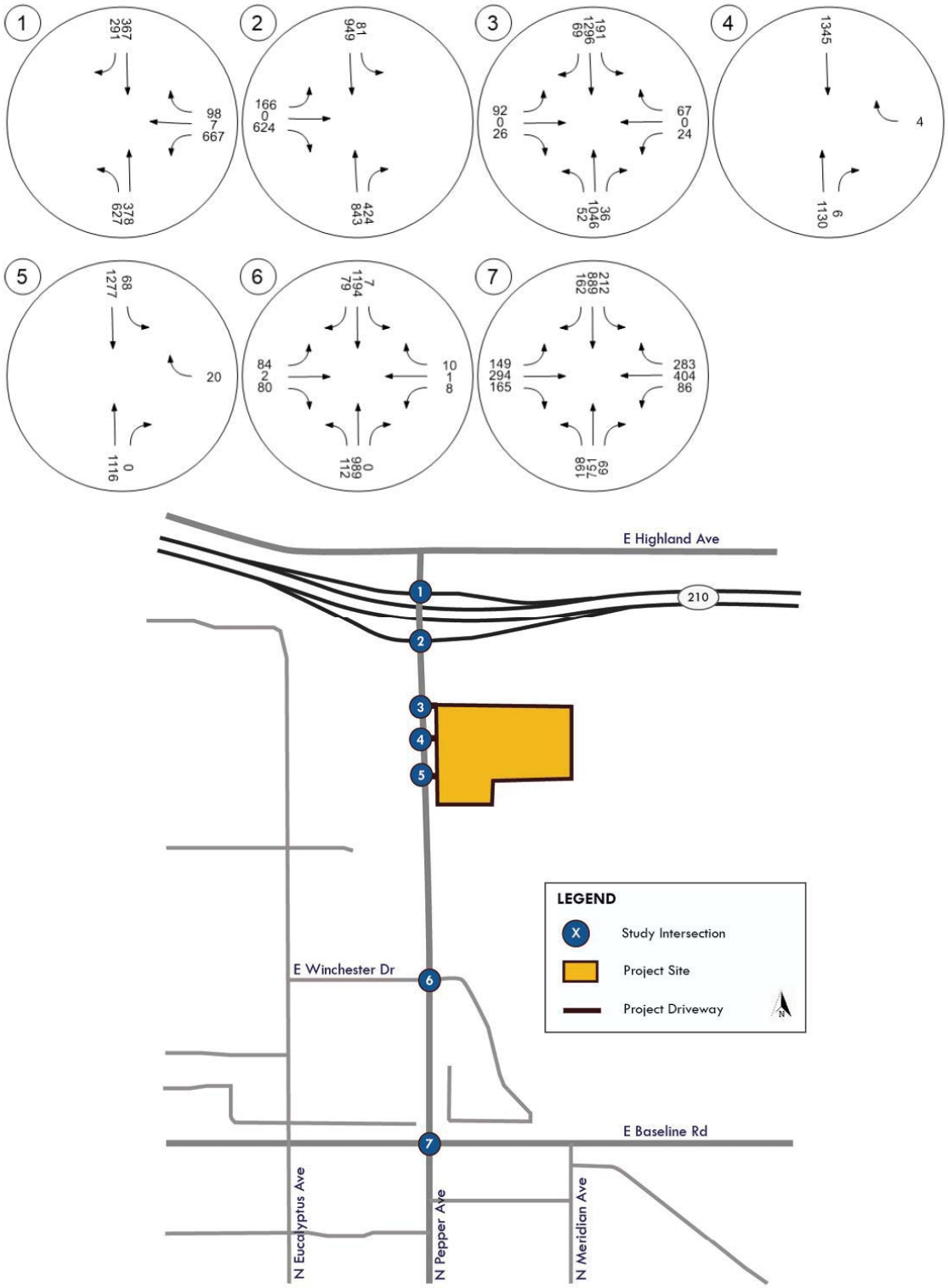
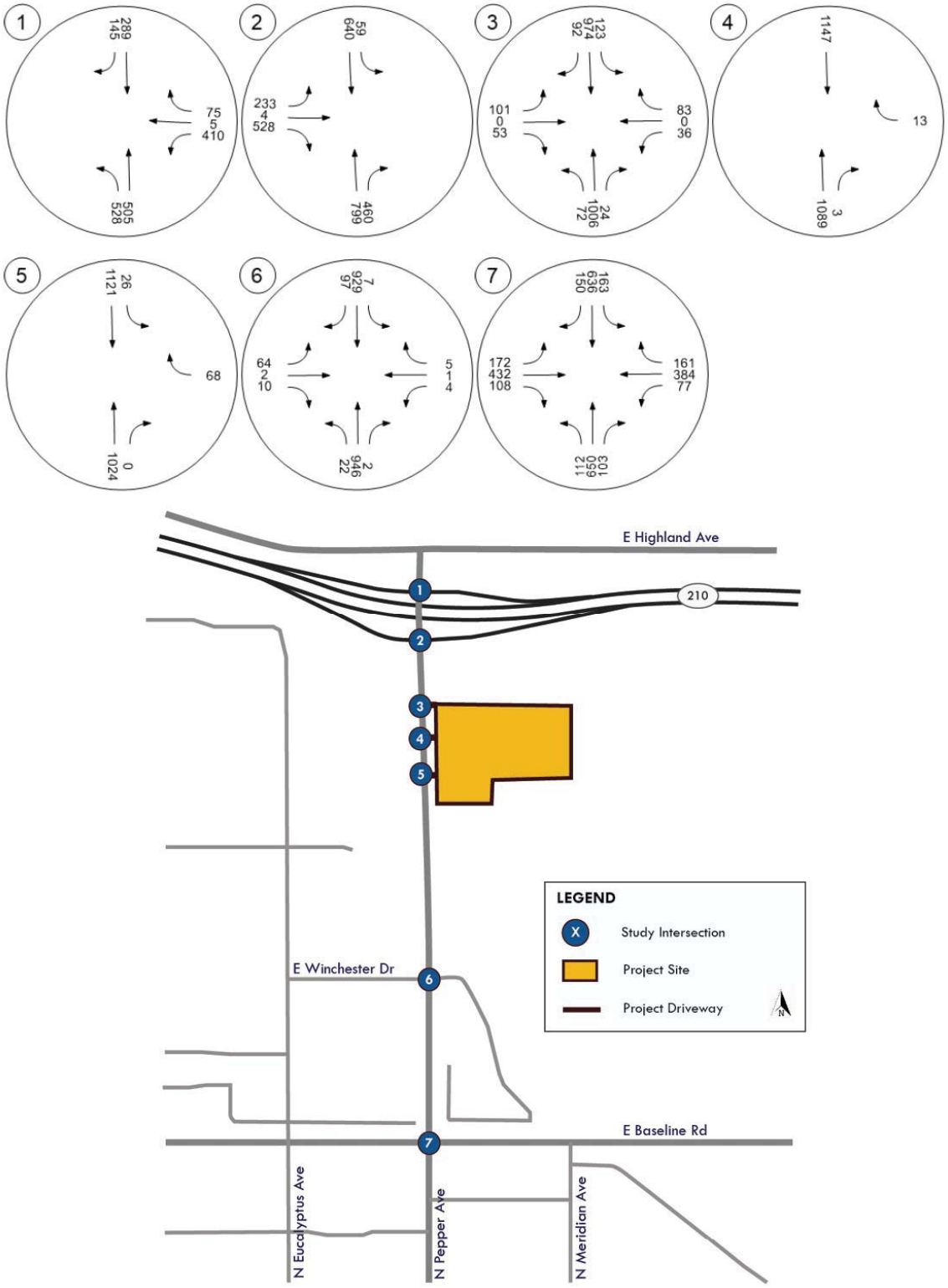


Figure 21: General Plan with Project PM Peak Hour Volumes



5.6 General Plan with Project Roadway Segment Analysis

The General Plan with Project LOS at the roadway segments were determined using the HCM methodology described previously in section 2.4, Table 18 shows the Future Conditions LOS for daily roadway segments. All LOS calculations are provided in Appendix C. As shown in Table 18, two of the three segments operate at satisfactory levels (above the respective LOS D or E threshold). The segment of Pepper Avenue north of the project would exceed the threshold for satisfactory conditions. This is consistent with the findings of the Pepper Avenue Specific Plan Traffic Impact Analysis (Urban Crossroads, 2016). The Specific Plan TIA identified improvements at the intersection of Pepper Avenue/SR-210 EB Ramps, which would address the deficiency at both the ramp intersection and the adjacent roadway segment.

Table 18: General Plan With Project Roadway Segment Analysis

	Roadway Segment	Typed of Roadway	Threshold of Significance	Threshold Capacity	GP Buildout Roadway ADT*	Project Volume on Roadway Segment	GP Buildout Roadway ADT + Project Volume	Impact
1.	Pepper Avenue: Baseline to Winchester-Terrace	Modified Arterial	LOS D	32,999	28,236	420	28,656	No
2.	Pepper Ave: Winchester-Terrace to Project North Driveway	Modified Arterial	LOS E	32,999	25,412	1,390	26,802	No
3.	Pepper Ave: Project North Driveway to SR-210 EB Ramp	Modified Arterial	LOS E	32,999	33,837	1,390	35,227	Yes

*24% Growth applied to existing ADT

Note: The City's General Plan Street Classification Map shows Pepper Avenue as a Major Arterial. However, the TIA Guidelines do not include this classification. Therefore, Modified Arterial (100') 4 lanes is used for the Capacity of Pepper Avenue

6 VEHICLE MILES TRAVELED ANALYSIS

Senate Bill (SB) 743 was signed by Governor Brown in 2013 and required the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative to LOS for evaluating Transportation impacts. SB743 specified that the new criteria should promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks and a diversity of land uses. The bill also specified that delay-based level of service could no longer be considered an indicator of a significant impact on the environment. In response, Section 15064.3 was added to the CEQA Guidelines beginning January 1, 2019. Section 15064.3 - Determining the Significance of Transportation Impacts states that Vehicle Miles Traveled (VMT) is the most appropriate measure of transportation impacts and provides lead agencies with the discretion to choose the most appropriate methodology and thresholds for evaluating VMT. Section 15064.3(c) states that the provisions of the section shall apply statewide beginning on July 1, 2020.

The City of Rialto utilizes the County of San Bernardino VMT analysis methodology, impact thresholds and screening thresholds to determine if projects would require a vehicle miles traveled (VMT) analysis. The County's Transportation Impact Study Guidelines provide criteria for projects that would be considered to have a less-than significant impact on VMT and therefore could be screened out from further analysis. If a project meets one of the following criteria, then the VMT impact of the project is considered less-than significant and no further analysis of VMT would be required:

1. The project is a local-serving land use.
2. The project generates less than 110 daily vehicle trips.
3. The project is located within a Transit Priority Area (TPA).
4. The project is located in a low VMT generating area.

The applicability of each criteria to the proposed project is discussed below.

Screening Criteria 1 – Local Serving Land Use: According to the County's guidelines, projects that serve the local community and have the potential to reduce VMT would not be required to complete a VMT assessment. These types of projects include K-12 schools, local serving retail, day care centers and student housing. The project proposes to redesignate a portion of the Specific Plan area from Community Commercial to Light Industrial and to develop and operate an industrial warehouse within a portion of the area. Therefore, would not be considered a local serving land use. Criteria 1 would not apply.

Screening Criteria 2 – Project Trip Generation Screening: The County's guidelines state that projects generating less than 110 daily vehicle trips would not be required to complete a VMT assessment. The County's Guidelines discuss the type of VMT that should be evaluated for various types of projects. For employment projects, such as the proposed project, the County guidelines specify that VMT/Employee for only the home-based-work trip purpose is analyzed. This is consistent with CEQA Guidelines Section 15064.3(a) which states "For the purpose of this section, "vehicle miles traveled" refers to the amount and distance of automobile travel attributable to a project". Based on both of these guidance documents, truck trips are not included in the VMT analysis.

To determine if the project's trip generation would exceed the 110 daily vehicle trips screening threshold, the passenger vehicle trip generation was utilized. This approach is consistent with both the County and CEQA Guidelines. As shown in Table 11, the proposed light industrial development project would generate 498 daily passenger vehicle trips. Because the project would generate more than 110 daily passenger vehicle trips, this would not meet Screening Criteria 2.

Screening Criteria 3 - Transit Priority Area Screening: According to the County's guidelines, projects located in a Transit Priority Area (TPA) may be presumed to have a less than significant impact. The project is not located in a TPA therefore the project would not satisfy the requirements of Screening Criteria 3.

Screening Criteria 4 - Low VMT Area Screening: The County's guidelines include a screening threshold for projects located in a low VMT generating area. The Specific Plan area was evaluated using the SBCTA VMT Screening Tool[1]. The Specific Plan area is located within two traffic analysis zones (TAZ's; TAZ 53759102 and 53759602). The County's criteria of 4 percent below County baseline was used to screen the project using Production-Attraction VMT per worker. As shown in Figures 22 and 23, the Countywide VMT/Worker is 16.9, therefore the threshold VMT/Worker would be 16.2. The VMT/Worker for the TAZ 53759102 is 14.7 and for TAZ 53759602 is 9.7. Therefore, the VMT/Worker of both zones would be below the threshold of 16.2and would meet Screening Criteria 4. As a result, the project would not be required to prepare a VMT analysis because is it located within a low VMT area and therefore the project's impact on VMT is presumed to be less than significant.

1 https://sbcta.maps.arcgis.com/apps/webappviewer/index.html?id=779a71bc659041ad995cd48d9ef4052b

Figure 22: Low VMT Area Screening (TAZ 53759102)

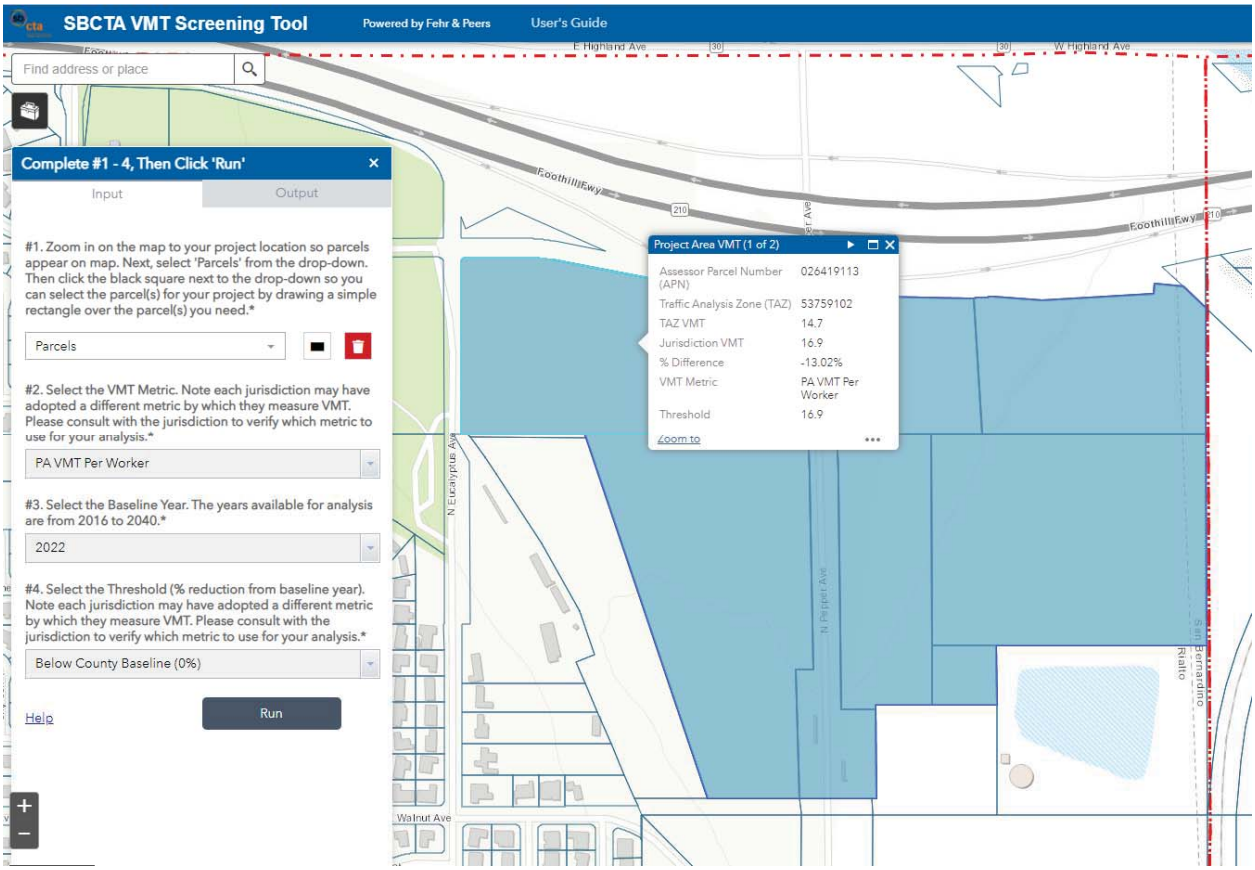
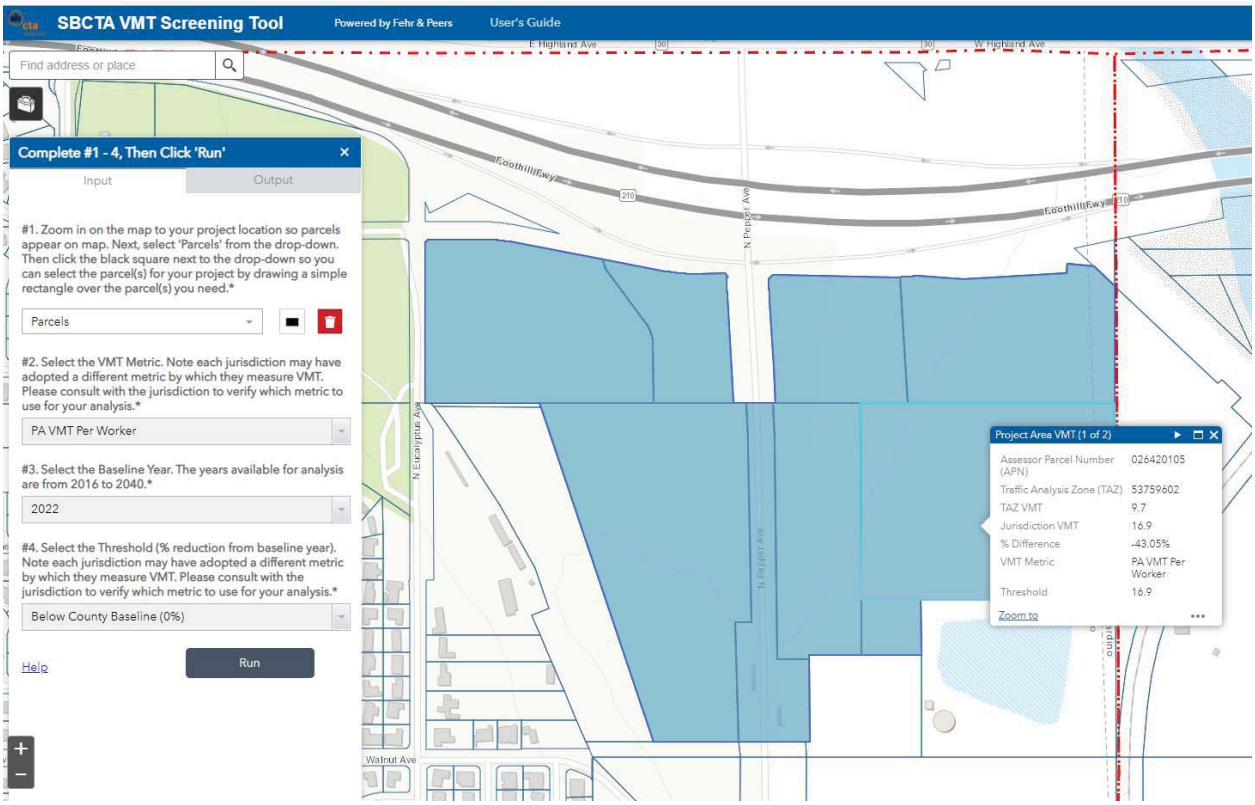


Figure 23: Low VMT Area Screening (TAZ 53759602)



7 CONSISTENCY WITH PEPPER AVENUE SPECIFIC PLAN MITIGATION

The previously approved Pepper Avenue Specific Plan and EIR included project design features that may be applicable to the project. The features are discussed below. Please note that the driveway references correspond to the previous specific plan and not necessarily to the proposed development project

Design Feature DF TRAF-1: Pepper Avenue / Northerly Right-In/Right-Out (RIRO) Driveway – Install stop sign control on the EB approach, design the intersection to restrict left-in access to the Project driveway and left-out access from the Project driveway, and construct the intersection with the following geometrics:

- NB Approach: Provide two through lanes.
- SB Approach: Provide one through lane and one shared through-right turn lane.
- EB Approach: Provide a right turn lane.

Proposed Industrial Development Project Applicability: Design Feature DF TRAF-1 is not applicable to the proposed industrial development as it is not located on the site of the proposed development project. However, as the Specific Plan builds out, DF TRAF-2 be provided when required for future additional development.

Design Feature DF TRAF-2: Pepper Avenue / Main Driveway (intersection #23) – Install traffic signal control and construct the intersection with the following geometrics:

- NB Approach: Provide one left turn lane, one through lane, and one shared through right lane.
- SB Approach: Provide two left turn lanes, one through lane, and one shared through right lane.
- EB Approach: Provide one left turn lane and one shared through-right lane.
- WB Approach: Provide one left turn lane, one through lane, and one right turn lane.

Proposed Industrial Development Project Applicability: Design Feature DF TRAF-2 is included as part of the Project. It should be noted that per the evaluation in this traffic impact analysis, only one southbound left-turn lane with 175 feet of storage is required to achieve satisfactory LOS at the project driveway. However, as the Specific Plan builds out, DF TRAF-2 be provided when required for future additional development.

Design Feature DF TRAF-3: Pepper Avenue / Southerly RIRO Driveway – Install stop sign control on the EB approach, design the intersection to restrict left-in access to the Project driveway and left out access from the Project driveway, and construct the intersection with the following geometrics:

- NB Approach: Provide two through lanes.
- SB Approach: Provide one through lane and one shared through-right turn lane.
- EB Approach: Provide a right turn lane.

Proposed Industrial Development Project Applicability: Design Feature DF TRAF-3 is not applicable to the proposed industrial development as it is not located on the site of the proposed development

project. However, as the Specific Plan builds out, DF TRAF-2 be provided when required for future additional development.

Design Feature DF TRAF-4: Pepper Avenue / South Driveway (intersection #24) – At complete build-out, or as otherwise determined by traffic needs, install traffic signal control and construct the intersection with the following geometrics:

- NB Approach: Provide one through lane and one shared through-right lane.
- SB Approach: Provide one left turn lane and two through lanes.
- WB Approach: Provide ~~one left turn lane, and~~ one right turn lane.

Proposed Industrial Development Project Applicability: Design Feature DF TRAF-4 is applicable to the proposed industrial development as it would provide truck access to PA 2 and PA 3 and would be limited to southbound (inbound) left-turns and westbound (outbound) right-turn.

The following mitigation measures were included in the Final EIR for the Pepper Avenue Specific Plan. Based on the analysis presented in this TIA, only the mitigation at Pepper Avenue/SR-210 Westbound Ramps would be required to achieve acceptable LOS. The project applicant would also participate in the City of Rialto Development Impact Fee (DIF) Program by paying applicable fees. However, the remaining mitigation measure at individual intersection would not be applicable to the development project.

> **Previous Specific Plan Mitigation Measure TRAF-1:** Prior to issuance of building permits, future Project applicant(s) shall participate in the City of Rialto Development Impact Fee (DIF) Program by paying applicable fees, supplemented by participation in additional fair share intersection improvement costs as needed. Such fees shall be determined by additional and/or focused traffic impact studies, as determined necessary by the City of Rialto Traffic Engineering Division, prior to future development occurring within the Specific Plan Area. Payment of fees to these fee programs may be considered as mitigation for the Project's proportionate share of cumulative impacts. If the City finds that the payment of DIF fees alone do not adequately address the Project's proportionate share, a fair share contribution may be imposed in order to mitigate the Project's share of cumulative impacts. Improvements constructed by development may be eligible for a fee credit or reimbursement through the program where appropriate (to be determined at the City's discretion). The improvements identified below shall be funded by the Project's proportionate payment of fees, as determined necessary by the City of Rialto Traffic Engineering Division. The City shall ensure that the improvements will be constructed pursuant to the fee program at the point in time necessary to avoid identified significant traffic impacts.
>
> Riverside Avenue/Easton Street (Intersection #3):
>
> - Participate in the signal modification to provide separate right turn overlap signal phasing for the existing westbound right turn lane.
>
> Eucalyptus Avenue/Baseline Road (Intersection #8):

- Northbound Approach: Provides separate left turn lane, in addition to the existing through lane.
- Southbound Approach: Provide separate left turn lane, in addition to the existing through lane.

Pepper Avenue/Highland Avenue (Intersection #9):

- Northbound Approach: Restripe through lane to a shared through-right lane, in addition to the left turn lane and right turn lane.
- Eastbound Approach: Participate in the signal modification to provide separate right turn overlap signal phasing for the right turn lane.

Pepper Avenue/SR-210 Westbound Ramps (Intersection #10):

- Northbound Approach: Modify traffic signal to provide north/south split phase. restripe first through lane to provide a left-through lane, in addition to the left turn lane and second through lane.
- Westbound Approach: Provide additional (second) left turn lane.

Pepper Avenue/SR-210 Eastbound Ramps (Intersection #11):

- Northbound Approach: Provide separate right turn lane.
- Eastbound Approach: Provide additional (second) right turn lane.

Pepper Avenue/Winchester Drive (Intersection #12):

- Participate in construction of a traffic signal.
- Northbound Approach: Provide separate left turn lane and second through lane, eliminating defacto right turn lane.
- Southbound Approach: Provide separate left turn lane and second through lane, eliminating defacto right turn lane.

Pepper Avenue/Mariposa Drive (Intersection #13):

- Participate in construction of a traffic signal.
- Northbound Approach: Provide separate left turn lane and second through lane, eliminating defacto right turn lane.
- Southbound Approach: Provide separate left turn lane and second through lane, eliminating defacto right turn lane.

Pepper Avenue/Baseline Road (Intersection #14):

- SB Approach: Provide separate right turn lane.

The City has requested that the project pay a fair-share of this improvement to facilitate improvements to the roadway segment and intersection operations,

consistent with the findings of the EIR for the Specific Plan. Therefore, this improvement is included in the project mitigation and the project's fair-share is provided later in this study. The fair-share is based on the traffic in the southbound right-turn lane only.

Pepper Avenue/Etiwanda Avenue (Intersection #15):

- Participate in construction of a traffic signal.

Pepper Avenue/Foothill Boulevard (Intersection #16):

- Participate in the signal modification to provide separate right turn overlap signal phasing for the existing eastbound right turn lane.
- Southbound Approach: Provide separate right turn lane.
- Westbound Approach: Provide additional (third) through lane.

As discussed in the project mitigation section, the project would be responsible for a fair share of improvements at the intersection of Pepper Avenue/SR-210 Westbound Ramps. The recommended improvement shown in tables 15 and 17 is consistent with the previously adopted mitigation measure at that intersection and would include changing the intersection phasing to split phase and changing the northbound lane geometry from one left-turn lane and two through lanes to one left-turn lane, one left-through lane, and one through lane. As shown in Tables 15 and 17, this improvement would improve operations at the intersection to acceptable LOS B in the Future Condition and LOS C in the General Plan with Project condition. The remaining improvements identified in Mitigation Measure TRAF-1 would be provided when required for future additional development.

8 QUEUEING ANALYSIS

The queue length for turn movements at study intersections was analyzed to determine whether the available queue length of left and right-turn pockets would be adequate for the forecast traffic volumes. The queuing evaluation was prepared for the worst-case scenario (General Plan with Project with Mitigation). Most analyzed intersections would provide sufficient queuing length, however, at Pepper Avenue/Baseline Road, the queue of eastbound and northbound left-turning vehicles would terminate within the transition of the left-turn lane. At these locations, a painted median is present and therefore vehicles would not queue into the through lanes. It is recommended that the southbound left-turn lane at the intersection of Pepper Avenue/North Project Driveway should provide a queue length of 175 feet to avoid a queueing impact. Table 19 below shows the queueing analysis for applicable intersections.

Table 19: Queueing Analysis

Intersection	Turning Movement	Available Queue Length (Ft)	General Plan Plus Project Plus Mitigation	
			AM Peak Hour	PM Peak Hour
			Required Queueing (Ft)	Required Queueing (Ft)
1. Pepper Avenue/SR-210 WB Ramps	NBL	310	235	229
	WBL	750	652	191
2. Pepper Avenue/SR-210 EB Ramps	SBL	310	44	28
	EBL	750	61	85
3. Pepper Avenue/North Project Driveway	NBL	100	44	56
	SBL	100	167	102
	EBL	100	82	84
	WBL	100	22	30
5. Pepper Avenue/Truck Driveway	SBL	100	9	3
6. Pepper Avenue/Winchester Drive - Terrace Road	NBL	100	63	17
	SBL	100	6	6
7. Pepper Avenue/Baseline Road	NBL	74	68	32
	SBL	100	85	56
	EBL	188	131	186
	WBL	85	68	61

Indicates queueing required greater than storage available

9 SUMMARY OF PROJECT IMPROVEMENTS AND PROJECT FAIR-SHARE CALULATION

Utilizing the methodology discussed in Section 2.3 – Methodology and Section 2.4 – Significance Criteria, one intersection was found to have a significant impact in the Future and General Plan Plus Project scenarios during the AM peak hour only. The impact of the intersection (Pepper Avenue/SR-210 Westbound Ramps) is a cumulative impact therefore, the peak hour fair share was calculated for this intersection. Table 20 outlines the improvements recommended for the intersection of Pepper Avenue/SR-210 Westbound Ramps, along with the estimated Fair Share Percent. With implementation of the proposed improvement, the projects effect at the intersection would be reduced to less than significant. As shown in Table 19, the total project share would be 11.3%.

In addition to the improvements at the Pepper Avenue/I-210 Westbound Ramps, the City has requested that the project pay a fair-share of the implementation of a southbound right-turn lane at the intersection of Pepper Avenue/Baseline Road to facilitate improvements to the roadway segment and intersection operations, consistent with the findings of the EIR for the Specific Plan. The fair-share calculation is based on the traffic in the southbound right-turn lane only. The project's fair-share would be 11.76%

Table 20: Project Mitigation and Fair Share

Intersection	Improvement	Existing	Project	General Plan Buildout With Project	Project % of Future Traffic
1. Pepper Avenue/SR-210 Westbound Ramps	Change the north-south phasing to split phase. Modify NB lane geometry to provide one left-turn lane, one shared left-through lane, and one through lane.	1,677	67	2,270	11.30%
2. Pepper Avenue/Baseline Road (AM Peak Hour)	Add SB Right-Turn Lane	116	1	162	2.17%
2. Pepper Avenue/Baseline Road (PM Peak Hour)	Add SB Right-Turn Lane	116	4	150	11.76%

Fair Share Percent was calculated by determining the project percent of all new traffic to General Plan Buildout Conditions. For Intersection #2, the fair share calculation includes traffic from only the southbound right-turn movement.

APPENDIX A – SCOPE OF WORK

Exhibit B

SCOPING AGREEMENT FOR TRAFFIC IMPACT ANALYSIS

This following form shall be used to acknowledge preliminary approval of the scope for the traffic impact analysis (TIA) of the following project. The TIA must follow the City of Rialto Traffic Impact Analysis – Report Guidelines and Requirements, adopted by the City Council on _____.

City of Rialto

Traffic Impact Analysis

Scoping Agreement

Case No. 2020-014

Related Cases -

SP No. _____

EIR No. _____

GPA No. _____

ZC No. _____

Project Name: Pepper Avenue Industrial Project

Project Address: E side of Pepper Ave south of I-210. APNs 0264-201-05, -06, and -26 (portion)

Project Description: 485,000 SF speculative warehouse building. Note that Site Plan shows 475,000 SF, however analysis will be based on 485,000 SF to allow a contingency for future changes in site plan.

	Consultant	Developer
Name:	EPD Solutions, Inc.	Howard Industrial Partners
Address:	2 Park Plaza, Suite 1120, Irvine, CA 92614	1944 N. Tustin St., Ste. 122, Orange, CA 92865
Telephone:	949-794-1186	714-602-7345
Fax:		

1. Trip Generation Source: ITE 11th Edition, Land Use Code 150 - Warehouse, Vehicle Mix and PCE taken from City's TIA Guidelines.

Existing GP Land Use Pepper Ave SP Proposed Land Use Pepper Ave SP

Current Zoning: Pepper Ave SP Proposed Zoning: Pepper Ave SP

Total Daily Project Trips: 1,390 PCE

	Current Trip Generation			Proposed Trip Generation		
	In	Out	Total	In	Out	Total
AM Trips				106	32	138
PM Trips				41	105	146

Internal Trip Allowance Yes No (_____ % Trip Discount)

Pass-By Trip Allowance Yes No (_____ % Trip Discount)

For appropriate land uses, a pass-by trip discount may be allowed not to exceed 25%. Discount trips shall be indicated on a report figure for intersections and access locations.

Please see attached Trip Distribution Figures.

2. Trip Geographic Distribution: N ____ % S ____ % E ____ % W ____ %

(Detailed exhibits of trip distribution must be attached with Trucks as a separate exhibit)

3. Background Growth Traffic

Project Completion Year: 2023 Annual Background Growth Rate: 2 %

Other Phase Years _____

Other area projects to be considered: Will be requested from Planning Department.

(Contact Planning for Lists. Correlate projects to exhibit map and also indicate which projects have been included in study area forecasts for existing + background growth + project + cumulative)

Model/Forecast methodology: Manual build-up method (i.e. growth plus traffic from Cumulative Projects) for Opening Year, SBTAM for General Plan.

4. Study Intersections: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies received.)

1. Pepper Ave/I-210 WB Ramps
2. Pepper Ave/I-210 EB Ramps
3. Pepper Ave/North Project Driveway
4. Pepper Ave/South Project Driveway
5. Pepper Ave/Base Line Rd
6. Pepper Ave/Winchester Dr - Terrace Rd
7. _____
8. _____
9. _____
10. _____

5. Study Roadway Segments: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies received.)

1. Pepper Ave: Baseline to Winchester-Terrace
2. Pepper Ave: Winchester-Terrace to I-210 EB Ramp
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

6. Other Jurisdictional Impacts

Is this project within any other Agency's Sphere of Influence or within one-mile of another jurisdictional boundary? XX YES _____NO

If so, name of Jurisdiction: City of San Bernardino

7. Site Plan (please attach 11" x 17" legible copy)

8. Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guideline) (to be filled out by the City of Rialto Public Works Department) (NOTE: If the traffic study states that "a traffic signal is warranted" (or "a traffic signal appears to be warranted," or similar statement) at an existing un-signalized intersection under existing conditions, 8-hour approach traffic volume information must be submitted in addition to the peak hourly turning movement counts for that intersection.)

Please see list of Specific Issues attached to this Scoping Agreement.

9. Existing Conditions

Traffic count data must be new or within one year. Provide traffic count dates if using other than new counts.

Date of counts: October 2021

NOTE Fees are due and must be submitted with, or prior to submittal of this form. The City will not process the Scoping Agreement prior to the receipt of the processing fee.

Fees Paid: _____ Date _____

Recommended:

Scoping Agreement Submittal date August 10, 2021

Scoping Agreement Resubmittal date December 7, 2021

EPD Solutions, Inc., Meghan Macias, TE — December 7, 2021

Applicant/Engineer — Date

Land Use Concurrence:

Development Services Department — Date

Approved by:

Public Works Department — Date

NOTE:

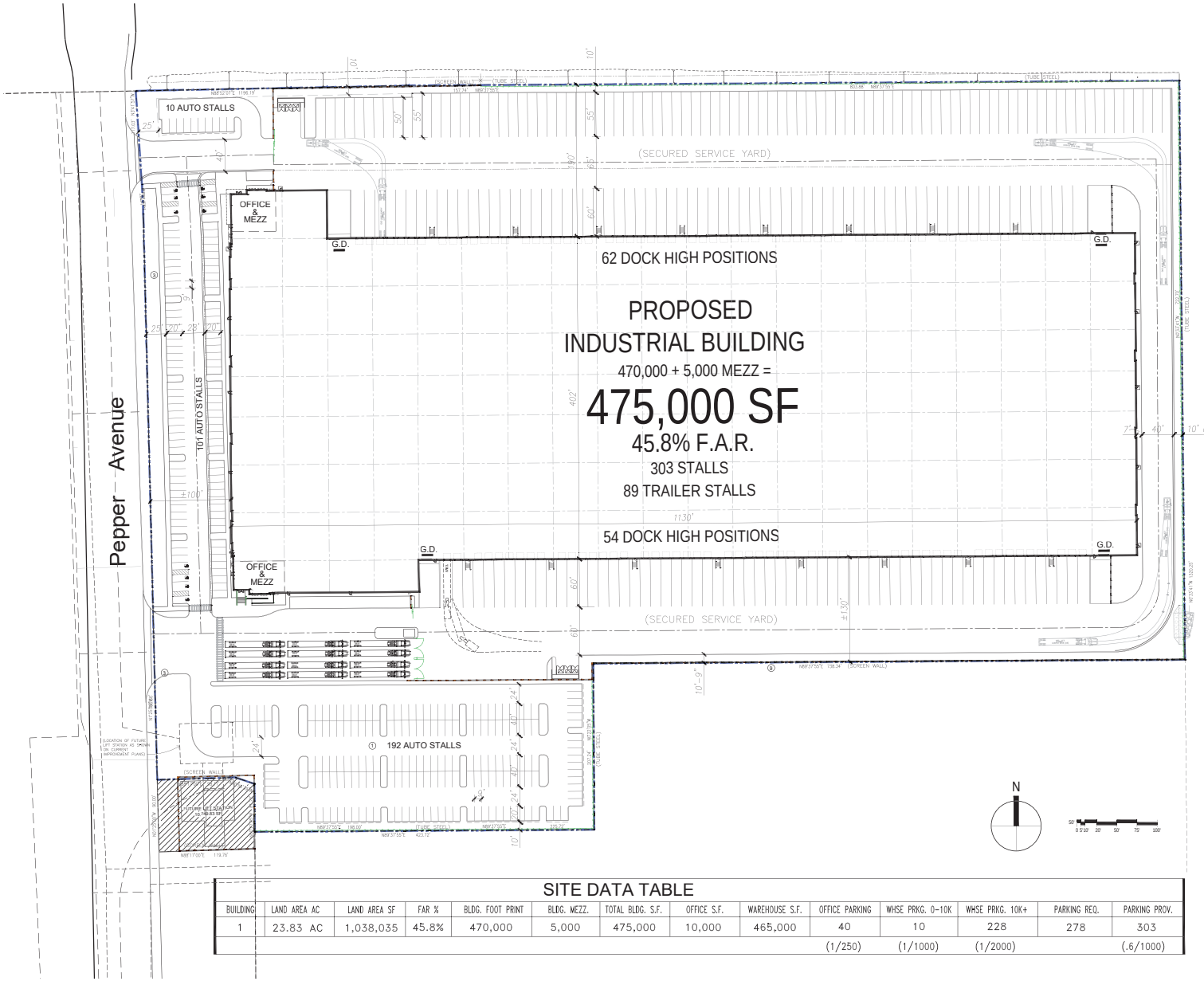
The Applicant/Engineer acknowledges that the Scoping Agreement is intended to assist in the preparation of any required TIA. It is preliminary in nature and the City does not have sufficient data to determine the ultimate conditions that may be imposed for the project. It does not provide nor limit the requirements imposed on the Project but is intended only to provide initial input into the parameters for review of the traffic generated by the Project and the initial areas to be considered and studied. Subsequent changes to scope of required analysis to be included in the TIA may be required by the Transportation Commission, Planning Commission, and/or the City Council upon Public Works Director/City Engineer review and approval.

Specific Issues to be Addressed in the Study:

- All study area intersections will be evaluated to ensure adequate queuing space is provided for turning vehicles.
- Project ingress/egress intersections will be evaluated to determine the need for a traffic signal.
- A sight distance exhibit will be included for the two project driveways.
- The TIA will include a section discussing parking and on-site circulation. The section will include calculation of required on-site parking. In addition, a site plan showing onsite striping, access controls, turnaround areas, pedestrian paths of travel, and truck turning paths to and from the public street.
- Roadway segment analysis will evaluate a discussion of the adequacy of all roadway facilities with respect to the applicable General and Specific Plans as well as volumes and capacity of roadways.
- A discussion of pedestrian and bicycle facilities will be included.
- Traffic signal warrants will be prepared for all failing unsignalized intersections.
- Pedestrian access, bicycle access, transit accessibility and parking restrictions in the study area will be discussed in the study.

Scenarios to be Evaluated in the Study:

- Existing Conditions
- Project Opening Day (Existing + Ambient Growth)
- Project Opening Day with Project
- Future Conditions (Opening Day with Project plus Cumulative Projects)
- General Plan
- General Plan with Project



SITE DATA TABLE

BUILDING	LAND AREA AC	LAND AREA SF	FAR %	BLDG. FOOT PRINT	BLDG. MEZZ.	TOTAL BLDG. S.F.	OFFICE S.F.	WAREHOUSE S.F.	OFFICE PARKING	WHSE PRKG. 0-10K	WHSE PRKG. 10K+	PARKING REQ.	PARKING PROV.
1	23.83 AC	1,038,035	45.8%	470,000	5,000	475,000	10,000	465,000	40	10	228	278	303
									(1/250)	(1/1000)	(1/2000)		(.6/1000)

LEGAL DESCRIPTION

PARCEL 1 (APN 0264-201-08)

THAT PORTION OF THE NORTHWEST ¼ OF SECTION 36, TOWNSHIP 1 NORTH, RANGE 5 WEST, SAN BERNARDINO BASE AND MERIDIAN, ACCORDING TO THE UNITED STATES GOVERNMENT TOWNSHIP PLAT THEREOF, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF WEST ½ SHOWN AS THE MONEY WELL VINEYARD SAID CORNER BEING AT THE POINT DECENT 11.00 CHAINS WEST OF A POST 10.00 CHAINS SOUTH OF THE NORTHEAST CORNER OF SAID SOUTHWEST ¼ OF THE NORTHWEST ¼ OF SAID SECTION 36; THENCE NORTH 10 CHAINS; THENCE EAST 10 CHAINS; THENCE SOUTH 10 CHAINS; THENCE WEST 3 CHAINS, 43 LINKS; THENCE DUE NORTH 3 CHAINS, 14 LINKS; THENCE DUE EAST TO THE POINT OF BEGINNING

PARCEL 2

THAT PORTION OF THE NORTHWEST ¼ OF SECTION 36, TOWNSHIP 1 NORTH, RANGE 5 WEST, SAN BERNARDINO BASE AND MERIDIAN, ACCORDING TO THE UNITED STATES GOVERNMENT TOWNSHIP PLAT THEREOF, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

COMMENCING 14.57 CHAINS WEST OF THE SOUTHEAST CORNER OF THE NORTHWEST ¼ OF THE NORTHEAST ¼ OF SAID SECTION 36; THENCE SOUTH 14.09 CHAINS; THENCE WEST 3 CHAINS; THENCE SOUTH 9.83 CHAINS; THENCE WEST 8.85 CHAINS; THENCE NORTH 19° WEST 10.83 CHAINS; THENCE EAST 18.34 CHAINS TO THE POINT OF BEGINNING.

EXCEPTING THEREFROM THAT PORTION CONVEYED TO THE CITY OF RIALTO IN GRANT DEED RECORDED DECEMBER 30, 2011 AS INSTRUMENT NO. 2011-0537088 OF OFFICIAL RECORDS.

PARCEL 3

THAT PORTION OF THE NORTHWEST ¼ OF SECTION 36, TOWNSHIP 1 NORTH, RANGE 5 WEST, SAN BERNARDINO BASE AND MERIDIAN, ACCORDING TO UNITED STATES GOVERNMENT TOWNSHIP PLAT THEREOF, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA DESCRIBED AS FOLLOWS:

COMMENCING 13.15 CHAINS WEST OF THE SOUTHEAST CORNER OF THE NORTHWEST ¼ OF THE NORTHEAST ¼ OF SAID SECTION 36; THENCE WEST 3.30 CHAINS; THENCE SOUTH 10.83 CHAINS; THENCE EAST 3.97 CHAINS TO THE SOUTHWEST CORNER OF WEST ½ SHOWN AS THE MONEY WELL VINEYARD; THENCE NORTH 3° WEST 11.08 CHAINS TO THE POINT OF BEGINNING.

PARCEL 4

THAT PORTION NORTHEAST ¼ OF SECTION 36, TOWNSHIP 1 NORTH, RANGE 5 WEST, SAN BERNARDINO BASE AND MERIDIAN, ACCORDING TO UNITED STATES GOVERNMENT TOWNSHIP PLAT THEREOF, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA DESCRIBED AS FOLLOWS:

COMMENCING AT A POST AT THE SOUTHEAST CORNER OF THE NORTHWEST ¼ OF THE NORTHEAST ¼ OF SAID SECTION 36; THENCE WEST 13 CHAINS, 18 LINKS TO A POST; THENCE SOUTH 2° EAST 11 CHAINS, 6 LINKS TO A POST; THENCE EAST 13 CHAINS, 18 LINKS TO A POST IN THE EAST LINE OF SAID SECTION 36; THENCE NORTH 10 CHAINS FOR LINKS TO THE PLACE OF BEGINNING COMMONLY KNOWN AS MOL VINEYARD

ASSESSOR'S PARCEL NUMBER

PARCEL NUMBER AS NOTED PER LEGAL DESCRIPTION	APN
PARCEL 1	0264-201-08
PARCEL 2	0264-201-26
PARCEL 3	0264-201-05

PARKING STALL SIZES:

STANDARD PARKING STALL - 9' X 20' WITH 2' O.H.
A.D.A. (HANDICAP) STALLS - 9' X 18' WITH 2' O.H.
12' X 18' WITH 2' O.H.(VAN)

PARKING REQUIREMENTS

OFFICE: 1/250
WAREHOUSE: 0-10,000SF = 1/1000
10K+ = 1/2000

GRAPHIC LEGEND

- OFFICE
- G.D. GRADE DOOR (12' X 14') & (12'X12')
- ADA ACCESSIBLE PARKING AS PER STATE STANDARDS
- A.D.A. PEDESTRIAN PATH
- 8' HEIGHT TUBE STL. FENCE
- SCREEN WALL / RETAINING (SEE CIVIL)
- HANDRAIL / GUARD RAIL

SHEET DESCRIPTION:

A1	CONCEPTUAL SITE PLAN
A2	CONCEPTUAL FLOOR PLAN
A3	CONCEPTUAL ROOF PLAN
A4	CONCEPTUAL ELEVATIONS
A5	COLOR ELEVATIONS
A6	COLOR AND MATERIAL BOARD
A7	CONCEPTUAL 3-D RENDERING
C1	CONCEPTUAL GRADING PLAN
C2	CONCEPTUAL SITE SECTIONS
L1	CONCEPTUAL LANDSCAPE PLAN
P1	PHOTOMETRICS LIGHTING PLAN

LAND ZONING & LAND USE:

CURRENT ZONING: PEPPER AVE. SPECIFIC PLAN COMMUNITY COMMERCIAL

PROPOSED ZONING: PEPPER AVE. SPECIFIC PLAN COMMUNITY COMMERCIAL (Allowing Warehousing & Logistic uses)

PROJECT TEAM:

HOWARD INDUSTRIAL PARTNERS
1944 NORTH TUSTIN ST.SUITE 122
ORANGE, CA 92865
CONTACT: TIM HOWARD, MIKE TUNNEY
714-769-9155

ARCHITECT:
ARCHITECTS ORANGE
144 NORTH ORANGE STREET
ORANGE, CALIFORNIA 92866
CONTACT: DAN MACDAVID
714-639-9860 -- PRINCIPAL
OR STEPHEN PRZYBYLOWSKI
714-417-1122 -- SENIOR DESIGNER

CIVIL ENGINEER:
FMCIVIL ENGINEERS INC.
2995 TECHNOLOGY DRIVE SUITE 306
MURRIETA, CA 92563
CONTACT: FRANCISCO MARTINEZ
951-331-9873

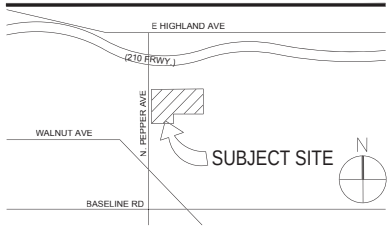
LANDSCAPE ARCHITECT:
HUNTER LANDSCAPE
711 FEE ANA ST.
PLACENTIA, CA 92870
CONTACT: TOM HAYES
(TEL)714-986-2400

LIGHTING:
PACIFIC ELECTRICAL ENGINEERING INC.
8171 E. KAISER BLVD.
ANAHEIM, CA 92808
CONTACT: REED STONEBURNER, PE.
(TEL)714-685-7766 (CELL)714-920-1411

KEY NOTES:

1. ASPHALT PAVING
2. CONCRETE PAVING
3. LANDSCAPE AREA
4. PER CITY STD. PARKING STALL 9'X20'
5. A.D.A. PARKING 9' X 18' & 12' X 18'- STATE STD.
6. TRASH ENCLOSURE
7. A.D.A. PEDESTRIAN PATH OF TRAVEL
8. TUBE STEEL TELESCOPING GATE
9. 9' HEIGHT CONCRETE SCREEN WALL
10. OUT DOOR PATIO WITH SEATING

VICINITY MAP



DISCLAIMER:
ALL INFORMATION CONTAINED HEREIN MAY BE SUBJECT TO CHANGE PENDING OWNER AND OR AGENCY REVIEW AND IS FOR INFORMATION ONLY

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PEPPER INDUSTRIAL BUILDING RIALTO, CA

Howard | Industrial Partners

CONCEPTUAL SITE PLAN B

A1

Architecture. Design. Relationships.
144 North Orange Street, Orange, California 92866
714 / 639-9860
aoarchitects.com

Scale: 1" = 50'-0"
Job No. 2020-185-00
Date 11-04-2021

Table 1. Pepper Ave Industrial Trip Generation

				AM Peak Hour			PM Peak Hour		
Land Use		**Units**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Trip Rates									
Warehouse[1]		TSF	1.71	0.13	0.04	0.17	0.05	0.13	0.18
Total Vehicle Trip Generation									
Proposed Warehouse	485	TSF	829	63	19	82	24	63	87
Vehicle Mix[2]		***Percent***							
Passenger Vehicles		60.00%	498	38	11	49	15	38	52
2-Axle Trucks		0.80%	7	1	0	1	0	1	1
3-Axle Trucks		11.20%	93	7	2	9	3	7	10
4+-Axle Trucks		28.00%	232	18	5	23	7	18	24
		100%	829	63	19	82	24	63	87
PCE Trip Generation[3]		***PCE Factor***							
Passenger Vehicles		1.0	498	38	11	49	15	38	52
2-Axle Trucks		1.5	10	1	0	1	0	1	1
3-Axle Trucks		2.0	186	14	4	18	5	14	20
4+-Axle Trucks		3.0	697	53	16	69	21	53	73
Total PCE Trip Generation			1390	106	32	138	41	105	146

TSF = Thousand Square Feet

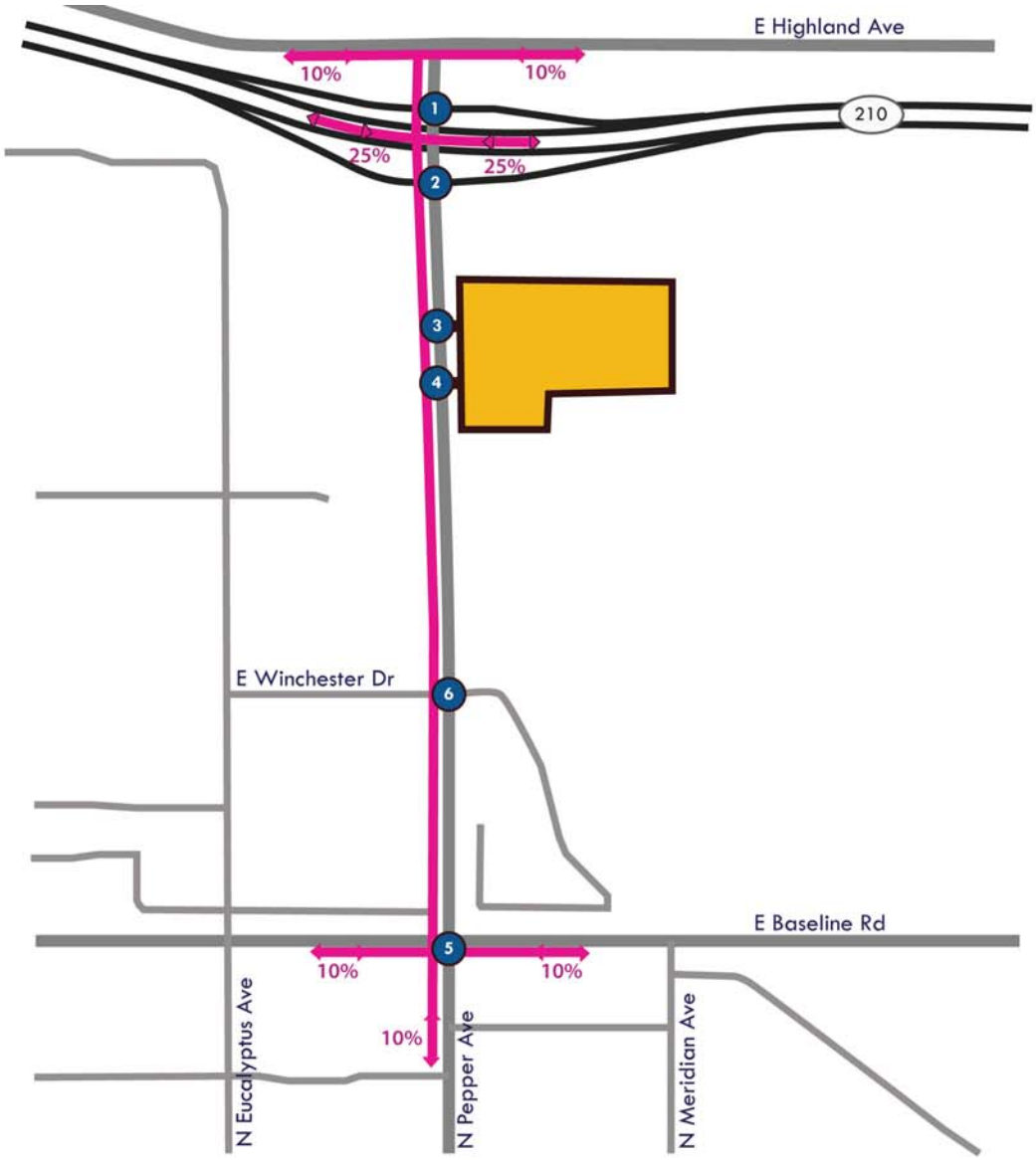
PCE = Passenger Car Equivalent

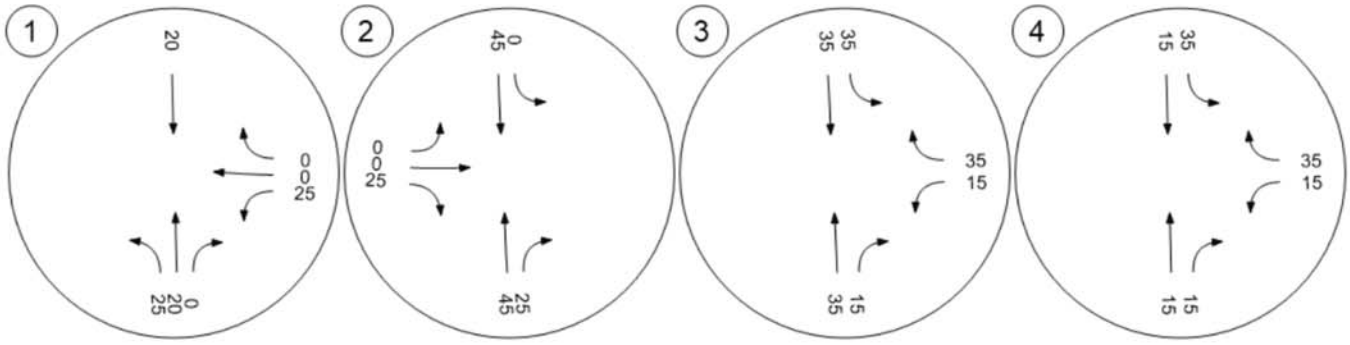
[1] Trip rates from the Institute of Transporation Engineers, *Trip Generation,11th Edition, 2021* . Land Use Code 150 - Warehouse.

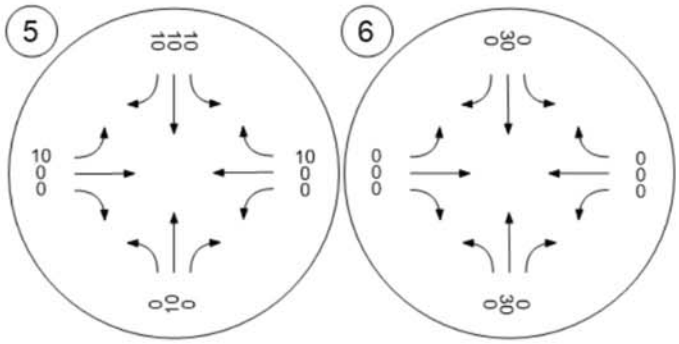
[2] Vehicle Mix from the Rialto Traffic Impact Analysis Report Guidelines, December 2013.

[3] Passenger Car Equivalent (PCE) factors from San Bernardino County CMP, Appendix B - Guidelines for CMP Traffic Impact Analysis Reports in San Bernardino County, 2016

Automobile Trip Distribution

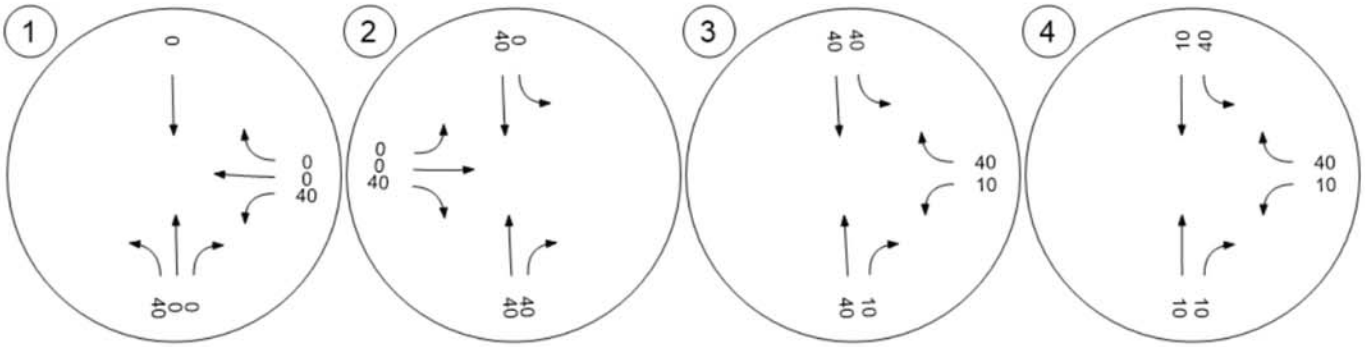


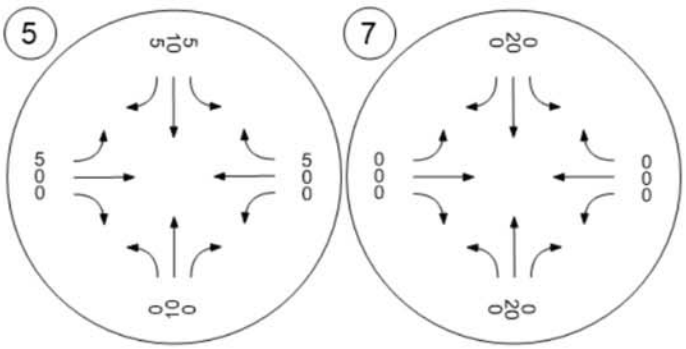




Truck Trip Distribution







APPENDIX B – COUNT SHEETS

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Rialto	PROJECT #:	SC3134
10/20/21	NORTH & SOUTH:	Pepper	LOCATION #:	1
WEDNESDAY	EAST & WEST:	SR-210 WB Ramps	CONTROL:	SIGNAL

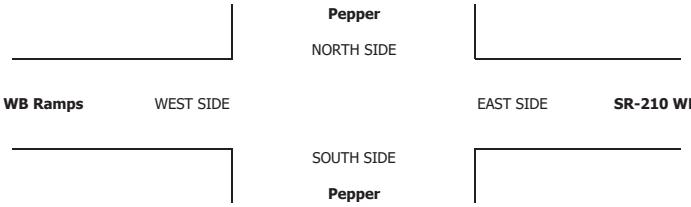
NOTES:

PCE Adjusted									
Class	1	2	3	4	5	6			
Factor	1	1.5	2	3	2	2			

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND (Pepper)			SOUTHBOUND (Pepper)			EASTBOUND (SR-210 WB Ramps)			WESTBOUND (SR-210 WB Ramps)				U-TURNS				
	LANES:	NL 1	NT 2	NR X	SL X	ST 1.5	SR 0.5	EL X	ET X	ER X	WL 1	WT 0.5	WR 0.5	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	112	55	0	0	40	75	0	0	0	61	0	27	369					0
	7:15 AM	105	68	0	0	84	61	0	0	0	78	2	23	420					0
	7:30 AM	106	64	0	0	75	73	0	0	0	109	1	23	451					0
	7:45 AM	114	70	0	0	29	54	0	0	0	130	0	15	411					0
	8:00 AM	100	68	0	0	62	48	0	0	0	98	3	19	396					0
	8:15 AM	76	82	0	0	49	48	0	0	0	62	1	12	329					0
	8:30 AM	64	58	0	0	51	41	0	0	0	53	0	16	282					0
	8:45 AM	53	48	0	0	50	46	0	0	0	54	0	27	277					0
	VOLUMES	729	511	0	0	439	444	0	0	0	643	7	161	2,932	0	0	0	0	0
	APPROACH %	59%	41%	0%	0%	50%	50%	0%	0%	0%	79%	1%	20%						
	APP/DEPART	1,240	/	672	883	/	1,082	0	/	0	810	/	1,179	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	425	269	0	0	249	235	0	0	0	414	6	79	1,676					
	APPROACH %	61%	39%	0%	0%	51%	49%	0%	0%	0%	83%	1%	16%						
	PEAK HR FACTOR		0.942			0.818			0.000			0.862		0.930					
	APP/DEPART	694	/	348	484	/	663	0	/	0	499	/	665	0					
PM	4:00 PM	109	115	0	0	37	31	0	0	0	60	1	24	376					0
	4:15 PM	97	106	0	0	52	32	0	0	0	73	0	23	381					0
	4:30 PM	92	102	0	0	51	33	0	0	0	73	0	18	368					0
	4:45 PM	97	104	0	0	68	34	0	0	0	74	2	14	392					0
	5:00 PM	80	98	0	0	51	39	0	0	0	63	2	22	354					0
	5:15 PM	111	105	0	0	56	27	0	0	0	87	0	20	404					0
	5:30 PM	81	135	0	0	70	40	0	0	0	72	1	17	414					0
	5:45 PM	71	114	0	0	62	46	0	0	0	63	0	14	368					0
	VOLUMES	737	877	0	0	445	280	0	0	0	562	6	151	3,056	0	0	0	0	0
	APPROACH %	46%	54%	0%	0%	61%	39%	0%	0%	0%	78%	1%	21%						
	APP/DEPART	1,613	/	1,027	725	/	1,007	0	/	0	718	/	1,022	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	369	441	0	0	244	139	0	0	0	294	5	72	1,563					
	APPROACH %	46%	54%	0%	0%	64%	36%	0%	0%	0%	79%	1%	19%						
	PEAK HR FACTOR		0.939			0.878			0.000			0.874		0.944					
	APP/DEPART	810	/	513	383	/	538	0	/	0	371	/	512	0					



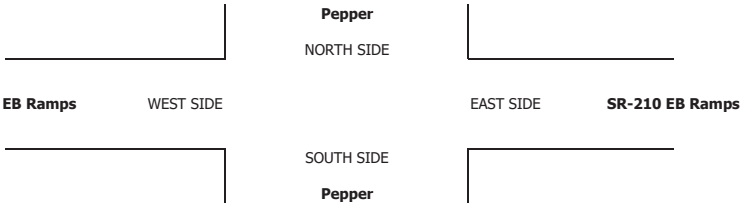
INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Rialto	PROJECT #:	SC3134
10/20/21	NORTH & SOUTH:	Pepper	LOCATION #:	2
WEDNESDAY	EAST & WEST:	SR-210 EB Ramps	CONTROL:	SIGNAL

	NOTES:									AM / PM / MD / OTHER / OTHER	▲ N ◄ W E ► S ▼
PCE Adjusted	Class	1	2	3	4	5	6				
	Factor	1	1.5	2	3	2	2				

		NORTHBOUND (Pepper)			SOUTHBOUND (Pepper)			EASTBOUND (SR-210 EB Ramps)			WESTBOUND (SR-210 EB Ramps)				U-TURNS				
	LANES:	NL X	NT 1.5	NR 0.5	SL 1	ST 2	SR X	EL 1	ET 0.5	ER 0.5	WL X	WT X	WR X	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	0	147	40	10	91	0	19	0	82	0	0	0	388					0
	7:15 AM	0	138	58	17	145	0	39	0	87	0	0	0	482					0
	7:30 AM	0	140	42	34	151	0	30	0	118	0	0	0	514					0
	7:45 AM	0	147	81	3	154	0	38	0	100	0	0	0	521					0
	8:00 AM	0	139	80	12	148	0	28	0	104	0	0	0	510					0
	8:15 AM	0	114	75	18	93	0	44	0	68	0	0	0	411					0
	8:30 AM	0	95	87	28	76	0	27	0	75	0	0	0	388					0
	8:45 AM	0	76	65	9	94	0	25	0	63	0	0	0	331					0
	VOLUMES	0	995	526	129	951	0	249	0	694	0	0	0	3,543	0	0	0	0	0
	APPROACH %	0%	65%	35%	12%	88%	0%	26%	0%	74%	0%	0%	0%						
	APP/DEPART	1,520	/	1,244	1,080	/	1,645	943	/	655	0	/	0	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	0	564	260	65	597	0	134	0	407	0	0	0	2,026					
	APPROACH %	0%	68%	32%	10%	90%	0%	25%	0%	75%	0%	0%	0%						
	PEAK HR FACTOR		0.905			0.898			0.917			0.000		0.973					
	APP/DEPART	824	/	698	661	/	1,004	541	/	325	0	/	0	0					
PM	4:00 PM	0	164	94	5	92	0	64	0	107	0	0	0	525					0
	4:15 PM	0	138	69	10	115	0	65	3	101	0	0	0	500					0
	4:30 PM	0	142	66	11	110	0	52	0	90	0	0	0	470					0
	4:45 PM	0	146	67	18	124	0	56	2	115	0	0	0	526					0
	5:00 PM	0	125	72	10	104	0	53	0	97	0	0	0	460					0
	5:15 PM	0	169	88	15	127	0	47	2	100	0	0	0	546					0
	5:30 PM	0	147	77	14	128	0	69	0	100	0	0	0	533					0
	5:45 PM	0	120	77	12	113	0	65	1	128	0	0	0	514					0
	VOLUMES	0	1,149	607	94	910	0	468	8	836	0	0	0	4,071	0	0	0	0	0
	APPROACH %	0%	65%	35%	9%	91%	0%	36%	1%	64%	0%	0%	0%						
	APP/DEPART	1,756	/	1,617	1,004	/	1,746	1,312	/	708	0	/	0	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	0	586	303	57	482	0	224	4	410	0	0	0	2,064					
	APPROACH %	0%	66%	34%	11%	89%	0%	35%	1%	64%	0%	0%	0%						
	PEAK HR FACTOR		0.866			0.947			0.926			0.000		0.945					
	APP/DEPART	889	/	810	538	/	892	637	/	363	0	/	0	0					



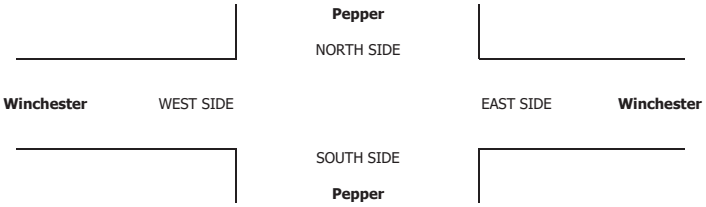
INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Rialto	PROJECT #:	SC3134
10/20/21	NORTH & SOUTH:	Pepper	LOCATION #:	3
WEDNESDAY	EAST & WEST:	Winchester	CONTROL:	SIGNAL

	NOTES:									AM / PM / MD / OTHER / OTHER	▲ N / ◄ W / E ► / S ▼
PCE Adjusted	Class	1	2	3	4	5	6				
	Factor	1	1.5	2	3	2	2				

		NORTHBOUND (Pepper)			SOUTHBOUND (Pepper)			EASTBOUND (Winchester)			WESTBOUND (Winchester)				U-TURNS				
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	4	162	0	0	163	7	21	1	2	1	2	4	366					0
	7:15 AM	7	178	0	0	237	10	14	1	6	1	0	3	456					0
	7:30 AM	23	171	0	1	255	18	14	0	7	4	0	4	497					0
	7:45 AM	27	220	0	3	234	21	27	0	22	2	0	3	557					0
	8:00 AM	55	157	0	3	185	27	25	1	46	2	1	0	501					0
	8:15 AM	37	179	0	0	158	18	25	3	19	0	2	1	441					0
	8:30 AM	3	147	0	0	152	7	12	1	5	1	0	4	332					0
	8:45 AM	8	122	0	0	129	9	13	0	3	1	0	3	287					0
	VOLUMES	163	1,335	0	7	1,510	116	150	7	109	11	5	22	3,434	0	0	0	0	0
	APPROACH %	11%	89%	0%	0%	92%	7%	56%	3%	41%	29%	13%	57%						
	APP/DEPART	1,498	/	1,506	1,633	/	1,630	266	/	14	38	/	284	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	112	725	0	7	910	76	80	2	80	8	1	10	2,010					
	APPROACH %	13%	87%	0%	1%	92%	8%	49%	1%	50%	42%	5%	53%						
	PEAK HR FACTOR		0.847			0.905			0.565			0.633		0.903					
	APP/DEPART	837	/	815	992	/	998	162	/	9	19	/	189	0					
PM	4:00 PM	3	231	1	2	189	16	13	1	5	0	0	2	462					0
	4:15 PM	8	214	0	5	197	16	12	1	5	2	0	0	459					0
	4:30 PM	6	203	1	0	185	17	11	0	2	1	0	1	427					0
	4:45 PM	3	180	1	2	217	14	9	0	4	0	0	2	432					0
	5:00 PM	4	207	0	2	168	24	20	0	1	3	0	1	428					0
	5:15 PM	6	232	1	3	207	26	14	0	4	1	1	1	494					0
	5:30 PM	9	202	0	0	204	28	15	2	1	0	0	1	461					0
	5:45 PM	6	164	0	3	213	23	13	1	3	0	0	2	428					0
	VOLUMES	45	1,631	4	17	1,578	162	107	5	25	7	1	10	3,590	0	0	0	0	0
	APPROACH %	3%	97%	0%	1%	90%	9%	78%	3%	18%	39%	6%	56%						
	APP/DEPART	1,680	/	1,747	1,756	/	1,610	136	/	25	18	/	208	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	22	820	2	7	795	91	58	2	10	4	1	5	1,815					
	APPROACH %	3%	97%	0%	1%	89%	10%	83%	2%	14%	40%	10%	50%						
	PEAK HR FACTOR		0.884			0.951			0.841			0.625		0.919					
	APP/DEPART	844	/	882	893	/	809	69	/	10	10	/	114	0					



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

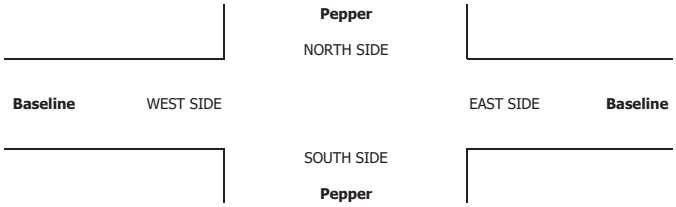
DATE:	LOCATION:	Rialto	PROJECT #:	SC3134
10/20/21	NORTH & SOUTH:	Pepper	LOCATION #:	4
WEDNESDAY	EAST & WEST:	Baseline	CONTROL:	SIGNAL

NOTES:

PCE Adjusted									
Class	1	2	3	4	5	6			
Factor	1	1.5	2	3	2	2			

AM / PM / MD / OTHER / OTHER — ▲ N ◄ W E ► S ▼

		NORTHBOUND (Pepper)			SOUTHBOUND (Pepper)			EASTBOUND (Baseline)			WESTBOUND (Baseline)				U-TURNS				
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	15	106	6	58	105	14	24	39	10	13	50	35	473					0
	7:15 AM	30	109	17	59	156	22	15	38	20	18	45	52	578					0
	7:30 AM	24	123	7	47	183	35	20	56	43	21	83	59	699					0
	7:45 AM	42	175	11	40	208	33	28	46	24	9	92	52	758					0
	8:00 AM	46	142	18	34	158	19	27	75	32	25	74	55	702					0
	8:15 AM	48	139	20	34	146	29	25	62	35	15	79	41	668					0
	8:30 AM	26	102	13	22	111	18	28	66	26	29	71	23	533					0
	8:45 AM	12	71	17	26	86	20	26	69	23	16	81	26	470					0
	VOLUMES	241	965	108	320	1,152	189	191	448	212	144	572	341	4,879	0	0	0	0	0
	APPROACH %	18%	73%	8%	19%	69%	11%	22%	53%	25%	14%	54%	32%						
	APP/DEPART	1,313	/	1,497	1,660	/	1,507	850	/	875	1,057	/	1,001	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	160	577	56	155	694	116	99	237	133	69	326	206	2,826					
	APPROACH %	20%	73%	7%	16%	72%	12%	21%	51%	28%	11%	54%	34%						
	PEAK HR FACTOR		0.870			0.858			0.882			0.927		0.933					
	APP/DEPART	792	/	882	964	/	896	469	/	447	601	/	601	0					
PM	4:00 PM	32	162	30	34	134	29	34	125	33	14	74	40	740					0
	4:15 PM	28	147	22	36	154	32	38	108	23	16	97	40	738					0
	4:30 PM	24	149	25	27	113	26	40	89	27	20	104	24	665					0
	4:45 PM	24	129	22	34	168	29	29	94	21	25	94	27	694					0
	5:00 PM	24	135	21	27	110	26	34	81	27	15	111	29	639					0
	5:15 PM	30	180	32	20	172	28	40	119	39	17	86	28	788					0
	5:30 PM	29	135	23	17	157	29	31	98	30	14	90	39	690					0
	5:45 PM	28	107	22	36	137	24	33	117	28	23	96	32	682					0
	VOLUMES	219	1,142	197	230	1,144	222	277	829	227	143	750	258	5,635	0	0	0	0	0
	APPROACH %	14%	73%	13%	14%	72%	14%	21%	62%	17%	12%	65%	22%						
	APP/DEPART	1,558	/	1,676	1,595	/	1,514	1,332	/	1,255	1,151	/	1,191	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	108	586	99	130	568	116	140	415	104	74	369	130	2,837					
	APPROACH %	14%	74%	12%	16%	70%	14%	21%	63%	16%	13%	64%	23%						
	PEAK HR FACTOR		0.884			0.882			0.857			0.939		0.958					
	APP/DEPART	793	/	856	814	/	746	658	/	644	573	/	592	0					



A816

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, October 20, 2021
JOB #: SC3134

CITY: Rialto
LOCATION: CLASS1 Pepper south of Winchester

AM	NORTHBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	19	2	0	1	0	0	0	0	0	0	0	0	22
0:15	0	18	1	0	0	0	0	0	4	0	0	0	0	23
0:30	0	27	0	0	0	0	0	0	2	0	0	0	0	29
0:45	0	17	0	0	0	0	0	0	0	0	0	0	0	17
1:00	0	13	0	0	0	0	0	0	2	0	0	0	0	15
1:15	0	11	2	0	0	0	0	0	1	0	0	0	0	14
1:30	0	19	1	0	0	0	0	0	0	0	1	0	0	21
1:45	0	19	0	0	0	0	0	0	0	0	0	0	0	19
2:00	0	20	0	0	1	2	0	0	0	0	0	0	0	23
2:15	0	10	1	0	1	0	0	0	0	0	1	0	0	13
2:30	0	22	1	0	0	0	0	0	2	0	0	0	0	25
2:45	0	18	1	0	0	1	0	0	1	0	1	0	0	22
3:00	0	14	0	0	0	0	0	0	1	0	4	0	0	19
3:15	0	26	1	0	0	0	0	0	3	0	4	0	0	34
3:30	0	46	3	0	1	1	0	0	1	0	1	0	0	53
3:45	0	35	4	0	1	0	0	0	0	0	2	0	0	42
4:00	0	34	5	0	2	0	0	0	1	0	2	0	0	44
4:15	0	46	4	0	0	0	0	0	0	0	7	0	0	57
4:30	0	91	9	0	1	0	0	0	1	0	3	0	0	105
4:45	0	56	9	0	4	0	0	0	0	0	1	0	0	70
5:00	0	67	21	0	1	0	0	0	5	0	2	0	0	96
5:15	0	79	21	0	4	2	0	0	4	0	1	0	0	111
5:30	0	100	26	0	6	1	0	0	2	0	3	0	0	138
5:45	0	92	11	0	5	1	0	0	2	0	4	0	0	115
6:00	0	80	16	0	2	2	0	0	2	0	3	0	0	105
6:15	0	65	15	0	2	1	0	0	1	0	2	0	0	86
6:30	0	72	17	0	1	2	0	0	2	0	2	0	0	96
6:45	0	110	17	0	1	0	0	0	1	0	4	0	0	133
7:00	0	126	17	0	5	0	0	0	2	0	2	0	0	152
7:15	0	135	25	0	3	0	0	0	2	0	4	0	0	169
7:30	0	157	17	0	3	1	0	0	1	0	3	0	0	182
7:45	0	191	21	0	4	2	0	0	2	0	4	0	0	224
8:00	0	182	17	0	2	0	0	0	2	0	1	0	0	204
8:15	0	165	23	2	8	0	0	0	0	0	3	0	0	201
8:30	0	119	15	0	2	2	0	0	3	0	0	0	0	141
8:45	0	98	18	0	2	1	0	0	1	0	1	0	0	121
9:00	0	71	16	0	6	2	0	0	1	0	1	0	0	97
9:15	0	80	10	0	2	4	0	0	3	0	2	0	0	101
9:30	2	87	13	0	1	1	0	0	7	0	2	0	0	113
9:45	0	81	17	0	0	1	0	0	3	0	1	0	0	103
10:00	0	87	13	0	7	1	0	0	8	0	2	0	0	118
10:15	0	72	20	0	3	0	0	1	5	0	1	0	0	102
10:30	0	78	7	0	2	1	0	0	2	0	0	0	0	90
10:45	1	78	16	0	2	1	0	0	7	0	2	0	0	107
11:00	1	82	13	0	1	1	0	0	1	0	4	0	0	103
11:15	0	82	16	0	2	3	0	0	2	0	0	0	0	105
11:30	0	92	14	0	2	0	0	0	5	0	0	0	0	113
11:45	1	97	20	0	3	1	0	0	4	0	0	0	0	126
TOTAL	5	3,386	516	2	94	35	0	1	99	0	81	0	0	4,219

AM PEAK HOUR	7:30 AM
AM PEAK VOLUME	811

PM	NORTHBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	0	109	23	0	2	0	0	0	1	0	1	0	0	136
12:15	0	123	19	1	5	6	0	0	6	1	1	0	0	162
12:30	0	134	14	0	5	1	0	0	2	0	2	0	0	158
12:45	0	135	19	0	3	4	0	0	1	0	1	0	0	163
13:00	0	140	19	1	2	1	0	0	2	0	1	0	0	166
13:15	0	109	14	2	2	1	0	0	0	0	0	0	0	128
13:30	0	114	26	1	1	3	0	0	1	0	0	0	0	146
13:45	0	115	19	2	3	1	0	0	10	0	3	0	0	153
14:00	0	136	22	0	3	3	0	0	5	0	0	0	0	169
14:15	0	160	28	0	1	0	0	0	3	0	1	0	0	193
14:30	0	134	24	0	1	2	0	0	2	0	0	0	0	163
14:45	0	149	25	0	2	1	1	0	5	0	0	0	0	183
15:00	0	151	22	0	1	0	0	0	1	0	0	0	0	175
15:15	0	153	18	0	1	0	0	0	3	0	0	0	0	175
15:30	0	193	24	0	1	1	0	0	3	0	0	0	0	222
15:45	0	166	35	0	1	0	0	1	3	0	0	0	0	206
16:00	1	186	28	0	3	0	0	0	3	0	1	0	0	222
16:15	0	175	36	0	3	0	0	0	1	1	0	0	0	216
16:30	0	171	18	0	1	2	0	0	4	0	0	0	0	196
16:45	0	154	30	0	1	0	0	0	1	0	0	0	0	186
17:00	2	171	26	0	1	0	0	0	1	0	1	0	0	202
17:15	0	184	36	0	0	1	0	0	4	0	0	0	0	225
17:30	0	162	23	0	3	0	0	0	6	0	0	0	0	194
17:45	1	135	15	0	1	0	0	0	4	0	0	0	0	156
18:00	0	163	22	0	3	1	0	0	3	0	0	0	0	192
18:15	0	145	18	0	2	0	0	0	1	0	0	0	0	166
18:30	1	125	13	0	0	1	0	0	1	0	0	0	0	141
18:45	1	101	16	0	2	1	0	0	1	0	0	0	0	122
19:00	0	129	10	0	0	0	0	0	1	0	0	0	0	140
19:15	0	98	2	1	1	1	0	0	3	0	0	0	0	106
19:30	0	116	3	0	1	0	0	0	0	0	0	0	0	120
19:45	0	98	4	0	0	1	0	0	0	0	0	0	0	103
20:00	0	75	11	0	0	1	0	0	2	0	0	0	0	89
20:15	1	76	5	0	1	1	0	0	0	0	0	0	0	84
20:30	0	70	5	0	0	0	0	0	1	0	0	0	0	76
20:45	0	81	4	0	1	1	0	0	3	0	0	0	0	90
21:00	0	57	1	0	1	0	0	0	1	0	0	0	0	60
21:15	0	64	2	0	0	0	0	0	0	0	0	0	0	66
21:30	0	64	5	0	1	1	0	0	0	0	0	0	0	71
21:45	0	46	5	0	1	0	0	0	2	0	0	0	0	54
22:00	0	55	0	0	0	0	0	0	1	0	0	0	0	56
22:15	0	40	3	0	1	0	0	0	2	0	0	0	0	46
22:30	0	32	3	0	0	0	0	0	1	0	0	0	0	36
22:45	0	27	0	0	0	0	0	0	4	0	0	0	0	31
23:00	0	19	1	0	0	1	0	0	2	0	0	0	0	23
23:15	0	28	0	0	1	0	0	0	1	1	0	0	0	31
23:30	0	28	1	0	1	1	0	0	1	0	0	0	0	32
23:45	0	27	2	0	1	0	0	0	1	0	0	0	0	31
TOTAL	7	5,323	699	8	65	38	1	1	104	3	12	0	0	6,261

PM PEAK HOUR	3:30 PM
PM PEAK VOLUME	866

TOTAL: AM+PM	12	8,709	1,215	10	159	73	1	2	203	3	93	0	0	10,480
% OF TOTAL	0.1%	83.1%	11.6%	0.1%	1.5%	0.7%	0.0%	0.0%	1.9%	0.0%	0.9%	0.0%	0.0%	100.0%

Class	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: ALL	29	17,226	2,618	19	309	147	2	3	399	6	197	0	0	20,955
% OF TOTAL	0.3%	164.4%	25.0%	0.2%	2.9%	1.4%	0.0%	0.0%	3.8%	0.1%	1.9%	0.0%	0.0%	100.0%

CLASS 1	Class 1 — Motorcycles	**CLASS 8**	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	**CLASS 9**	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	**CLASS 10**	6 or More Axles, Single Trailer
CLASS 4	Buses	**CLASS 11**	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	**CLASS 12**	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	**CLASS 13**	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, October 20, 2021
JOB #: SC3134

CITY: Rialto
LOCATION: CLASS1 Pepper south of Winchester

AM	SOUTHBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	32	4	0	0	2	0	0	2	0	0	0	0	40
0:15	0	29	1	0	1	0	0	0	0	0	0	0	0	31
0:30	0	26	0	0	0	0	0	0	0	0	0	0	0	26
0:45	0	23	0	0	1	0	0	0	0	0	0	0	0	24
1:00	0	20	2	0	0	0	0	0	1	0	0	0	0	23
1:15	0	26	0	0	1	0	0	0	3	0	0	0	0	30
1:30	0	7	1	0	0	0	0	0	2	0	0	0	0	10
1:45	0	18	2	0	1	0	0	0	1	0	0	0	0	22
2:00	0	11	0	0	0	2	0	0	1	0	0	0	0	14
2:15	0	17	1	0	0	0	0	0	2	0	0	0	0	20
2:30	0	17	0	0	0	0	0	0	0	0	0	0	0	17
2:45	0	23	3	0	0	0	0	0	2	0	3	0	0	31
3:00	0	21	1	0	0	0	0	0	2	0	4	0	0	28
3:15	0	22	0	0	0	0	0	0	3	0	0	0	0	25
3:30	0	14	2	0	0	3	0	0	3	0	3	0	0	25
3:45	0	20	4	0	0	0	0	0	2	0	3	0	0	29
4:00	0	13	2	0	0	0	0	0	1	0	4	0	0	20
4:15	0	18	4	0	0	0	0	0	1	0	4	0	0	27
4:30	0	30	2	0	0	1	0	0	4	0	1	0	0	38
4:45	0	24	8	0	0	1	0	0	2	1	0	0	0	36
5:00	0	28	5	0	1	0	0	0	4	0	2	0	0	40
5:15	0	28	9	0	0	0	0	0	0	0	4	0	0	41
5:30	0	36	9	0	1	1	0	0	1	0	5	0	0	53
5:45	0	48	6	0	0	2	0	0	1	0	1	0	0	58
6:00	0	66	7	0	0	2	0	0	0	0	1	0	0	76
6:15	0	51	13	0	2	1	0	0	1	0	3	0	0	71
6:30	0	83	12	0	1	0	0	0	0	0	2	0	0	98
6:45	0	118	13	1	1	1	0	0	1	0	1	0	0	136
7:00	0	117	12	3	2	1	0	0	0	0	7	0	0	142
7:15	0	196	25	0	2	0	0	0	2	0	3	0	0	228
7:30	0	205	23	1	2	3	0	0	6	0	2	0	0	242
7:45	0	213	31	0	4	1	0	0	0	0	0	0	0	249
8:00	0	183	24	0	3	2	0	0	3	0	3	0	0	218
8:15	0	131	21	0	0	1	0	0	5	0	1	0	0	159
8:30	1	113	19	0	2	3	0	0	3	0	0	0	0	141
8:45	0	87	19	0	0	2	0	0	5	0	1	0	0	114
9:00	0	104	15	0	7	0	0	0	4	0	3	0	0	133
9:15	0	70	16	0	3	1	0	0	7	0	2	0	0	99
9:30	1	79	14	0	0	0	0	0	4	0	1	0	0	99
9:45	0	85	21	0	1	0	0	0	3	0	1	0	0	111
10:00	0	61	10	0	3	5	0	0	2	0	2	0	0	83
10:15	1	82	13	0	1	1	0	0	1	0	3	0	0	102
10:30	0	93	13	0	5	3	0	0	1	0	1	0	0	116
10:45	0	69	25	1	3	1	0	0	3	0	1	0	0	103
11:00	0	74	20	0	2	2	0	0	4	1	4	0	0	107
11:15	0	97	14	0	1	2	0	0	3	0	3	0	0	120
11:30	1	79	16	0	1	1	0	1	1	0	2	0	0	102
11:45	0	98	13	0	3	1	0	0	2	0	0	0	0	117
TOTAL	4	3,105	475	6	55	46	0	1	99	2	81	0	0	3,874

AM PEAK HOUR	7:15 AM
AM PEAK VOLUME	937

PM	SOUTHBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	0	108	17	0	1	1	0	0	1	0	2	0	0	130
12:15	0	106	12	0	5	4	0	0	3	0	0	0	0	130
12:30	0	86	23	0	6	1	0	0	3	0	3	0	0	122
12:45	0	88	18	0	1	3	0	0	3	0	2	0	0	115
13:00	0	172	35	0	1	0	0	0	1	0	2	0	0	211
13:15	0	116	31	0	4	1	0	0	2	0	1	0	0	155
13:30	0	128	24	1	0	2	0	0	2	0	2	0	0	159
13:45	0	136	17	0	0	0	0	0	3	0	2	0	0	158
14:00	0	117	23	0	7	1	0	0	7	0	2	0	0	157
14:15	0	140	25	0	2	1	1	0	6	0	1	0	0	176
14:30	0	127	24	0	2	0	0	0	2	0	1	0	0	156
14:45	0	174	28	0	7	0	0	0	2	0	1	0	0	212
15:00	1	142	28	0	3	0	0	0	4	0	1	0	0	179
15:15	0	121	34	0	2	1	0	0	3	1	0	0	0	162
15:30	0	154	25	0	3	0	0	0	4	0	0	0	0	186
15:45	0	158	33	0	3	0	0	0	5	0	0	0	0	199
16:00	0	137	30	0	7	0	0	0	3	0	0	0	0	177
16:15	3	159	36	0	3	0	0	0	0	0	0	0	0	201
16:30	0	146	35	0	2	0	0	0	2	0	0	0	0	185
16:45	1	175	30	0	4	0	0	0	1	0	0	0	0	211
17:00	1	136	27	0	2	0	0	0	1	0	0	0	0	167
17:15	1	154	35	1	3	0	0	0	3	0	0	0	0	197
17:30	0	162	24	0	5	0	0	0	2	0	0	0	0	193
17:45	1	168	31	0	1	0	0	0	2	0	1	0	0	204
18:00	0	138	34	0	4	0	0	0	1	0	0	0	0	177
18:15	0	139	23	0	0	4	0	0	2	0	1	0	0	169
18:30	0	172	18	0	1	1	0	0	0	0	0	0	0	192
18:45	1	128	19	0	3	0	0	0	1	0	0	0	0	152
19:00	2	120	17	0	1	0	0	0	1	0	0	0	0	141
19:15	1	123	22	1	1	0	0	0	3	0	1	0	0	152
19:30	0	109	17	0	0	0	0	0	0	0	0	0	0	126
19:45	0	99	12	0	2	2	0	0	3	0	0	0	0	118
20:00	0	102	14	0	0	0	0	0	2	0	0	0	0	118
20:15	0	104	12	0	0	1	0	0	0	0	0	0	0	117
20:30	1	91	9	0	1	2	0	0	2	0	0	0	0	106
20:45	0	81	10	0	0	0	0	0	0	0	0	0	0	91
21:00	0	84	8	0	1	1	0	0	1	0	0	0	0	95
21:15	0	80	10	0	0	0	0	0	1	0	0	0	0	91
21:30	0	84	10	0	0	1	0	0	2	0	0	0	0	97
21:45	0	61	9	0	1	0	0	0	1	0	0	0	0	72
22:00	0	68	10	0	1	0	0	0	1	0	0	0	0	80
22:15	0	58	7	0	0	0	0	0	1	0	0	0	0	66
22:30	0	54	4	0	1	0	0	0	0	0	0	0	0	59
22:45	0	50	6	0	1	1	0	0	3	0	0	0	0	61
23:00	0	48	3	0	2	0	0	0	0	0	0	0	0	53
23:15	0	39	3	0	1	0	0	0	3	0	0	0	0	46
23:30	0	35	3	0	0	0	0	0	2	0	0	0	0	40
23:45	0	35	3	0	0	0	0	0	2	0	0	0	0	40
TOTAL	13	5,412	928	3	95	28	1	0	97	1	23	0	0	6,601

PM PEAK HOUR	4:00 PM
PM PEAK VOLUME	774

CLASS 1	Class 1 — Motorcycles	**CLASS 8**	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	**CLASS 9**	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	**CLASS 10**	6 or More Axles, Single Trailer
CLASS 4	Buses	**CLASS 11**	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	**CLASS 12**	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	**CLASS 13**	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	17	8,517	1,403	9	150	74	1	1	196	3	104	0	0	10,475
% OF TOTAL	0.2%	81.3%	13.4%	0.1%	1.4%	0.7%	0.0%	0.0%	1.9%	0.0%	1.0%	0.0%	0.0%	100.0%

Class	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**

A816

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, October 20, 2021
JOB #: SC3134

CITY: Rialto
LOCATION: CLASS1 Pepper south of Winchester

AM	NORTHBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	20	3	0	1	0	0	0	0	0	0	0	0	24
0:15	0	18	1	0	1	0	0	0	4	0	0	0	0	24
0:30	0	26	2	0	0	0	0	0	2	0	0	0	0	30
0:45	0	15	1	0	0	0	0	0	0	0	0	0	0	16
1:00	0	12	1	0	0	0	0	0	2	0	0	0	0	15
1:15	0	12	2	0	0	0	0	0	1	0	0	0	0	15
1:30	0	18	3	0	0	0	0	0	0	0	1	0	0	22
1:45	0	20	1	0	0	0	0	0	0	0	0	0	0	21
2:00	0	20	0	0	1	2	0	0	0	0	0	0	0	23
2:15	0	12	2	0	1	0	0	0	0	0	1	0	0	16
2:30	0	20	2	0	1	0	0	0	2	0	0	0	0	25
2:45	0	19	3	0	0	1	0	0	1	0	1	0	0	25
3:00	0	16	0	0	0	0	0	0	1	0	4	0	0	21
3:15	0	29	3	0	0	0	0	0	3	0	4	0	0	39
3:30	0	48	6	0	0	1	0	0	1	0	1	0	0	57
3:45	0	35	9	0	0	1	0	0	0	0	1	0	0	46
4:00	0	40	8	0	2	0	0	0	1	0	2	0	0	53
4:15	0	46	8	0	1	0	0	0	0	0	7	0	0	62
4:30	0	87	20	0	0	0	0	0	1	0	3	0	0	111
4:45	0	66	14	0	0	0	0	0	1	0	0	0	0	81
5:00	0	73	25	0	1	0	0	0	5	0	1	0	0	105
5:15	1	93	26	0	3	1	0	0	4	0	1	0	0	129
5:30	0	109	36	0	1	1	0	0	2	0	3	0	0	152
5:45	1	102	14	0	5	0	0	0	2	0	4	0	0	128
6:00	0	79	26	0	2	3	0	0	2	0	3	0	0	115
6:15	0	78	18	0	1	2	0	0	1	0	1	0	0	101
6:30	0	87	22	0	2	2	0	0	2	0	2	0	0	117
6:45	0	124	20	0	1	0	0	0	1	0	4	0	0	150
7:00	0	141	22	0	4	0	0	0	2	0	3	0	0	172
7:15	0	132	38	0	2	1	0	0	2	0	3	0	0	178
7:30	0	147	25	0	3	0	0	0	1	0	3	0	0	179
7:45	1	187	25	0	5	2	0	0	2	0	4	0	0	226
8:00	0	150	19	0	1	2	0	0	2	0	0	0	0	174
8:15	0	144	34	1	6	1	0	0	0	0	2	0	0	188
8:30	0	122	19	0	2	4	0	0	3	0	0	0	0	150
8:45	0	106	22	0	1	2	0	0	0	0	1	0	0	132
9:00	0	75	18	0	5	2	0	0	1	0	1	0	0	102
9:15	0	78	15	0	2	5	0	0	3	0	2	0	0	105
9:30	2	87	16	0	1	1	0	0	7	0	2	0	0	116
9:45	0	91	14	0	2	1	0	0	3	0	1	0	0	112
10:00	0	92	16	0	8	1	0	0	9	0	1	0	0	127
10:15	0	75	26	1	1	1	0	1	5	0	1	0	0	111
10:30	0	85	9	0	1	1	0	0	2	0	0	0	0	98
10:45	1	82	17	0	7	0	0	0	7	0	2	0	0	116
11:00	1	86	11	0	2	1	0	0	1	0	4	0	0	106
11:15	0	86	13	0	5	3	0	0	2	0	0	0	0	109
11:30	0	95	17	0	2	0	0	0	5	0	0	0	0	119
11:45	1	106	18	0	4	1	0	0	4	0	0	0	0	134
TOTAL	8	3,491	670	2	88	43	0	1	100	0	74	0	0	4,477

AM PEAK HOUR	7:30 AM
AM PEAK VOLUME	767

PM	NORTHBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	0	115	23	0	3	0	0	0	1	0	1	0	0	143
12:15	0	130	21	0	7	6	0	0	5	1	1	0	0	171
12:30	0	138	12	0	8	1	0	0	3	0	2	0	0	164
12:45	0	115	16	0	3	3	0	1	1	0	1	0	0	140
13:00	0	120	20	1	4	1	0	0	3	0	1	0	0	150
13:15	0	116	17	2	3	1	0	0	0	0	0	0	0	139
13:30	0	120	25	1	4	3	0	0	1	0	0	0	0	154
13:45	0	118	23	1	3	1	0	0	10	0	3	0	0	159
14:00	0	148	24	0	5	3	0	0	5	0	0	0	0	185
14:15	0	167	29	0	0	0	0	0	3	0	1	0	0	200
14:30	0	142	30	0	3	2	0	0	2	0	0	0	0	179
14:45	0	154	29	2	3	1	1	0	5	0	0	0	0	195
15:00	0	163	27	0	0	0	0	0	1	0	0	0	0	191
15:15	0	156	26	0	2	0	0	0	3	0	0	0	0	187
15:30	0	198	28	0	3	1	0	1	3	0	0	0	0	234
15:45	0	162	42	0	1	0	0	1	3	0	0	0	0	209
16:00	2	193	28	0	3	1	0	0	3	0	0	0	0	230
16:15	0	177	40	0	2	0	0	0	2	0	0	0	0	221
16:30	0	172	19	0	0	2	0	0	4	0	0	0	0	197
16:45	0	152	32	0	0	0	0	0	1	0	0	0	0	185
17:00	2	185	30	0	1	0	0	0	1	0	1	0	0	220
17:15	0	197	35	0	1	1	0	0	4	0	0	0	0	238
17:30	0	174	21	0	2	0	0	0	6	0	0	0	0	203
17:45	1	144	21	0	0	0	0	0	4	0	0	0	0	170
18:00	0	177	26	0	4	1	0	0	3	0	0	0	0	211
18:15	0	142	23	0	1	0	0	0	1	0	0	0	0	167
18:30	1	133	21	0	0	1	0	0	1	0	0	0	0	157
18:45	0	115	18	0	1	0	0	0	1	0	0	0	0	135
19:00	0	110	14	0	0	0	0	0	1	0	0	0	0	125
19:15	0	112	4	1	0	0	0	0	3	0	0	0	0	120
19:30	0	125	7	0	1	0	0	0	0	0	0	0	0	133
19:45	0	110	7	0	0	1	0	0	0	0	0	0	0	118
20:00	0	72	12	0	0	0	0	0	2	0	0	0	0	86
20:15	1	98	6	0	0	2	0	0	0	0	0	0	0	107
20:30	0	74	6	0	0	0	0	0	1	0	0	0	0	81
20:45	0	87	9	0	2	1	0	0	3	0	0	0	0	102
21:00	0	64	4	0	0	0	0	0	1	0	0	0	0	69
21:15	0	84	3	0	0	0	0	0	0	0	0	0	0	87
21:30	0	74	4	0	2	1	0	0	0	0	0	0	0	81
21:45	0	54	4	0	1	0	0	0	2	0	0	0	0	61
22:00	0	60	3	0	0	0	0	0	1	0	0	0	0	64
22:15	0	41	7	0	1	0	0	0	2	0	0	0	0	51
22:30	0	30	5	0	0	0	0	0	1	0	0	0	0	36
22:45	0	27	0	0	0	0	0	0	4	0	0	0	0	31
23:00	0	23	2	0	0	1	0	0	2	0	0	0	0	28
23:15	0	28	1	0	1	0	0	0	2	0	0	0	0	32
23:30	0	28	2	0	0	1	0	0	1	0	0	0	0	32
23:45	0	29	1	0	1	0	0	0	1	0	0	0	0	32
TOTAL	7	5,553	807	8	76	36	1	3	107	1	11	0	0	6,610

PM PEAK HOUR	3:30 PM
PM PEAK VOLUME	894

CLASS 1	Class 1 — Motorcycles	**CLASS 8**	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	**CLASS 9**	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	**CLASS 10**	6 or More Axles, Single Trailer
CLASS 4	Buses	**CLASS 11**	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	**CLASS 12**	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	**CLASS 13**	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	15	9,044	1,477	10	164	79	1	4	207	1	85	0	0	11,087
% OF TOTAL	0.1%	81.6%	13.3%	0.1%	1.5%	0.7%	0.0%	0.0%	1.9%	0.0%	0.8%	0.0%	0.0%	100.0%
Class	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	
TOTAL: ALL	34	17,855	3,137	23	330	156	1	7	400	1	185	0	0	22,129
% OF TOTAL	0.3%	161.0%	28.3%	0.2%	3.0%	1.4%	0.0%	0.1%	3.6%	0.0%	1.7%	0.0%	0.0%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, October 20, 2021
JOB #: SC3134

CITY: Rialto
LOCATION: CLASS1 Pepper south of Winchester

AM	SOUTHBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	34	6	0	0	2	0	0	2	0	0	0	0	44
0:15	0	32	1	0	2	0	0	0	0	0	0	0	0	35
0:30	0	26	1	0	0	0	0	0	0	0	0	0	0	27
0:45	0	23	2	0	1	0	0	0	0	0	0	0	0	26
1:00	0	20	5	0	0	0	0	0	1	0	0	0	0	26
1:15	0	28	0	0	1	1	0	0	2	0	0	0	0	32
1:30	0	9	1	0	0	0	0	0	2	0	0	0	0	12
1:45	0	19	3	0	1	0	0	0	1	0	0	0	0	24
2:00	0	12	0	0	0	2	0	0	1	0	0	0	0	15
2:15	0	17	1	0	0	0	0	0	2	0	0	0	0	20
2:30	0	17	1	0	0	0	0	0	0	0	0	0	0	18
2:45	0	24	5	0	0	0	0	0	2	0	3	0	0	34
3:00	0	24	1	0	0	0	0	0	2	0	4	0	0	31
3:15	0	21	0	0	0	0	0	0	3	0	0	0	0	24
3:30	0	14	2	0	2	1	0	0	3	0	3	0	0	25
3:45	0	22	3	0	0	0	0	0	2	0	3	0	0	30
4:00	0	16	1	0	0	0	0	0	1	0	4	0	0	22
4:15	0	19	6	0	0	0	0	0	2	0	3	0	0	30
4:30	0	30	4	0	0	1	0	0	4	0	0	0	0	39
4:45	0	27	8	0	0	1	0	0	3	0	1	0	0	40
5:00	0	28	6	0	0	0	0	0	3	0	3	0	0	40
5:15	0	30	14	0	0	0	0	0	0	0	4	0	0	48
5:30	0	37	13	0	0	1	0	0	1	0	5	0	0	57
5:45	0	45	12	0	0	1	0	0	1	0	1	0	0	60
6:00	0	62	7	0	0	3	0	0	0	0	0	0	0	72
6:15	0	49	15	0	1	1	0	0	1	0	3	0	0	70
6:30	0	82	11	0	1	0	0	0	0	0	2	0	0	96
6:45	1	116	13	1	1	1	0	0	1	0	1	0	0	135
7:00	0	120	13	3	3	2	0	0	0	0	6	0	0	147
7:15	0	190	29	0	2	0	0	0	2	0	3	0	0	226
7:30	1	207	25	1	3	4	0	0	6	0	1	0	0	248
7:45	0	216	36	0	2	0	0	1	0	0	0	0	0	255
8:00	0	163	24	0	1	1	0	0	3	0	3	0	0	195
8:15	0	126	25	0	2	1	0	0	5	0	1	0	0	160
8:30	1	113	19	0	3	3	0	0	2	0	1	0	0	142
8:45	0	96	19	0	1	2	0	0	5	0	1	0	0	124
9:00	0	98	25	0	5	0	0	0	4	0	3	0	0	135
9:15	0	77	17	0	3	1	0	0	7	0	2	0	0	107
9:30	1	81	16	0	2	0	0	0	4	0	1	0	0	105
9:45	0	87	22	0	2	0	0	0	3	0	1	0	0	115
10:00	0	64	13	0	3	5	0	0	2	0	2	0	0	89
10:15	1	81	15	0	1	1	0	0	1	0	3	0	0	103
10:30	0	98	17	0	5	3	0	0	1	0	1	0	0	125
10:45	0	69	21	0	9	1	0	1	2	0	1	0	0	104
11:00	0	75	22	0	2	2	0	0	4	0	4	0	0	109
11:15	0	95	15	0	5	2	0	0	3	0	3	0	0	123
11:30	1	79	20	0	1	1	0	0	2	0	2	0	0	106
11:45	0	106	13	0	4	1	0	0	2	0	0	0	0	126
TOTAL	6	3,124	548	5	69	45	0	2	98	0	79	0	0	3,976

AM PEAK HOUR	7:15 AM
AM PEAK VOLUME	924

PM	SOUTHBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	0	116	20	0	1	1	0	0	1	0	2	0	0	141
12:15	0	111	16	3	2	4	0	0	3	0	0	0	0	139
12:30	0	92	20	0	8	1	0	0	2	0	3	0	0	126
12:45	0	95	20	0	3	3	0	0	3	0	2	0	0	126
13:00	0	123	35	0	0	0	0	0	0	0	2	0	0	160
13:15	0	114	30	0	6	1	0	0	2	0	1	0	0	154
13:30	0	131	26	1	1	2	0	0	2	0	2	0	0	165
13:45	0	152	17	0	1	0	0	0	3	0	2	0	0	175
14:00	0	118	27	3	4	1	0	0	7	0	2	0	0	162
14:15	0	141	24	0	2	2	0	1	5	0	1	0	0	176
14:30	0	133	28	0	5	0	0	0	2	0	1	0	0	169
14:45	0	181	38	0	3	0	0	0	2	0	1	0	0	225
15:00	1	140	35	0	3	0	0	0	4	0	1	0	0	184
15:15	0	127	41	0	2	1	0	0	4	0	0	0	0	175
15:30	0	158	33	0	4	0	0	0	4	0	0	0	0	199
15:45	0	161	41	0	1	0	0	0	4	0	0	0	0	207
16:00	0	143	39	0	6	0	0	0	4	0	0	0	0	192
16:15	3	169	42	0	2	0	0	0	0	0	0	0	0	216
16:30	0	150	38	0	2	0	0	0	2	0	0	0	0	192
16:45	1	180	39	0	4	0	0	0	1	0	0	0	0	225
17:00	1	149	34	0	4	0	0	0	1	0	0	0	0	189
17:15	1	170	39	1	5	0	0	0	3	0	0	0	0	219
17:30	0	181	30	0	5	0	0	0	2	0	0	0	0	218
17:45	1	184	33	0	3	0	0	0	2	0	1	0	0	224
18:00	0	160	47	0	2	0	0	0	1	0	0	0	0	210
18:15	0	146	28	0	0	5	0	0	2	0	0	0	0	181
18:30	0	188	30	0	0	1	0	0	0	0	0	0	0	219
18:45	1	139	26	0	2	0	0	0	1	0	0	0	0	169
19:00	0	116	18	0	4	1	0	0	1	0	0	0	0	140
19:15	2	138	27	0	2	1	0	0	3	0	0	0	0	173
19:30	0	117	20	0	1	0	0	0	0	0	0	0	0	138
19:45	0	112	12	0	1	2	0	0	3	0	0	0	0	130
20:00	0	94	14	0	2	0	0	0	2	0	0	0	0	112
20:15	0	127	18	0	0	1	0	0	0	0	0	0	0	146
20:30	1	105	10	0	2	2	0	0	2	0	0	0	0	122
20:45	0	93	9	0	0	0	0	0	0	0	0	0	0	102
21:00	0	85	15	0	0	1	0	0	1	0	0	0	0	102
21:15	1	83	12	0	0	0	0	0	1	0	0	0	0	97
21:30	0	90	11	0	0	1	0	0	2	0	0	0	0	104
21:45	0	70	9	0	0	0	0	0	1	0	0	0	0	80
22:00	0	71	12	0	1	0	0	0	1	0	0	0	0	85
22:15	0	65	10	0	0	0	0	0	1	0	0	0	0	76
22:30	0	58	6	0	1	0	0	0	0	0	0	0	0	65
22:45	0	49	10	0	0	1	0	0	3	0	0	0	0	63
23:00	0	49	8	0	1	0	0	0	0	0	0	0	0	58
23:15	0	40	6	0	1	0	0	0	3	0	0	0	0	50
23:30	0	37	6	0	0	0	0	0	2	0	0	0	0	45
23:45	0	36	3	0	0	0	0	0	2	0	0	0	0	41
TOTAL	13	5,687	1,112	8	97	32	0	1	95	0	21	0	0	7,066

PM PEAK HOUR	5:15 PM
PM PEAK VOLUME	871

CLASS 1	Class 1 — Motorcycles	**CLASS 8**	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	**CLASS 9**	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	**CLASS 10**	6 or More Axles, Single Trailer
CLASS 4	Buses	**CLASS 11**	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	**CLASS 12**	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	**CLASS 13**	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	19	8,811	1,660	13	166	77	0	3	193	0	100	0	0	11,042
% OF TOTAL	0.2%	79.8%	15.0%	0.1%	1.5%	0.7%	0.0%	0.0%	1.7%	0.0%	0.9%	0.0%	0.0%	100.0%

Class	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**

APPENDIX C – LEVEL OF SERVICE CALCULATIONS

Vistro File: C:\...\Pepper Ave Industrial - Revised May 2022 - HB - Updated.vistro
Report File: C:\...\Existing AM.pdf

Scenario 3 Existing AM
7/15/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Pepper Ave/I-210 WB	Signalized	HCM 6th Edition	NB Left	0.673	31.1	C
2	Pepper Ave/I-210 EB	Signalized	HCM 6th Edition	SB Left	0.488	18.6	B
3	Pepper Avenue/North Driveway	Signalized	HCM 6th Edition	SB Thru	0.286	2.2	A
4	Pepper Ave/Auto Driveway	Two-way stop	HCM 6th Edition	SB Thru	0.011	0.0	A
5	Pepper Ave/Truck Driveway	Two-way stop	HCM 6th Edition	SB Thru	0.011	0.0	A
6	Pepper Ave/Winchester Dr-Terrace Rd	Signalized	HCM 6th Edition	SB Left	0.518	11.5	B
7	Pepper Ave/Baseline Rd	Signalized	HCM 6th Edition	WB Left	0.491	27.2	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Pepper Ave/I-210 WB

Control Type:	Signalized	Delay (sec / veh):	31.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.673

Intersection Setup

Name	Pepper Ave			Pepper Ave						I-210 WB		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	310.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	750.0	100.0	100.0
No. of Lanes in Exit Pocket	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	100.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes						Yes		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave						I-210 WB		
Base Volume Input [veh/h]	425	269	0	0	249	235	0	0	0	414	6	79
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	59	0	0	0	0	0	20
Total Hourly Volume [veh/h]	425	269	0	0	249	176	0	0	0	414	6	59
Peak Hour Factor	0.942	0.942	1.000	1.000	0.818	0.818	1.000	1.000	1.000	0.862	0.862	0.862
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	113	71	0	0	76	54	0	0	0	120	2	17
Total Analysis Volume [veh/h]	451	286	0	0	304	215	0	0	0	480	7	68
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Split	Split	Split
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	39	50	0	0	11	0	0	0	0	0	40	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	3	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		L	C
C, Cycle Length [s]	90	90	90	90		90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00
g_i, Effective Green Time [s]	25	58	30	30		26	26
g / C, Green / Cycle	0.27	0.64	0.33	0.33		0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.25	0.08	0.14	0.16		0.27	0.05
s, saturation flow rate [veh/h]	1810	3618	1900	1636		1810	1638
c, Capacity [veh/h]	496	2321	635	547		528	478
d1, Uniform Delay [s]	31.57	6.27	23.12	23.72		30.73	23.66
k, delay calibration	0.19	0.50	0.50	0.50		0.21	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	10.91	0.11	1.95	2.94		11.21	0.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.12	0.41	0.47		0.91	0.16
d, Delay for Lane Group [s/veh]	42.47	6.38	25.06	26.66		41.93	23.81
Lane Group LOS	D	A	C	C		D	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	10.27	0.87	4.27	4.48		11.04	1.15
50th-Percentile Queue Length [ft/ln]	256.68	21.79	106.76	111.90		275.89	28.75
95th-Percentile Queue Length [veh/ln]	15.52	1.57	7.66	7.95		16.48	2.07
95th-Percentile Queue Length [ft/ln]	388.05	39.22	191.49	198.64		412.09	51.76

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.47	6.38	0.00	0.00	25.30	26.66	0.00	0.00	0.00	41.93	23.81	23.81
Movement LOS	D	A			C	C				D	C	C
d_A, Approach Delay [s/veh]	28.47			25.86			0.00			39.48		
Approach LOS	C			C			A			D		
d_I, Intersection Delay [s/veh]	31.10											
Intersection LOS	C											
Intersection V/C	0.673											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.139	2.219
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1044	178	0	822
d_b, Bicycle Delay [s]	10.27	37.36	45.00	15.61
l_b,int, Bicycle LOS Score for Intersection	2.168	2.036	4.132	2.508
Bicycle LOS	B	B	D	B

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Pepper Ave/I-210 EB

Control Type:	Signalized	Delay (sec / veh):	18.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.488

Intersection Setup

Name	Pepper Ave			Pepper Ave			I-210 EB					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	310.0	100.0	100.0	750.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			I-210 EB					
Base Volume Input [veh/h]	0	564	260	65	567	0	134	0	407	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	65	0	0	0	0	0	102	0	0	0
Total Hourly Volume [veh/h]	0	564	195	65	567	0	134	0	305	0	0	0
Peak Hour Factor	1.000	0.905	0.905	0.898	0.898	1.000	0.917	0.917	0.917	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	156	54	18	158	0	37	0	83	0	0	0
Total Analysis Volume [veh/h]	0	623	215	72	631	0	146	0	333	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Permi	Permi	Protec	Permi	Permi	Split	Split	Split	Permi	Permi	Permi
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	32	0	33	65	0	0	35	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	
C, Cycle Length [s]	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	62	62	6	71	23	23	
g / C, Green / Cycle	0.62	0.62	0.06	0.71	0.23	0.23	
(v / s)_i Volume / Saturation Flow Rate	0.22	0.24	0.04	0.17	0.08	0.21	
s, saturation flow rate [veh/h]	1900	1734	1810	3618	1810	1615	
c, Capacity [veh/h]	1174	1071	113	2569	416	371	
d1, Uniform Delay [s]	9.38	9.64	45.78	5.09	32.25	37.35	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.21	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.85	1.07	5.85	0.23	0.50	13.46	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.36	0.39	0.64	0.25	0.35	0.90	
d, Delay for Lane Group [s/veh]	10.22	10.71	51.63	5.32	32.76	50.81	
Lane Group LOS	B	B	D	A	C	D	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	4.05	4.20	1.87	1.80	2.93	8.96	
50th-Percentile Queue Length [ft/ln]	101.35	105.05	46.78	44.89	73.14	224.05	
95th-Percentile Queue Length [veh/ln]	7.30	7.56	3.37	3.23	5.27	13.87	
95th-Percentile Queue Length [ft/ln]	182.43	189.09	84.20	80.81	131.66	346.79	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	10.38	10.71	51.63	5.32	0.00	32.76	50.81	50.81	0.00	0.00	0.00
Movement LOS		B	B	D	A		C	D	D			
d_A, Approach Delay [s/veh]	10.47			10.06			45.31			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	18.59											
Intersection LOS	B											
Intersection V/C	0.488											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	690.19	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	41.41	41.41
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.344	1.773
Crosswalk LOS	F	F	B	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	580	1240	640	0
d_b, Bicycle Delay [s]	25.21	7.22	23.12	50.00
l_b,int, Bicycle LOS Score for Intersection	2.305	2.140	2.518	4.132
Bicycle LOS	B	B	B	D

Sequence

Ring 1	-	2	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Pepper Avenue/North Driveway

Control Type:	Signalized	Delay (sec / veh):	2.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.286

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	824	0	0	974	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	824	0	0	974	0	0	0	0	0	0	0
Peak Hour Factor	0.900	0.905	0.900	0.900	0.898	0.900	0.900	0.900	0.900	0.900	0.900	0.900
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	228	0	0	271	0	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	910	0	0	1085	0	0	0	0	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Split [s]	10	69	0	20	79	0	10	28	0	13	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	10	0	0	20	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	132	132	132	132	132	132	132	132	132	132
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	114	114	0	114	114	0	0	0	0
g / C, Green / Cycle	0.00	0.86	0.86	0.00	0.86	0.86	0.00	0.00	0.00	0.00
(v / s)_i Volume / Saturation Flow Rate	0.00	0.24	0.24	0.00	0.29	0.29	0.00	0.00	0.00	0.00
s, saturation flow rate [veh/h]	1810	1900	1900	1810	1900	1900	1810	1900	1810	1900
c, Capacity [veh/h]	0	1638	1638	1	1639	1639	0	1	0	2
d1, Uniform Delay [s]	0.00	1.65	1.65	0.00	1.75	1.75	0.00	0.00	0.00	0.00
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.42	0.42	0.00	0.54	0.54	0.00	0.00	0.00	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.28	0.28	0.00	0.33	0.33	0.00	0.00	0.00	0.00
d, Delay for Lane Group [s/veh]	0.00	2.07	2.07	0.00	2.29	2.29	0.00	0.00	0.00	0.00
Lane Group LOS	A	A	A	A	A	A	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.00	1.07	1.07	0.00	1.35	1.35	0.00	0.00	0.00	0.00
50th-Percentile Queue Length [ft/ln]	0.00	26.66	26.66	0.00	33.81	33.81	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [veh/ln]	0.00	1.92	1.92	0.00	2.43	2.43	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	47.99	47.99	0.00	60.87	60.87	0.00	0.00	0.00	0.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	2.07	2.07	0.00	2.29	2.29	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	2.07			2.29			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.19											
Intersection LOS	A											
Intersection V/C	0.286											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	57.31	57.31	57.31	57.31
l_p,int, Pedestrian LOS Score for Intersection	2.903	2.903	1.960	2.151
Crosswalk LOS	C	C	A	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	985	1136	364	409
d_b, Bicycle Delay [s]	17.00	12.31	44.18	41.76
l_b,int, Bicycle LOS Score for Intersection	2.310	2.455	1.560	1.560
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Pepper Ave/Auto Driveway

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Pepper Ave					
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Pepper Ave					
Base Volume Input [veh/h]	824	0	0	974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	824	0	0	974	0	0
Peak Hour Factor	0.9050	0.9000	1.0000	0.8980	1.0000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	228	0	0	271	0	0
Total Analysis Volume [veh/h]	910	0	0	1085	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	11.45
Movement LOS	A	A		A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		11.45	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Pepper Ave/Truck Driveway

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Pepper Ave		Pepper Ave		S Project Driveway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Pepper Ave		Pepper Ave		S Project Driveway	
Base Volume Input [veh/h]	824	0	0	974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	824	0	0	974	0	0
Peak Hour Factor	0.9050	0.9000	0.9000	0.8980	1.0000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	228	0	0	271	0	0
Total Analysis Volume [veh/h]	910	0	0	1085	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	9.76	0.00	0.00	11.45
Movement LOS	A	A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		11.45	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Pepper Ave/Winchester Dr-Terrace Rd

Control Type:	Signalized	Delay (sec / veh):	11.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.518

Intersection Setup

Name	Pepper Ave			Pepper Ave			Winchester Dr			Terrace Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			Winchester Dr			Terrace Rd		
Base Volume Input [veh/h]	112	725	0	7	910	76	80	2	80	8	1	10
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	19	0	0	20	0	0	3
Total Hourly Volume [veh/h]	112	725	0	7	910	57	80	2	60	8	1	7
Peak Hour Factor	0.847	0.847	0.847	0.905	0.905	0.905	0.565	0.565	0.565	0.633	0.633	0.633
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	33	214	0	2	251	16	35	1	27	3	0	3
Total Analysis Volume [veh/h]	132	856	0	8	1006	63	142	4	106	13	2	11
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	22	0	13	25	0	0	25	0	0	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	39	39	1	33	33	11	11
g / C, Green / Cycle	0.10	0.64	0.64	0.02	0.56	0.56	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.07	0.23	0.23	0.00	0.28	0.28	0.16	0.02
s, saturation flow rate [veh/h]	1810	1900	1900	1810	1900	1859	1574	1537
c, Capacity [veh/h]	188	1221	1221	29	1054	1031	395	384
d1, Uniform Delay [s]	25.99	4.94	4.94	29.19	8.31	8.32	23.12	19.90
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.72	0.79	0.79	5.24	1.78	1.83	1.71	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.35	0.35	0.28	0.51	0.51	0.64	0.07
d, Delay for Lane Group [s/veh]	30.71	5.74	5.74	34.43	10.09	10.14	24.84	19.98
Lane Group LOS	C	A	A	C	B	B	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.87	1.57	1.57	0.14	3.42	3.36	3.42	0.29
50th-Percentile Queue Length [ft/ln]	46.64	39.35	39.35	3.62	85.45	84.05	85.57	7.34
95th-Percentile Queue Length [veh/ln]	3.36	2.83	2.83	0.26	6.15	6.05	6.16	0.53
95th-Percentile Queue Length [ft/ln]	83.95	70.84	70.84	6.51	153.8	151.2	154.03	13.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.71	5.74	5.74	34.43	10.12	10.14	24.84	24.84	24.84	19.98	19.98	19.98
Movement LOS	C	A	A	C	B	B	C	C	C	B	B	B
d_A, Approach Delay [s/veh]	9.07			10.30			24.84			19.98		
Approach LOS	A			B			C			B		
d_I, Intersection Delay [s/veh]	11.45											
Intersection LOS	B											
Intersection V/C	0.518											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	2.923	3.126	1.922	1.716
Crosswalk LOS	C	C	A	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	633	733	733	733
d_b, Bicycle Delay [s]	14.01	12.03	12.03	12.03
l_b,int, Bicycle LOS Score for Intersection	2.375	2.464	2.008	1.607
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Pepper Ave/Baseline Rd

Control Type:	Signalized	Delay (sec / veh):	27.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.491

Intersection Setup

Name	Pepper Ave			Pepper Ave			Baseline Rd			Baseline Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	40.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	85.00	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			Baseline Rd			Baseline Rd		
Base Volume Input [veh/h]	160	577	56	155	694	116	99	237	133	69	326	206
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	14	0	0	29	0	0	33	0	0	52
Total Hourly Volume [veh/h]	160	577	42	155	694	87	99	237	100	69	326	154
Peak Hour Factor	0.870	0.870	0.870	0.858	0.858	0.858	0.882	0.882	0.882	0.927	0.927	0.927
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	46	166	12	45	202	25	28	67	28	19	88	42
Total Analysis Volume [veh/h]	184	663	48	181	809	101	112	269	113	74	352	166
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtP	Permi	Permi	ProtP	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	44	0	11	44	0	16	30	0	35	49	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	82	72	72	82	72	72	9	23	23	7	20	20
g / C, Green / Cycle	0.68	0.60	0.60	0.68	0.60	0.60	0.08	0.19	0.19	0.05	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.25	0.19	0.19	0.21	0.24	0.24	0.06	0.10	0.11	0.04	0.14	0.15
s, saturation flow rate [veh/h]	739	1900	1854	854	1900	1825	1810	1900	1714	1810	1900	1698
c, Capacity [veh/h]	506	1134	1106	594	1134	1089	138	361	325	100	320	286
d1, Uniform Delay [s]	8.50	12.04	12.05	7.66	12.92	12.92	54.56	43.97	44.09	55.86	48.39	48.52
k, delay calibration	0.47	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.90	0.74	0.76	1.32	1.10	1.14	10.66	1.31	1.53	10.35	6.19	7.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.32	0.32	0.30	0.41	0.41	0.81	0.55	0.56	0.74	0.85	0.86
d, Delay for Lane Group [s/veh]	10.40	12.78	12.80	8.98	14.01	14.07	65.22	45.28	45.63	66.21	54.58	56.06
Lane Group LOS	B	B	B	A	B	B	E	D	D	E	D	E
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.72	4.61	4.51	1.64	6.40	6.17	3.69	5.37	5.00	2.46	8.27	7.63
50th-Percentile Queue Length [ft/ln]	42.99	115.2	112.7	41.09	159.9	154.3	92.17	134.3	124.9	61.53	206.8	190.8
95th-Percentile Queue Length [veh/ln]	3.10	8.13	7.99	2.96	10.55	10.25	6.64	9.18	8.66	4.43	12.99	12.17
95th-Percentile Queue Length [ft/ln]	77.38	203.2	199.7	73.97	263.6	256.2	165.9	229.4	216.5	110.7	324.7	304.1

Movement, Approach, & Intersection Results

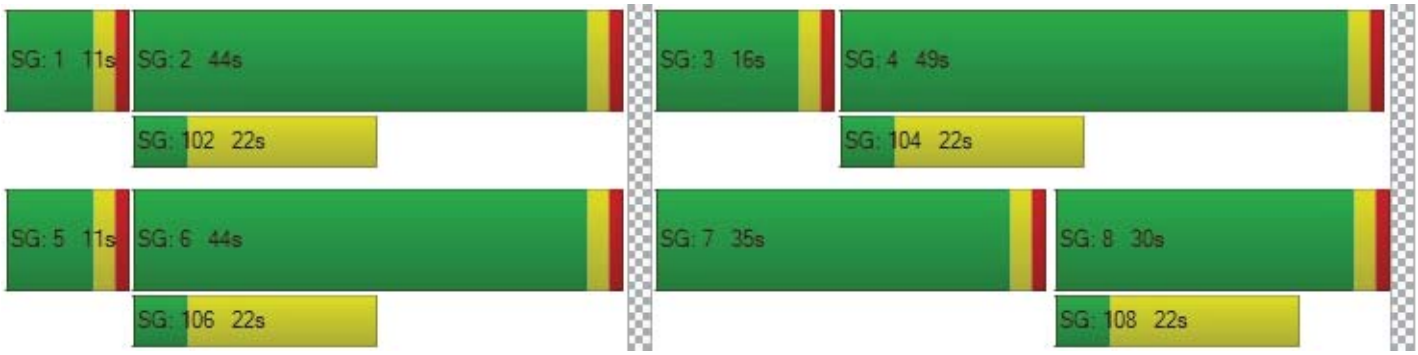
d_M, Delay for Movement [s/veh]	10.40	12.79	12.80	8.98	14.04	14.07	65.22	45.37	45.63	66.21	54.92	56.06
Movement LOS	B	B	B	A	B	B	E	D	D	E	D	E
d_A, Approach Delay [s/veh]	12.30			13.20			49.93			56.65		
Approach LOS	B			B			D			E		
d_I, Intersection Delay [s/veh]	27.22											
Intersection LOS	C											
Intersection V/C	0.491											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersection	2.902	2.974	2.833	2.848
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	683	683	450	767
d_b, Bicycle Delay [s]	26.00	26.00	36.04	22.82
l_b,int, Bicycle LOS Score for Intersection	2.310	2.484	1.994	2.091
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Vistro File: C:\...\Pepper Ave Industrial - Revised May 2022 - HB - Updated.vistro
Report File: C:\...\Existing PM.pdf

Scenario 4 Existing PM
7/15/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Pepper Ave/I-210 WB	Signalized	HCM 6th Edition	WB Left	0.519	24.0	C
2	Pepper Ave/I-210 EB	Signalized	HCM 6th Edition	SB Left	0.514	19.2	B
3	Pepper Avenue/North Driveway	Signalized	HCM 6th Edition	NB Thru	0.270	2.2	A
4	Pepper Ave/Auto Driveway	Two-way stop	HCM 6th Edition	SB Thru	0.010	0.0	A
5	Pepper Ave/Truck Driveway	Two-way stop	HCM 6th Edition	SB Thru	0.010	0.0	A
6	Pepper Ave/Winchester Dr-Terrace Rd	Signalized	HCM 6th Edition	SB Left	0.306	5.0	A
7	Pepper Ave/Baseline Rd	Signalized	HCM 6th Edition	WB Left	0.460	30.7	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Pepper Ave/I-210 WB

Control Type:	Signalized	Delay (sec / veh):	24.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.519

Intersection Setup

Name	Pepper Ave			Pepper Ave						I-210 WB		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	310.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	750.0	100.0	100.0
No. of Lanes in Exit Pocket	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	100.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes						Yes		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave						I-210 WB		
Base Volume Input [veh/h]	369	441	0	0	244	139	0	0	0	294	5	72
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	35	0	0	0	0	0	18
Total Hourly Volume [veh/h]	369	441	0	0	244	104	0	0	0	294	5	54
Peak Hour Factor	0.939	0.939	1.000	1.000	0.878	0.878	1.000	1.000	1.000	0.874	0.874	0.874
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	98	117	0	0	69	30	0	0	0	84	1	15
Total Analysis Volume [veh/h]	393	470	0	0	278	118	0	0	0	336	6	62
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Split	Split	Split
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	40	51	0	0	11	0	0	0	0	0	39	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	3	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		L	C
C, Cycle Length [s]	90	90	90	90		90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00
g_i, Effective Green Time [s]	22	65	40	40		19	19
g / C, Green / Cycle	0.24	0.72	0.45	0.45		0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.22	0.13	0.10	0.12		0.19	0.04
s, saturation flow rate [veh/h]	1810	3618	1900	1707		1810	1637
c, Capacity [veh/h]	439	2608	846	760		385	348
d1, Uniform Delay [s]	33.00	4.03	15.47	15.67		34.27	29.11
k, delay calibration	0.12	0.50	0.50	0.50		0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	7.31	0.15	0.65	0.83		6.30	0.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.90	0.18	0.23	0.26		0.87	0.20
d, Delay for Lane Group [s/veh]	40.31	4.18	16.12	16.51		40.57	29.39
Lane Group LOS	D	A	B	B		D	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	8.61	0.97	2.43	2.48		7.42	1.19
50th-Percentile Queue Length [ft/ln]	215.32	24.37	60.68	62.02		185.57	29.67
95th-Percentile Queue Length [veh/ln]	13.43	1.75	4.37	4.47		11.89	2.14
95th-Percentile Queue Length [ft/ln]	335.65	43.86	109.22	111.63		297.27	53.41

Movement, Approach, & Intersection Results

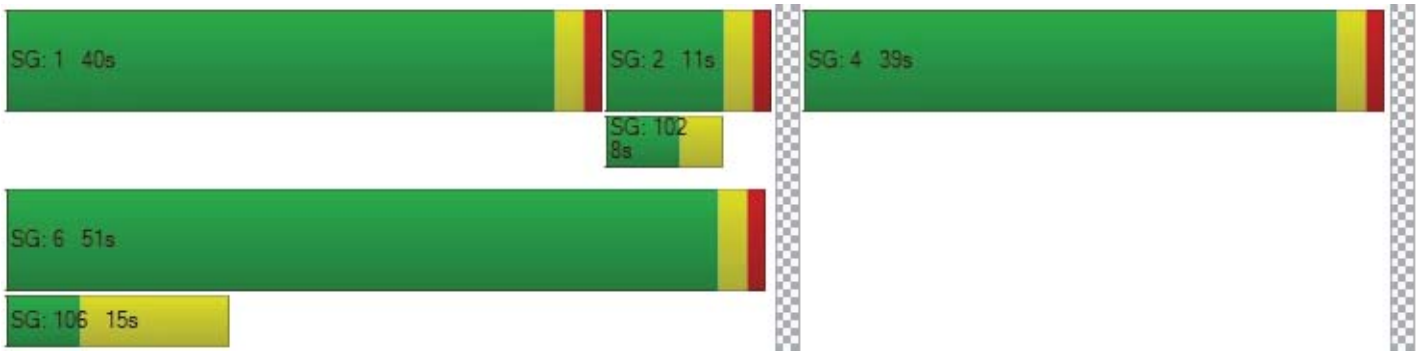
d_M, Delay for Movement [s/veh]	40.31	4.18	0.00	0.00	16.23	16.51	0.00	0.00	0.00	40.57	29.39	29.39
Movement LOS	D	A			B	B				D	C	C
d_A, Approach Delay [s/veh]	20.63			16.31			0.00			38.68		
Approach LOS	C			B			A			D		
d_I, Intersection Delay [s/veh]	23.99											
Intersection LOS	C											
Intersection V/C	0.519											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.963	2.150
Crosswalk LOS	F	F	A	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1067	178	0	800
d_b, Bicycle Delay [s]	9.80	37.36	45.00	16.20
l_b,int, Bicycle LOS Score for Intersection	2.272	1.915	4.132	2.256
Bicycle LOS	B	A	D	B

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Pepper Ave/I-210 EB

Control Type:	Signalized	Delay (sec / veh):	19.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.514

Intersection Setup

Name	Pepper Ave			Pepper Ave			I-210 EB					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	310.0	100.0	100.0	750.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			I-210 EB					
Base Volume Input [veh/h]	0	586	303	57	482	0	224	4	410	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	76	0	0	0	0	0	103	0	0	0
Total Hourly Volume [veh/h]	0	586	227	57	482	0	224	4	307	0	0	0
Peak Hour Factor	1.000	0.866	0.866	0.947	0.947	1.000	0.926	0.926	0.926	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	169	66	15	127	0	60	1	83	0	0	0
Total Analysis Volume [veh/h]	0	677	262	60	509	0	242	4	332	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Permi	Permi	Protec	Permi	Permi	Split	Split	Split	Permi	Permi	Permi
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	28	0	32	60	0	0	40	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	
C, Cycle Length [s]	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	62	62	6	71	23	23	
g / C, Green / Cycle	0.62	0.62	0.06	0.71	0.23	0.23	
(v / s)_i Volume / Saturation Flow Rate	0.25	0.27	0.03	0.14	0.13	0.21	
s, saturation flow rate [veh/h]	1900	1721	1810	3618	1810	1618	
c, Capacity [veh/h]	1172	1062	106	2552	424	379	
d1, Uniform Delay [s]	9.75	10.09	45.83	5.05	33.83	36.98	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.14	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.02	1.34	4.67	0.18	1.21	9.04	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.40	0.44	0.57	0.20	0.57	0.89	
d, Delay for Lane Group [s/veh]	10.77	11.43	50.50	5.22	35.03	46.02	
Lane Group LOS	B	B	D	A	D	D	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	4.73	4.94	1.54	1.43	5.15	8.56	
50th-Percentile Queue Length [ft/ln]	118.20	123.61	38.52	35.71	128.78	213.90	
95th-Percentile Queue Length [veh/ln]	8.29	8.59	2.77	2.57	8.87	13.35	
95th-Percentile Queue Length [ft/ln]	207.35	214.78	69.33	64.27	221.84	333.82	

Movement, Approach, & Intersection Results

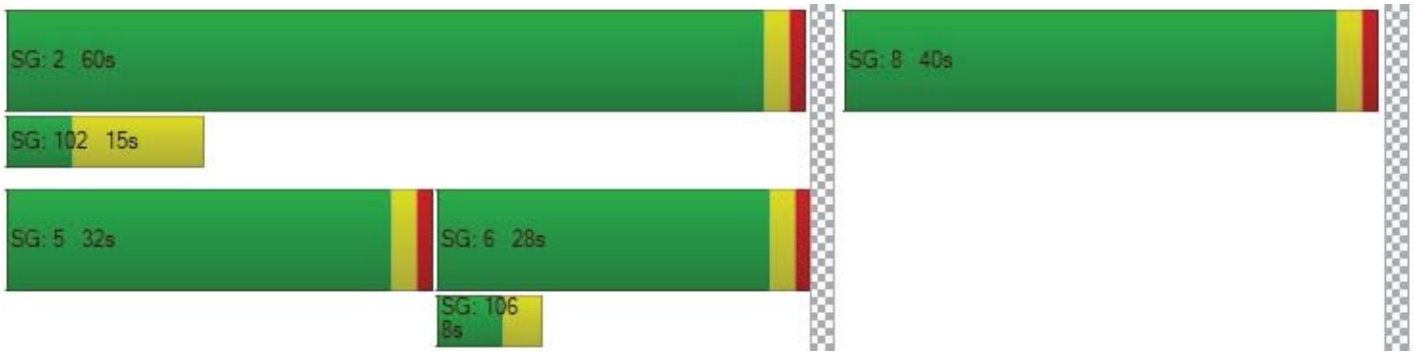
d_M, Delay for Movement [s/veh]	0.00	10.97	11.43	50.50	5.22	0.00	35.03	46.02	46.02	0.00	0.00	0.00
Movement LOS		B	B	D	A		D	D	D			
d_A, Approach Delay [s/veh]	11.10			10.00			41.42			0.00		
Approach LOS	B			A			D			A		
d_I, Intersection Delay [s/veh]	19.20											
Intersection LOS	B											
Intersection V/C	0.514											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	690.19	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	41.41	41.41
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.388	1.822
Crosswalk LOS	F	F	B	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	1140	740	0
d_b, Bicycle Delay [s]	28.13	9.25	19.85	50.00
l_b,int, Bicycle LOS Score for Intersection	2.397	2.029	2.683	4.132
Bicycle LOS	B	B	B	D

Sequence

Ring 1	-	2	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Pepper Avenue/North Driveway

Control Type:	Signalized	Delay (sec / veh):	2.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.270

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	889	0	0	892	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	889	0	0	892	0	0	0	0	0	0	0
Peak Hour Factor	0.900	0.866	0.900	0.900	0.947	0.900	0.900	0.900	0.900	0.900	0.900	0.900
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	257	0	0	235	0	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	1027	0	0	942	0	0	0	0	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Split [s]	10	82	0	10	82	0	10	28	0	10	28	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	10	0	0	20	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	132	132	132	132	132	132	132	132	132	132
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	114	114	0	114	114	0	0	0	0
g / C, Green / Cycle	0.00	0.86	0.86	0.00	0.86	0.86	0.00	0.00	0.00	0.00
(v / s)_i Volume / Saturation Flow Rate	0.00	0.27	0.27	0.00	0.25	0.25	0.00	0.00	0.00	0.00
s, saturation flow rate [veh/h]	1810	1900	1900	1810	1900	1900	1810	1900	1810	1900
c, Capacity [veh/h]	0	1639	1639	0	1639	1639	0	1	0	1
d1, Uniform Delay [s]	0.00	1.71	1.71	0.00	1.66	1.66	0.00	0.00	0.00	0.00
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.50	0.50	0.00	0.44	0.44	0.00	0.00	0.00	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.31	0.31	0.00	0.29	0.29	0.00	0.00	0.00	0.00
d, Delay for Lane Group [s/veh]	0.00	2.21	2.21	0.00	2.10	2.10	0.00	0.00	0.00	0.00
Lane Group LOS	A	A	A	A	A	A	A	A	A	A
Critical Lane Group	No	Yes	No	No	No	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.00	1.25	1.25	0.00	1.11	1.11	0.00	0.00	0.00	0.00
50th-Percentile Queue Length [ft/ln]	0.00	31.28	31.28	0.00	27.81	27.81	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [veh/ln]	0.00	2.25	2.25	0.00	2.00	2.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	56.31	56.31	0.00	50.05	50.05	0.00	0.00	0.00	0.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	2.21	2.21	0.00	2.10	2.10	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	2.21			2.10			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.16											
Intersection LOS	A											
Intersection V/C	0.270											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	57.31	57.31	57.31	57.31
l_p,int, Pedestrian LOS Score for Intersection	2.895	2.895	1.960	2.151
Crosswalk LOS	C	C	A	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1182	1182	364	364
d_b, Bicycle Delay [s]	11.05	11.05	44.18	44.18
l_b,int, Bicycle LOS Score for Intersection	2.407	2.337	1.560	1.560
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Pepper Ave/Auto Driveway

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	Pepper Ave					
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Pepper Ave					
Base Volume Input [veh/h]	889	0	0	974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	889	0	0	974	0	0
Peak Hour Factor	0.8660	0.9000	1.0000	0.9470	1.0000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	257	0	0	257	0	0
Total Analysis Volume [veh/h]	1027	0	0	1029	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	12.04
Movement LOS	A	A		A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		12.04	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Pepper Ave/Truck Driveway

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	Pepper Ave		Pepper Ave		S Project Driveway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Pepper Ave		Pepper Ave		S Project Driveway	
Base Volume Input [veh/h]	889	0	0	974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	889	0	0	974	0	0
Peak Hour Factor	0.8660	0.9000	0.9000	0.9470	1.0000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	257	0	0	257	0	0
Total Analysis Volume [veh/h]	1027	0	0	1029	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	10.26	0.00	0.00	12.04
Movement LOS	A	A	B	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		12.04	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Pepper Ave/Winchester Dr-Terrace Rd

Control Type:	Signalized	Delay (sec / veh):	5.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.306

Intersection Setup

Name	Pepper Ave			Pepper Ave			Winchester Dr			Terrace Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			Winchester Dr			Terrace Rd		
Base Volume Input [veh/h]	22	820	2	7	795	91	58	2	10	4	1	5
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	23	0	0	3	0	0	1
Total Hourly Volume [veh/h]	22	820	1	7	795	68	58	2	7	4	1	4
Peak Hour Factor	0.884	0.884	0.884	0.951	0.951	0.951	0.841	0.841	0.841	0.625	0.625	0.625
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	6	232	0	2	209	18	17	1	2	2	0	2
Total Analysis Volume [veh/h]	25	928	1	7	836	72	69	2	8	6	2	6
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	23	0	12	25	0	0	25	0	0	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	2	45	45	1	43	43	5	5
g / C, Green / Cycle	0.04	0.75	0.75	0.01	0.72	0.72	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.01	0.24	0.24	0.00	0.24	0.24	0.05	0.01
s, saturation flow rate [veh/h]	1810	1900	1899	1810	1900	1845	1597	1767
c, Capacity [veh/h]	73	1422	1422	25	1372	1332	252	241
d1, Uniform Delay [s]	28.01	2.51	2.51	29.28	3.06	3.06	26.12	25.17
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.75	0.61	0.61	5.84	0.66	0.68	0.70	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.34	0.33	0.33	0.28	0.34	0.34	0.31	0.06
d, Delay for Lane Group [s/veh]	30.76	3.12	3.13	35.12	3.72	3.74	26.82	25.27
Lane Group LOS	C	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.37	0.61	0.61	0.13	0.89	0.87	1.09	0.18
50th-Percentile Queue Length [ft/ln]	9.27	15.27	15.27	3.28	22.16	21.74	27.18	4.60
95th-Percentile Queue Length [veh/ln]	0.67	1.10	1.10	0.24	1.60	1.57	1.96	0.33
95th-Percentile Queue Length [ft/ln]	16.69	27.49	27.48	5.91	39.88	39.13	48.92	8.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.76	3.13	3.13	35.12	3.73	3.74	26.82	26.82	26.82	25.27	25.27	25.27
Movement LOS	C	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	3.85			3.97			26.82			25.27		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	4.98											
Intersection LOS	A											
Intersection V/C	0.306											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	2.819	2.979	1.783	1.708
Crosswalk LOS	C	C	A	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	667	733	733	733
d_b, Bicycle Delay [s]	13.33	12.03	12.03	12.03
l_b,int, Bicycle LOS Score for Intersection	2.347	2.333	1.695	1.584
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Pepper Ave/Baseline Rd

Control Type:	Signalized	Delay (sec / veh):	30.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.460

Intersection Setup

Name	Pepper Ave			Pepper Ave			Baseline Rd			Baseline Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	40.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	85.00	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			Baseline Rd			Baseline Rd		
Base Volume Input [veh/h]	108	586	99	130	568	116	140	415	104	74	369	130
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	25	0	0	29	0	0	26	0	0	33
Total Hourly Volume [veh/h]	108	586	74	130	568	87	140	415	78	74	369	97
Peak Hour Factor	0.884	0.884	0.884	0.882	0.882	0.882	0.857	0.857	0.857	0.939	0.939	0.939
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	31	166	21	37	161	25	41	121	23	20	98	26
Total Analysis Volume [veh/h]	122	663	84	147	644	99	163	484	91	79	393	103
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtP	Permi	Permi	ProtP	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	36	0	12	38	0	20	31	0	41	52	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	79	69	69	79	69	69	13	25	25	7	19	19
g / C, Green / Cycle	0.66	0.58	0.58	0.66	0.58	0.58	0.11	0.21	0.21	0.06	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.15	0.20	0.20	0.18	0.20	0.20	0.09	0.16	0.16	0.04	0.13	0.14
s, saturation flow rate [veh/h]	836	1900	1824	835	1900	1810	1810	1900	1797	1810	1900	1766
c, Capacity [veh/h]	558	1096	1052	557	1097	1045	192	393	372	105	303	281
d1, Uniform Delay [s]	8.39	13.44	13.45	8.57	13.39	13.39	52.71	44.67	44.70	55.65	49.01	49.10
k, delay calibration	0.16	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.29	0.87	0.91	1.16	0.87	0.91	10.05	2.90	3.10	10.18	6.41	7.32
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.22	0.35	0.35	0.26	0.35	0.35	0.85	0.75	0.75	0.75	0.84	0.85
d, Delay for Lane Group [s/veh]	8.68	14.32	14.36	9.73	14.26	14.31	62.76	47.57	47.80	65.83	55.42	56.42
Lane Group LOS	A	B	B	A	B	B	E	D	D	E	E	E
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.06	5.28	5.09	1.42	5.26	5.03	5.28	8.38	7.97	2.62	7.83	7.45
50th-Percentile Queue Length [ft/ln]	26.49	131.9	127.2	35.50	131.4	125.7	131.9	209.5	199.3	65.44	195.8	186.1
95th-Percentile Queue Length [veh/ln]	1.91	9.05	8.79	2.56	9.02	8.71	9.04	13.13	12.61	4.71	12.42	11.92
95th-Percentile Queue Length [ft/ln]	47.67	226.1	219.7	63.91	225.4	217.7	226.0	328.1	315.1	117.7	310.5	298.0

Movement, Approach, & Intersection Results

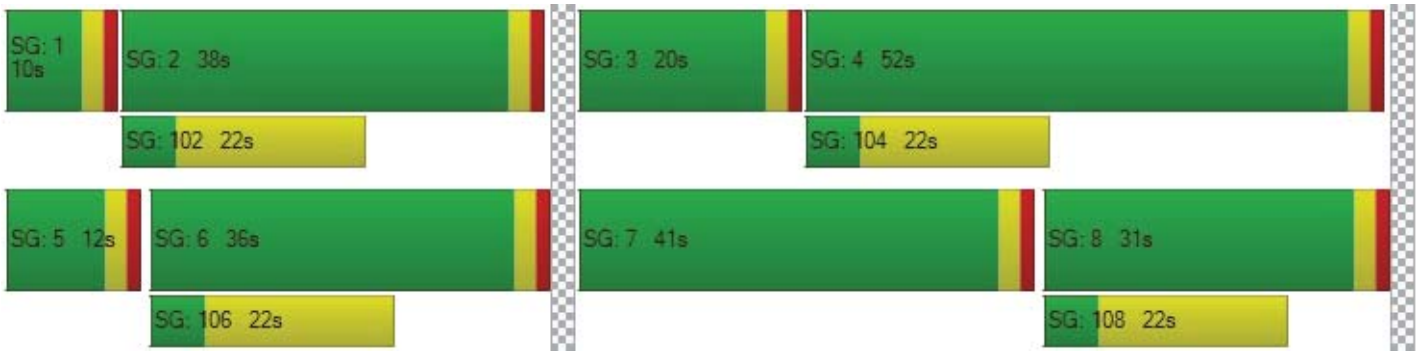
d_M, Delay for Movement [s/veh]	8.68	14.34	14.36	9.73	14.28	14.31	62.76	47.66	47.80	65.83	55.77	56.42
Movement LOS	A	B	B	A	B	B	E	D	D	E	E	E
d_A, Approach Delay [s/veh]	13.54			13.53			51.01			57.27		
Approach LOS	B			B			D			E		
d_I, Intersection Delay [s/veh]	30.72											
Intersection LOS	C											
Intersection V/C	0.460											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersection	2.858	2.907	2.821	2.837
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	550	583	467	817
d_b, Bicycle Delay [s]	31.54	30.10	35.27	21.00
l_b,int, Bicycle LOS Score for Intersection	2.297	2.318	2.190	2.061
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Vistro File: C:\...\Pepper Ave Industrial - Revised May 2022 - HB - Updated.vistro
Report File: C:\...\OY AM.pdf

Scenario 19 OY AM
7/15/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Pepper Ave/I-210 WB	Signalized	HCM 6th Edition	NB Left	0.701	32.1	C
2	Pepper Ave/I-210 EB	Signalized	HCM 6th Edition	SB Left	0.508	18.6	B
3	Pepper Avenue/North Driveway	Signalized	HCM 6th Edition	SB Thru	0.297	2.2	A
4	Pepper Ave/Auto Driveway	Two-way stop	HCM 6th Edition	SB Thru	0.011	0.0	A
5	Pepper Ave/Truck Driveway	Two-way stop	HCM 6th Edition	SB Thru	0.011	0.0	A
6	Pepper Ave/Winchester Dr-Terrace Rd	Signalized	HCM 6th Edition	SB Left	0.528	11.5	B
7	Pepper Ave/Baseline Rd	Signalized	HCM 6th Edition	WB Left	0.512	27.6	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Pepper Ave/I-210 WB

Control Type:	Signalized	Delay (sec / veh):	32.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.701

Intersection Setup

Name	Pepper Ave			Pepper Ave						I-210 WB		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	310.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	750.0	100.0	100.0
No. of Lanes in Exit Pocket	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	100.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes						Yes		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave						I-210 WB		
Base Volume Input [veh/h]	425	269	0	0	249	235	0	0	0	414	6	79
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.040	1.040	1.000	1.000	1.040	1.040	1.000	1.000	1.000	1.040	1.040	1.040
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	61	0	0	0	0	0	21
Total Hourly Volume [veh/h]	442	280	0	0	259	183	0	0	0	431	6	61
Peak Hour Factor	0.942	0.942	1.000	1.000	0.818	0.818	1.000	1.000	1.000	0.862	0.862	0.862
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	117	74	0	0	79	56	0	0	0	125	2	18
Total Analysis Volume [veh/h]	469	297	0	0	317	224	0	0	0	500	7	71
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Split	Split	Split
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	39	50	0	0	11	0	0	0	0	0	40	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	3	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		L	C
C, Cycle Length [s]	90	90	90	90		90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00
g_i, Effective Green Time [s]	26	57	28	28		27	27
g / C, Green / Cycle	0.28	0.63	0.31	0.31		0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.26	0.08	0.14	0.17		0.28	0.05
s, saturation flow rate [veh/h]	1810	3618	1900	1635		1810	1637
c, Capacity [veh/h]	514	2282	596	513		547	495
d1, Uniform Delay [s]	31.14	6.68	24.72	25.41		30.26	22.99
k, delay calibration	0.21	0.50	0.50	0.50		0.23	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	11.83	0.12	2.49	3.85		12.14	0.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.13	0.45	0.53		0.91	0.16
d, Delay for Lane Group [s/veh]	42.97	6.80	27.21	29.26		42.40	23.14
Lane Group LOS	D	A	C	C		D	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	10.77	0.95	4.70	4.95		11.59	1.18
50th-Percentile Queue Length [ft/ln]	269.23	23.81	117.38	123.76		289.81	29.39
95th-Percentile Queue Length [veh/ln]	16.15	1.71	8.25	8.60		17.18	2.12
95th-Percentile Queue Length [ft/ln]	403.78	42.87	206.22	214.98		429.41	52.90

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.97	6.80	0.00	0.00	27.51	29.26	0.00	0.00	0.00	42.40	23.14	23.14
Movement LOS	D	A			C	C				D	C	C
d_A, Approach Delay [s/veh]	28.94			28.24			0.00			39.80		
Approach LOS	C			C			A			D		
d_I, Intersection Delay [s/veh]	32.07											
Intersection LOS	C											
Intersection V/C	0.701											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.167	2.231
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1044	178	0	822
d_b, Bicycle Delay [s]	10.27	37.36	45.00	15.61
l_b,int, Bicycle LOS Score for Intersection	2.192	2.056	4.132	2.548
Bicycle LOS	B	B	D	B

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Pepper Ave/I-210 EB

Control Type:	Signalized	Delay (sec / veh):	18.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.508

Intersection Setup

Name	Pepper Ave			Pepper Ave			I-210 EB					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	310.0	100.0	100.0	750.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			I-210 EB					
Base Volume Input [veh/h]	0	564	260	65	567	0	134	0	407	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.000	1.040	1.040	1.040	1.040	1.000	1.040	1.040	1.040	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	68	0	0	0	0	0	106	0	0	0
Total Hourly Volume [veh/h]	0	587	202	68	590	0	139	0	317	0	0	0
Peak Hour Factor	1.000	0.905	0.905	0.898	0.898	1.000	0.917	0.917	0.917	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	162	56	19	164	0	38	0	86	0	0	0
Total Analysis Volume [veh/h]	0	649	223	76	657	0	152	0	346	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Permi	Permi	Protec	Permi	Permi	Split	Split	Split	Permi	Permi	Permi
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	29	0	33	62	0	0	38	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	
C, Cycle Length [s]	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	61	61	6	70	24	24	
g / C, Green / Cycle	0.61	0.61	0.06	0.70	0.24	0.24	
(v / s)_i Volume / Saturation Flow Rate	0.23	0.25	0.04	0.18	0.08	0.21	
s, saturation flow rate [veh/h]	1900	1735	1810	3618	1810	1615	
c, Capacity [veh/h]	1155	1054	115	2537	432	386	
d1, Uniform Delay [s]	9.98	10.27	45.79	5.45	31.63	36.87	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.18	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.94	1.20	6.39	0.25	0.49	11.85	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.38	0.41	0.66	0.26	0.35	0.90	
d, Delay for Lane Group [s/veh]	10.92	11.47	52.18	5.70	32.12	48.72	
Lane Group LOS	B	B	D	A	C	D	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	4.43	4.60	1.99	1.99	3.01	9.11	
50th-Percentile Queue Length [ft/ln]	110.83	115.06	49.67	49.67	75.34	227.79	
95th-Percentile Queue Length [veh/ln]	7.89	8.12	3.58	3.58	5.42	14.06	
95th-Percentile Queue Length [ft/ln]	197.16	203.02	89.41	89.41	135.62	351.55	

Movement, Approach, & Intersection Results

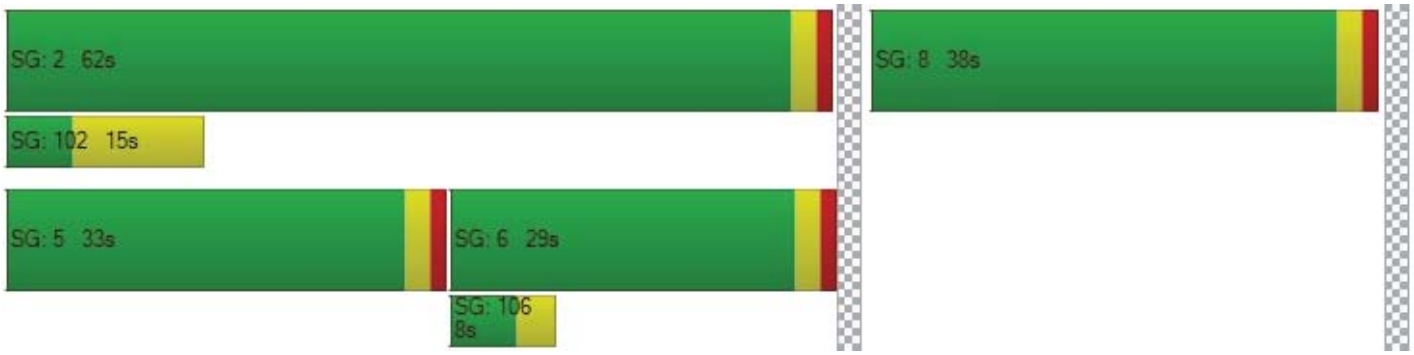
d_M, Delay for Movement [s/veh]	0.00	11.10	11.47	52.18	5.70	0.00	32.12	48.72	48.72	0.00	0.00	0.00
Movement LOS		B	B	D	A		C	D	D			
d_A, Approach Delay [s/veh]	11.19			10.52			43.66			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	18.65											
Intersection LOS	B											
Intersection V/C	0.508											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	690.19	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	41.41	41.41
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.359	1.788
Crosswalk LOS	F	F	B	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	520	1180	700	0
d_b, Bicycle Delay [s]	27.38	8.41	21.13	50.00
l_b,int, Bicycle LOS Score for Intersection	2.335	2.164	2.556	4.132
Bicycle LOS	B	B	B	D

Sequence

Ring 1	-	2	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Pepper Avenue/North Driveway

Control Type:	Signalized	Delay (sec / veh):	2.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.297

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	824	0	0	974	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.040	1.000	1.000	1.040	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	857	0	0	1013	0	0	0	0	0	0	0
Peak Hour Factor	0.900	0.905	0.900	0.900	0.898	0.900	0.900	0.900	0.900	0.900	0.900	0.900
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	237	0	0	282	0	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	947	0	0	1128	0	0	0	0	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Split [s]	10	69	0	23	82	0	10	28	0	10	28	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	10	0	0	20	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	132	132	132	132	132	132	132	132	132	132
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	114	114	0	114	114	0	0	0	0
g / C, Green / Cycle	0.00	0.86	0.86	0.00	0.86	0.86	0.00	0.00	0.00	0.00
(v / s)_i Volume / Saturation Flow Rate	0.00	0.25	0.25	0.00	0.30	0.30	0.00	0.00	0.00	0.00
s, saturation flow rate [veh/h]	1810	1900	1900	1810	1900	1900	1810	1900	1810	1900
c, Capacity [veh/h]	0	1638	1638	1	1639	1639	0	1	0	1
d1, Uniform Delay [s]	0.00	1.67	1.67	0.00	1.77	1.77	0.00	0.00	0.00	0.00
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.45	0.45	0.00	0.58	0.58	0.00	0.00	0.00	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.29	0.29	0.00	0.34	0.34	0.00	0.00	0.00	0.00
d, Delay for Lane Group [s/veh]	0.00	2.12	2.12	0.00	2.35	2.35	0.00	0.00	0.00	0.00
Lane Group LOS	A	A	A	A	A	A	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.00	1.12	1.12	0.00	1.43	1.43	0.00	0.00	0.00	0.00
50th-Percentile Queue Length [ft/ln]	0.00	28.12	28.12	0.00	35.71	35.71	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [veh/ln]	0.00	2.02	2.02	0.00	2.57	2.57	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	50.61	50.61	0.00	64.28	64.28	0.00	0.00	0.00	0.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	2.12	2.12	0.00	2.35	2.35	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	2.12			2.35			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.24											
Intersection LOS	A											
Intersection V/C	0.297											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	57.31	57.31	57.31	57.31
l_p,int, Pedestrian LOS Score for Intersection	2.926	2.926	1.960	2.151
Crosswalk LOS	C	C	A	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	985	1182	364	364
d_b, Bicycle Delay [s]	17.00	11.05	44.18	44.18
l_b,int, Bicycle LOS Score for Intersection	2.341	2.490	1.560	1.560
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Pepper Ave/Auto Driveway

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Pepper Ave					
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Pepper Ave					
Base Volume Input [veh/h]	824	0	0	974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0400	1.0000	1.0000	1.0400	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	857	0	0	1013	0	0
Peak Hour Factor	0.9050	0.9000	1.0000	0.8980	1.0000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	237	0	0	282	0	0
Total Analysis Volume [veh/h]	947	0	0	1128	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	11.63
Movement LOS	A	A		A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		11.63	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Pepper Ave/Truck Driveway

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Pepper Ave		Pepper Ave		S Project Driveway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Pepper Ave		Pepper Ave		S Project Driveway	
Base Volume Input [veh/h]	824	0	0	974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	2.00	0.00
Growth Factor	1.0400	1.0000	1.0000	1.0400	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	857	0	0	1013	0	0
Peak Hour Factor	0.9050	0.9000	0.9000	0.8980	1.0000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	237	0	0	282	0	0
Total Analysis Volume [veh/h]	947	0	0	1128	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	9.91	0.00	0.00	11.63
Movement LOS	A	A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		11.63	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Pepper Ave/Winchester Dr-Terrace Rd

Control Type:	Signalized	Delay (sec / veh):	11.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.528

Intersection Setup

Name	Pepper Ave			Pepper Ave			Winchester Dr			Terrace Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			Winchester Dr			Terrace Rd		
Base Volume Input [veh/h]	112	725	0	7	910	76	80	2	80	8	1	10
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.040	1.000	1.000	1.040	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	19	0	0	20	0	0	3
Total Hourly Volume [veh/h]	112	754	0	7	946	57	80	2	60	8	1	7
Peak Hour Factor	0.847	0.847	0.847	0.905	0.905	0.905	0.565	0.565	0.565	0.633	0.633	0.633
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	33	223	0	2	261	16	35	1	27	3	0	3
Total Analysis Volume [veh/h]	132	890	0	8	1045	63	142	4	106	13	2	11
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	22	0	13	25	0	0	25	0	0	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	39	39	1	33	33	11	11
g / C, Green / Cycle	0.10	0.64	0.64	0.02	0.56	0.56	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.07	0.23	0.23	0.00	0.29	0.29	0.16	0.02
s, saturation flow rate [veh/h]	1810	1900	1900	1810	1900	1860	1574	1537
c, Capacity [veh/h]	188	1221	1221	29	1054	1032	395	384
d1, Uniform Delay [s]	25.99	5.00	5.00	29.19	8.43	8.44	23.12	19.90
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.72	0.84	0.84	5.24	1.92	1.96	1.71	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.36	0.36	0.28	0.53	0.53	0.64	0.07
d, Delay for Lane Group [s/veh]	30.71	5.84	5.84	34.43	10.35	10.40	24.84	19.98
Lane Group LOS	C	A	A	C	B	B	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.87	1.66	1.66	0.14	3.61	3.55	3.42	0.29
50th-Percentile Queue Length [ft/ln]	46.64	41.47	41.47	3.62	90.13	88.75	85.57	7.34
95th-Percentile Queue Length [veh/ln]	3.36	2.99	2.99	0.26	6.49	6.39	6.16	0.53
95th-Percentile Queue Length [ft/ln]	83.95	74.64	74.64	6.51	162.2	159.7	154.03	13.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.71	5.84	5.84	34.43	10.37	10.40	24.84	24.84	24.84	19.98	19.98	19.98
Movement LOS	C	A	A	C	B	B	C	C	C	B	B	B
d_A, Approach Delay [s/veh]	9.05			10.55			24.84			19.98		
Approach LOS	A			B			C			B		
d_I, Intersection Delay [s/veh]	11.51											
Intersection LOS	B											
Intersection V/C	0.528											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	2.944	3.147	1.922	1.716
Crosswalk LOS	C	C	A	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	633	733	733	733
d_b, Bicycle Delay [s]	14.01	12.03	12.03	12.03
l_b,int, Bicycle LOS Score for Intersection	2.403	2.496	2.008	1.607
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Pepper Ave/Baseline Rd

Control Type:	Signalized	Delay (sec / veh):	27.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.512

Intersection Setup

Name	Pepper Ave			Pepper Ave			Baseline Rd			Baseline Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	40.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	85.00	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			Baseline Rd			Baseline Rd		
Base Volume Input [veh/h]	160	577	56	155	694	116	99	237	133	69	326	206
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	15	0	0	30	0	0	35	0	0	54
Total Hourly Volume [veh/h]	166	600	43	161	722	91	103	246	103	72	339	160
Peak Hour Factor	0.870	0.870	0.870	0.858	0.858	0.858	0.882	0.882	0.882	0.927	0.927	0.927
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	48	172	12	47	210	27	29	70	29	19	91	43
Total Analysis Volume [veh/h]	191	690	49	188	841	106	117	279	117	78	366	173
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtP	Permi	Permi	ProtP	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	45	0	10	44	0	13	25	0	40	52	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	81	71	71	81	71	71	9	24	24	7	21	21
g / C, Green / Cycle	0.67	0.59	0.59	0.67	0.59	0.59	0.08	0.20	0.20	0.06	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.26	0.20	0.20	0.22	0.25	0.25	0.06	0.11	0.11	0.04	0.15	0.15
s, saturation flow rate [veh/h]	722	1900	1855	838	1900	1824	1810	1900	1714	1810	1900	1698
c, Capacity [veh/h]	485	1118	1091	574	1117	1073	143	372	336	104	332	296
d1, Uniform Delay [s]	9.20	12.65	12.66	8.16	13.65	13.66	54.44	43.52	43.64	55.70	48.03	48.15
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.39	0.81	0.83	1.52	1.22	1.27	10.98	1.29	1.50	10.27	6.20	7.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.39	0.33	0.33	0.33	0.43	0.43	0.82	0.55	0.57	0.75	0.85	0.86
d, Delay for Lane Group [s/veh]	11.59	13.46	13.48	9.68	14.86	14.93	65.41	44.81	45.14	65.97	54.23	55.63
Lane Group LOS	B	B	B	A	B	B	E	D	D	E	D	E
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.90	4.97	4.86	1.79	6.94	6.70	3.86	5.55	5.15	2.59	8.60	7.92
50th-Percentile Queue Length [ft/ln]	47.39	124.2	121.5	44.71	173.6	167.5	96.46	138.7	128.7	64.70	215.1	197.9
95th-Percentile Queue Length [veh/ln]	3.41	8.63	8.48	3.22	11.27	10.95	6.94	9.42	8.87	4.66	13.42	12.53
95th-Percentile Queue Length [ft/ln]	85.31	215.7	212.0	80.48	281.6	273.7	173.6	235.3	221.8	116.4	335.3	313.2

Movement, Approach, & Intersection Results

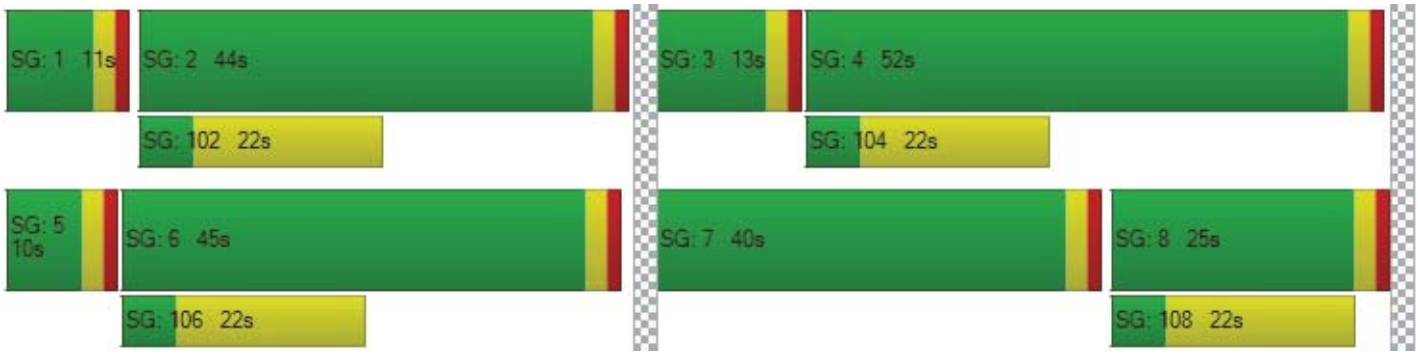
d_M, Delay for Movement [s/veh]	11.59	13.47	13.48	9.68	14.89	14.93	65.41	44.89	45.14	65.97	54.55	55.63
Movement LOS	B	B	B	A	B	B	E	D	D	E	D	E
d_A, Approach Delay [s/veh]	13.08			14.03			49.63			56.30		
Approach LOS	B			B			D			E		
d_I, Intersection Delay [s/veh]	27.63											
Intersection LOS	C											
Intersection V/C	0.512											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersection	2.926	3.001	2.852	2.866
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	700	683	367	817
d_b, Bicycle Delay [s]	25.35	26.00	40.02	21.00
l_b,int, Bicycle LOS Score for Intersection	2.339	2.521	2.012	2.113
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Vistro File: C:\...\Pepper Ave Industrial - Revised May 2022 - HB - Updated.vistro
Report File: C:\...\OY PM.pdf

Scenario 20 OY PM
7/15/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Pepper Ave/I-210 WB	Signalized	HCM 6th Edition	WB Left	0.541	24.2	C
2	Pepper Ave/I-210 EB	Signalized	HCM 6th Edition	SB Left	0.533	21.1	C
3	Pepper Avenue/North Driveway	Signalized	HCM 6th Edition	NB Thru	0.281	1.9	A
4	Pepper Ave/Auto Driveway	Two-way stop	HCM 6th Edition	SB Thru	0.011	0.0	A
5	Pepper Ave/Truck Driveway	Two-way stop	HCM 6th Edition	SB Thru	0.011	0.0	A
6	Pepper Ave/Winchester Dr-Terrace Rd	Signalized	HCM 6th Edition	SB Left	0.315	5.0	A
7	Pepper Ave/Baseline Rd	Signalized	HCM 6th Edition	WB Left	0.479	31.0	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Pepper Ave/I-210 WB

Control Type:	Signalized	Delay (sec / veh):	24.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.541

Intersection Setup

Name	Pepper Ave			Pepper Ave						I-210 WB		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	310.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	750.0	100.0	100.0
No. of Lanes in Exit Pocket	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	100.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes						Yes		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave						I-210 WB		
Base Volume Input [veh/h]	369	441	0	0	244	139	0	0	0	294	5	72
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.040	1.040	1.000	1.000	1.040	1.040	1.000	1.000	1.000	1.040	1.040	1.040
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	36	0	0	0	0	0	19
Total Hourly Volume [veh/h]	384	459	0	0	254	109	0	0	0	306	5	56
Peak Hour Factor	0.939	0.939	1.000	1.000	0.878	0.878	1.000	1.000	1.000	0.874	0.874	0.874
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	102	122	0	0	72	31	0	0	0	88	1	16
Total Analysis Volume [veh/h]	409	489	0	0	289	124	0	0	0	350	6	64
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Split	Split	Split
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	41	52	0	0	11	0	0	0	0	0	38	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	3	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		L	C
C, Cycle Length [s]	90	90	90	90		90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00
g_i, Effective Green Time [s]	23	64	39	39		20	20
g / C, Green / Cycle	0.25	0.71	0.43	0.43		0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.23	0.14	0.11	0.12		0.19	0.04
s, saturation flow rate [veh/h]	1810	3618	1900	1705		1810	1636
c, Capacity [veh/h]	455	2580	814	731		398	360
d1, Uniform Delay [s]	32.59	4.28	16.48	16.72		33.93	28.59
k, delay calibration	0.12	0.50	0.50	0.50		0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	7.58	0.16	0.75	0.97		6.34	0.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.90	0.19	0.25	0.28		0.88	0.19
d, Delay for Lane Group [s/veh]	40.18	4.44	17.23	17.68		40.28	28.86
Lane Group LOS	D	A	B	B		D	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	8.97	1.08	2.65	2.71		7.72	1.21
50th-Percentile Queue Length [ft/ln]	224.22	26.88	66.24	67.79		192.94	30.21
95th-Percentile Queue Length [veh/ln]	13.88	1.94	4.77	4.88		12.27	2.18
95th-Percentile Queue Length [ft/ln]	347.01	48.38	119.23	122.02		306.84	54.38

Movement, Approach, & Intersection Results

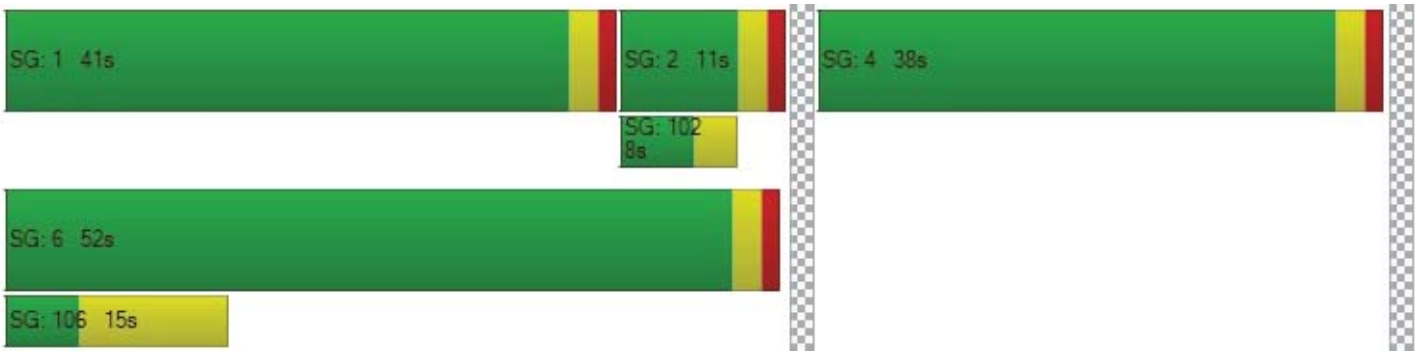
d_M, Delay for Movement [s/veh]	40.18	4.44	0.00	0.00	17.36	17.68	0.00	0.00	0.00	40.28	28.86	28.86
Movement LOS	D	A			B	B				D	C	C
d_A, Approach Delay [s/veh]	20.72			17.46			0.00			38.37		
Approach LOS	C			B			A			D		
d_I, Intersection Delay [s/veh]	24.22											
Intersection LOS	C											
Intersection V/C	0.541											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.986	2.159
Crosswalk LOS	F	F	A	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1089	178	0	778
d_b, Bicycle Delay [s]	9.34	37.36	45.00	16.81
l_b,int, Bicycle LOS Score for Intersection	2.300	1.930	4.132	2.284
Bicycle LOS	B	A	D	B

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Pepper Ave/I-210 EB

Control Type:	Signalized	Delay (sec / veh):	21.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.533

Intersection Setup

Name	Pepper Ave			Pepper Ave			I-210 EB					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	310.0	100.0	100.0	750.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			I-210 EB					
Base Volume Input [veh/h]	0	586	303	57	482	0	224	4	410	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.000	1.040	1.040	1.040	1.040	1.000	1.040	1.040	1.040	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	79	0	0	0	0	0	107	0	0	0
Total Hourly Volume [veh/h]	0	609	236	59	501	0	233	4	319	0	0	0
Peak Hour Factor	1.000	0.866	0.866	0.947	0.947	1.000	0.926	0.926	0.926	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	176	68	16	132	0	63	1	86	0	0	0
Total Analysis Volume [veh/h]	0	703	273	62	529	0	252	4	344	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Permi	Permi	Protec	Permi	Permi	Split	Split	Split	Permi	Permi	Permi
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Split [s]	0	30	0	34	64	0	0	36	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	
C, Cycle Length [s]	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	58	58	6	68	24	24	
g / C, Green / Cycle	0.58	0.58	0.06	0.68	0.24	0.24	
(v / s)_i Volume / Saturation Flow Rate	0.26	0.28	0.03	0.15	0.14	0.22	
s, saturation flow rate [veh/h]	1900	1720	1810	3618	1810	1618	
c, Capacity [veh/h]	1103	998	107	2459	435	389	
d1, Uniform Delay [s]	11.85	12.29	45.81	6.01	33.53	36.77	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.21	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.29	1.71	4.81	0.20	1.23	13.12	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.44	0.49	0.58	0.22	0.58	0.90	
d, Delay for Lane Group [s/veh]	13.14	14.00	50.62	6.21	34.75	49.89	
Lane Group LOS	B	B	D	A	C	D	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	5.69	5.97	1.59	1.72	5.35	9.29	
50th-Percentile Queue Length [ft/ln]	142.27	149.22	39.85	43.00	133.74	232.36	
95th-Percentile Queue Length [veh/ln]	9.60	9.98	2.87	3.10	9.14	14.29	
95th-Percentile Queue Length [ft/ln]	240.08	249.39	71.73	77.39	228.57	357.36	

Movement, Approach, & Intersection Results

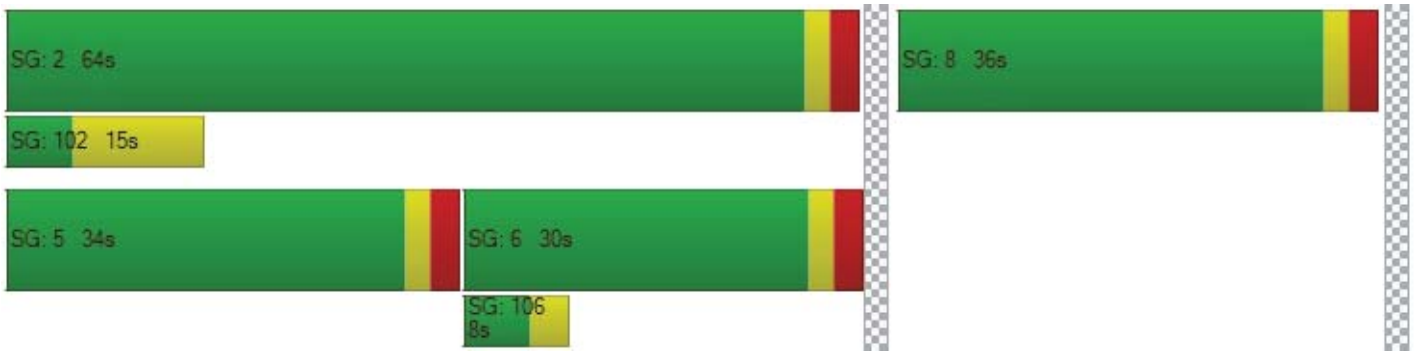
d_M, Delay for Movement [s/veh]	0.00	13.40	14.00	50.62	6.21	0.00	34.75	49.89	49.89	0.00	0.00	0.00
Movement LOS		B	B	D	A		C	D	D			
d_A, Approach Delay [s/veh]	13.57			10.87			43.53			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	21.13											
Intersection LOS	C											
Intersection V/C	0.533											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	690.19	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	41.41	41.41
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.405	1.838
Crosswalk LOS	F	F	B	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	520	1200	640	0
d_b, Bicycle Delay [s]	27.38	8.00	23.12	50.00
I_b,int, Bicycle LOS Score for Intersection	2.430	2.047	2.726	4.132
Bicycle LOS	B	B	B	D

Sequence

Ring 1	-	2	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Pepper Avenue/North Driveway

Control Type:	Signalized	Delay (sec / veh):	1.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.281

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	889	0	0	892	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.040	1.000	1.000	1.040	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	925	0	0	928	0	0	0	0	0	0	0
Peak Hour Factor	0.900	0.866	0.900	0.900	0.947	0.900	0.900	0.900	0.900	0.900	0.900	0.900
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	267	0	0	245	0	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	1068	0	0	980	0	0	0	0	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Split [s]	123	91	0	123	91	0	0	29	0	0	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	20	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	124	124	124	124	124	124	124	124	124	124
L, Total Lost Time per Cycle [s]	0.00	4.00	4.00	0.00	4.00	4.00	0.03	4.00	0.03	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.02	2.00	0.02	2.00
g_i, Effective Green Time [s]	0	108	108	0	108	108	124	0	124	0
g / C, Green / Cycle	0.00	0.87	0.87	0.00	0.87	0.87	1.00	0.00	1.00	0.00
(v / s)_i Volume / Saturation Flow Rate	0.00	0.28	0.28	0.00	0.26	0.26	0.00	0.00	0.00	0.00
s, saturation flow rate [veh/h]	583	1900	1900	537	1900	1900	1810	1900	1810	1900
c, Capacity [veh/h]	58	1652	1652	58	1652	1652	1809	3	1809	3
d1, Uniform Delay [s]	0.00	1.47	1.47	0.00	1.42	1.42	0.00	0.00	0.00	0.00
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.52	0.52	0.00	0.46	0.46	0.00	0.00	0.00	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.32	0.32	0.00	0.30	0.30	0.00	0.00	0.00	0.00
d, Delay for Lane Group [s/veh]	0.00	1.98	1.98	0.00	1.88	1.88	0.00	0.00	0.00	0.00
Lane Group LOS	A	A	A	A	A	A	A	A	A	A
Critical Lane Group	No	Yes	No	No	No	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.00	0.91	0.91	0.00	0.81	0.81	0.00	0.00	0.00	0.00
50th-Percentile Queue Length [ft/ln]	0.00	22.71	22.71	0.00	20.15	20.15	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [veh/ln]	0.00	1.64	1.64	0.00	1.45	1.45	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	40.88	40.88	0.00	36.28	36.28	0.00	0.00	0.00	0.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	1.98	1.98	0.00	1.88	1.88	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	1.98			1.88			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	1.93											
Intersection LOS	A											
Intersection V/C	0.281											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	53.33	53.33	53.33	53.33
l_p,int, Pedestrian LOS Score for Intersection	2.916	2.916	1.957	2.148
Crosswalk LOS	C	C	A	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1403	1403	403	403
d_b, Bicycle Delay [s]	5.52	5.52	39.52	39.52
l_b,int, Bicycle LOS Score for Intersection	2.441	2.368	1.560	1.560
Bicycle LOS	B	B	A	A

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Pepper Ave/Auto Driveway

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Pepper Ave					
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Pepper Ave					
Base Volume Input [veh/h]	889	0	0	974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0400	1.0000	1.0000	1.0400	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	925	0	0	1013	0	0
Peak Hour Factor	0.8660	0.9000	1.0000	0.9470	1.0000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	267	0	0	267	0	0
Total Analysis Volume [veh/h]	1068	0	0	1070	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	12.26
Movement LOS	A	A		A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		12.26	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Pepper Ave/Truck Driveway

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Pepper Ave		Pepper Ave		S Project Driveway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Pepper Ave		Pepper Ave		S Project Driveway	
Base Volume Input [veh/h]	889	0	0	974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	2.00	0.00
Growth Factor	1.0400	1.0000	1.0000	1.0400	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	925	0	0	1013	0	0
Peak Hour Factor	0.8660	0.9000	0.9000	0.9470	1.0000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	267	0	0	267	0	0
Total Analysis Volume [veh/h]	1068	0	0	1070	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	10.45	0.00	0.00	12.26
Movement LOS	A	A	B	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		12.26	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Pepper Ave/Winchester Dr-Terrace Rd

Control Type:	Signalized	Delay (sec / veh):	5.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.315

Intersection Setup

Name	Pepper Ave			Pepper Ave			Winchester Dr			Terrace Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			Winchester Dr			Terrace Rd		
Base Volume Input [veh/h]	22	820	2	7	795	91	58	2	10	4	1	5
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.040	1.000	1.000	1.040	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	23	0	0	3	0	0	1
Total Hourly Volume [veh/h]	22	853	1	7	827	68	58	2	7	4	1	4
Peak Hour Factor	0.884	0.884	0.884	0.951	0.951	0.951	0.841	0.841	0.841	0.625	0.625	0.625
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	6	241	0	2	217	18	17	1	2	2	0	2
Total Analysis Volume [veh/h]	25	965	1	7	870	72	69	2	8	6	2	6
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	15	0	25	30	0	0	25	0	0	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	3	50	50	1	48	48	5	5
g / C, Green / Cycle	0.04	0.77	0.77	0.01	0.74	0.74	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.01	0.25	0.25	0.00	0.25	0.25	0.05	0.01
s, saturation flow rate [veh/h]	1810	1900	1899	1810	1900	1847	1607	1784
c, Capacity [veh/h]	71	1453	1452	25	1405	1366	237	227
d1, Uniform Delay [s]	30.41	2.41	2.41	31.72	2.95	2.95	28.59	27.56
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.92	0.62	0.62	5.70	0.66	0.68	0.82	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.35	0.33	0.33	0.28	0.34	0.34	0.33	0.06
d, Delay for Lane Group [s/veh]	33.33	3.03	3.03	37.42	3.61	3.63	29.41	27.67
Lane Group LOS	C	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.41	0.68	0.68	0.14	0.98	0.96	1.20	0.20
50th-Percentile Queue Length [ft/ln]	10.18	16.96	16.96	3.51	24.43	23.97	30.07	5.09
95th-Percentile Queue Length [veh/ln]	0.73	1.22	1.22	0.25	1.76	1.73	2.17	0.37
95th-Percentile Queue Length [ft/ln]	18.32	30.53	30.53	6.32	43.98	43.15	54.13	9.15

Movement, Approach, & Intersection Results

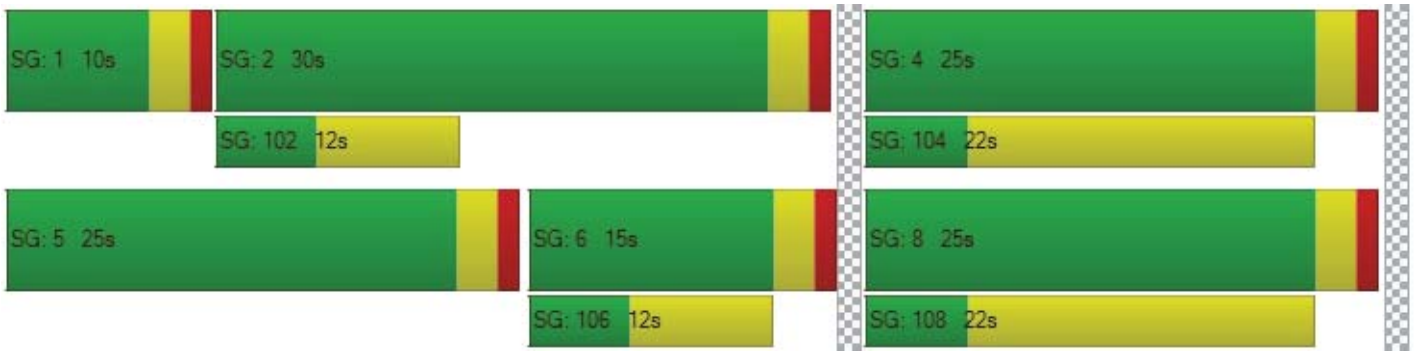
d_M, Delay for Movement [s/veh]	33.33	3.03	3.03	37.42	3.62	3.63	29.41	29.41	29.41	27.67	27.67	27.67
Movement LOS	C	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	3.79			3.87			29.41			27.67		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	4.99											
Intersection LOS	A											
Intersection V/C	0.315											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.12	24.12	24.12	24.12
l_p,int, Pedestrian LOS Score for Intersection	2.844	3.004	1.787	1.712
Crosswalk LOS	C	C	A	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	369	831	677	677
d_b, Bicycle Delay [s]	21.61	11.11	14.22	14.22
l_b,int, Bicycle LOS Score for Intersection	2.378	2.362	1.695	1.584
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Pepper Ave/Baseline Rd

Control Type:	Signalized	Delay (sec / veh):	31.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.479

Intersection Setup

Name	Pepper Ave			Pepper Ave			Baseline Rd			Baseline Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	40.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	85.00	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			Baseline Rd			Baseline Rd		
Base Volume Input [veh/h]	108	586	99	130	568	116	140	415	104	74	369	130
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	26	0	0	30	0	0	27	0	0	34
Total Hourly Volume [veh/h]	112	609	77	135	591	91	146	432	81	77	384	101
Peak Hour Factor	0.884	0.884	0.884	0.882	0.882	0.882	0.857	0.857	0.857	0.939	0.939	0.939
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	32	172	22	38	168	26	43	126	24	21	102	27
Total Analysis Volume [veh/h]	127	689	87	153	670	103	170	504	95	82	409	108
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtP	Permi	Permi	ProtP	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	35	0	10	32	0	21	33	0	42	54	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	78	68	68	78	68	68	13	26	26	7	20	20
g / C, Green / Cycle	0.65	0.57	0.57	0.65	0.57	0.57	0.11	0.22	0.22	0.06	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.15	0.21	0.21	0.19	0.21	0.21	0.09	0.16	0.16	0.05	0.14	0.14
s, saturation flow rate [veh/h]	820	1900	1824	819	1900	1810	1810	1900	1797	1810	1900	1766
c, Capacity [veh/h]	535	1077	1034	535	1078	1026	199	408	386	109	314	292
d1, Uniform Delay [s]	9.04	14.21	14.22	9.20	14.20	14.20	52.46	44.12	44.14	55.51	48.64	48.73
k, delay calibration	0.19	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.39	0.97	1.01	1.34	0.97	1.02	9.96	2.83	3.02	10.00	6.40	7.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.24	0.37	0.37	0.29	0.37	0.37	0.85	0.75	0.75	0.75	0.85	0.86
d, Delay for Lane Group [s/veh]	9.43	15.18	15.23	10.54	15.16	15.22	62.42	46.95	47.16	65.52	55.05	56.00
Lane Group LOS	A	B	B	B	B	B	E	D	D	E	E	E
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.16	5.71	5.51	1.55	5.71	5.46	5.49	8.69	8.26	2.71	8.16	7.74
50th-Percentile Queue Length [ft/ln]	29.07	142.8	137.7	38.79	142.6	136.5	137.2	217.3	206.5	67.72	203.9	193.4
95th-Percentile Queue Length [veh/ln]	2.09	9.64	9.36	2.79	9.62	9.29	9.33	13.53	12.98	4.88	12.84	12.30
95th-Percentile Queue Length [ft/ln]	52.33	240.8	233.9	69.82	240.6	232.3	233.3	338.2	324.4	121.9	321.0	307.4

Movement, Approach, & Intersection Results

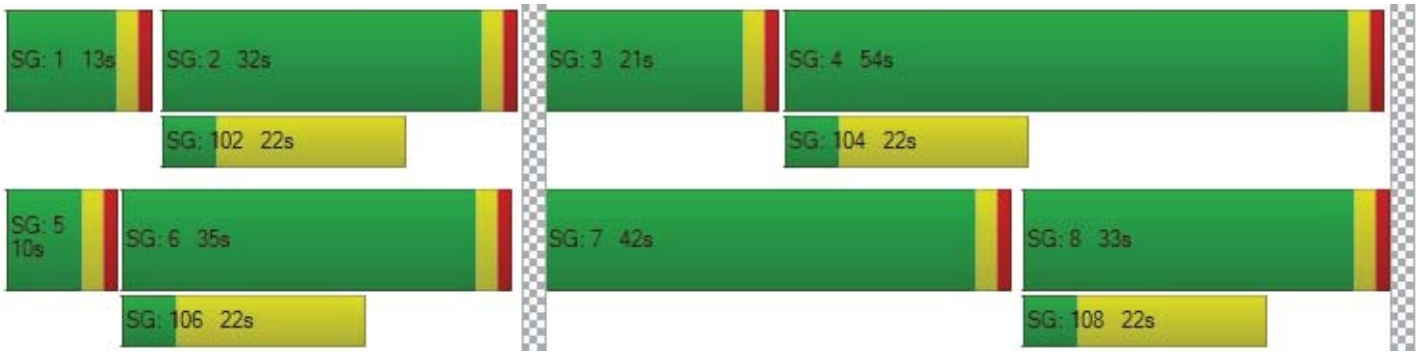
d_M, Delay for Movement [s/veh]	9.43	15.20	15.23	10.54	15.19	15.22	62.42	47.03	47.16	65.52	55.38	56.00
Movement LOS	A	B	B	B	B	B	E	D	D	E	E	E
d_A, Approach Delay [s/veh]	14.39			14.42			50.45			56.88		
Approach LOS	B			B			D			E		
d_I, Intersection Delay [s/veh]	31.03											
Intersection LOS	C											
Intersection V/C	0.479											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersection	2.879	2.930	2.840	2.855
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	533	483	500	850
d_b, Bicycle Delay [s]	32.27	34.50	33.75	19.84
l_b,int, Bicycle LOS Score for Intersection	2.326	2.348	2.216	2.082
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Vistro File: C:\...\Pepper Ave Industrial - Revised May 2022 - HB - Updated.vistro
Report File: C:\...\GP AM.pdf

Scenario 25 GP AM
7/15/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Pepper Ave/I-210 WB	Signalized	HCM 6th Edition	SB Right	0.859	47.6	D
2	Pepper Ave/I-210 EB	Signalized	HCM 6th Edition	SB Left	0.659	21.2	C
3	Pepper Avenue/North Driveway	Signalized	HCM 6th Edition	SB Left	0.516	21.3	C
4	Pepper Ave/Auto Driveway	Two-way stop	HCM 6th Edition	SB Thru	0.013	0.0	A
5	Pepper Ave/Truck Driveway	Two-way stop	HCM 6th Edition	SB Thru	0.013	0.0	A
6	Pepper Ave/Winchester Dr-Terrace Rd	Signalized	HCM 6th Edition	SB Left	0.485	8.4	A
7	Pepper Ave/Baseline Rd	Signalized	HCM 6th Edition	WB Left	0.571	29.4	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Pepper Ave/I-210 WB

Control Type:	Signalized	Delay (sec / veh):	47.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.859

Intersection Setup

Name	Pepper Ave			Pepper Ave						I-210 WB		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	310.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	750.0	100.0	100.0
No. of Lanes in Exit Pocket	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	100.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes						Yes		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave						I-210 WB		
Base Volume Input [veh/h]	425	269	0	0	249	235	0	0	0	414	6	79
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.240	1.240	1.000	1.000	1.240	1.240	1.000	1.000	1.000	1.240	1.240	1.240
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	87	42	0	0	50	0	0	0	0	110	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	73	0	0	0	0	0	25
Total Hourly Volume [veh/h]	614	376	0	0	359	218	0	0	0	623	7	73
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	154	94	0	0	90	55	0	0	0	156	2	18
Total Analysis Volume [veh/h]	614	376	0	0	359	218	0	0	0	623	7	73
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Split	Split	Split
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	34	55	0	0	21	0	0	0	0	0	35	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	3	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		L	C
C, Cycle Length [s]	90	90	90	90		90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00
g_i, Effective Green Time [s]	31	52	18	18		32	32
g / C, Green / Cycle	0.34	0.58	0.20	0.20		0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.34	0.10	0.15	0.18		0.34	0.05
s, saturation flow rate [veh/h]	1810	3618	1900	1643		1810	1636
c, Capacity [veh/h]	623	2090	380	329		643	582
d1, Uniform Delay [s]	29.27	8.95	33.96	34.93		28.50	19.65
k, delay calibration	0.46	0.50	0.50	0.50		0.45	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	31.29	0.19	13.30	26.53		26.83	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.99	0.18	0.76	0.88		0.97	0.14
d, Delay for Lane Group [s/veh]	60.56	9.14	47.26	61.46		55.33	19.76
Lane Group LOS	E	A	D	E		E	B
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	17.33	1.52	6.99	8.17		16.93	1.09
50th-Percentile Queue Length [ft/ln]	433.36	38.04	174.86	204.33		423.28	27.29
95th-Percentile Queue Length [veh/ln]	24.16	2.74	11.33	12.86		23.68	1.96
95th-Percentile Queue Length [ft/ln]	604.07	68.47	283.29	321.54		591.99	49.12

Movement, Approach, & Intersection Results

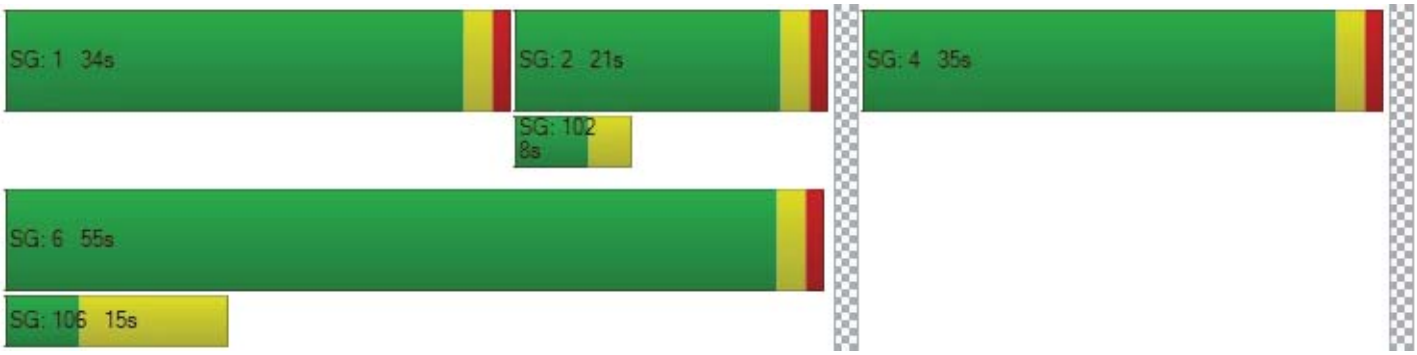
d_M, Delay for Movement [s/veh]	60.56	9.14	0.00	0.00	50.05	61.46	0.00	0.00	0.00	55.33	19.76	19.76
Movement LOS	E	A			D	E				E	B	B
d_A, Approach Delay [s/veh]	41.03			54.36			0.00			51.28		
Approach LOS	D			D			A			D		
d_I, Intersection Delay [s/veh]	47.59											
Intersection LOS	D											
Intersection V/C	0.859											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.314	2.293
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1156	400	0	711
d_b, Bicycle Delay [s]	8.02	28.80	45.00	18.69
l_b,int, Bicycle LOS Score for Intersection	2.376	2.096	4.132	2.761
Bicycle LOS	B	B	D	C

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Pepper Ave/I-210 EB

Control Type:	Signalized	Delay (sec / veh):	21.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.659

Intersection Setup

Name	Pepper Ave			Pepper Ave			I-210 EB					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	310.0	100.0	100.0	750.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			I-210 EB					
Base Volume Input [veh/h]	0	564	260	65	567	0	134	0	407	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.000	1.240	1.240	1.240	1.240	1.000	1.240	1.240	1.240	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	129	89	0	160	0	0	0	109	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	103	0	0	0	0	0	154	0	0	0
Total Hourly Volume [veh/h]	0	828	308	81	863	0	166	0	460	0	0	0
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	207	77	20	216	0	42	0	115	0	0	0
Total Analysis Volume [veh/h]	0	828	308	81	863	0	166	0	460	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Permi	Permi	Protec	Permi	Permi	Split	Split	Split	Permi	Permi	Permi
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	12	0	34	46	0	0	54	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	
C, Cycle Length [s]	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	54	54	6	63	31	31	
g / C, Green / Cycle	0.54	0.54	0.06	0.63	0.31	0.31	
(v / s)_i Volume / Saturation Flow Rate	0.30	0.33	0.04	0.24	0.09	0.28	
s, saturation flow rate [veh/h]	1900	1725	1810	3618	1810	1615	
c, Capacity [veh/h]	1015	921	117	2274	563	503	
d1, Uniform Delay [s]	15.48	16.18	45.80	9.05	26.11	33.16	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.15	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	2.23	3.09	7.16	0.48	0.29	9.07	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.56	0.62	0.69	0.38	0.29	0.92	
d, Delay for Lane Group [s/veh]	17.70	19.26	52.96	9.53	26.40	42.23	
Lane Group LOS	B	B	D	A	C	D	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	8.20	8.71	2.14	3.98	2.93	11.43	
50th-Percentile Queue Length [ft/ln]	205.03	217.65	53.39	99.40	73.30	285.64	
95th-Percentile Queue Length [veh/ln]	12.90	13.55	3.84	7.16	5.28	16.97	
95th-Percentile Queue Length [ft/ln]	322.44	338.63	96.10	178.92	131.93	424.23	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	18.19	19.26	52.96	9.53	0.00	26.40	42.23	42.23	0.00	0.00	0.00
Movement LOS		B	B	D	A		C	D	D			
d_A, Approach Delay [s/veh]	18.48			13.26			38.04			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	21.19											
Intersection LOS	C											
Intersection V/C	0.659											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	690.19	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	41.41	41.41
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.504	1.910
Crosswalk LOS	F	F	B	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	180	860	1020	0
d_b, Bicycle Delay [s]	41.41	16.25	12.01	50.00
l_b,int, Bicycle LOS Score for Intersection	2.582	2.338	2.847	4.132
Bicycle LOS	B	B	C	D

Sequence

Ring 1	-	2	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Pepper Avenue/North Driveway

Control Type:	Signalized	Delay (sec / veh):	21.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.516

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	824	0	0	974	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.240	1.000	1.000	1.240	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	52	0	30	163	20	69	92	0	26	21	0	63
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	-72	72	71	-71	0	0	0	0	71	0	70
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	26	0	0	17	0	0	7	0	0	33
Total Hourly Volume [veh/h]	52	950	76	234	1157	52	92	0	19	92	0	100
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	13	238	19	59	289	13	23	0	5	23	0	25
Total Analysis Volume [veh/h]	52	950	76	234	1157	52	92	0	19	92	0	100
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Split [s]	10	22	0	15	27	0	10	28	0	10	28	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	10	0	0	20	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	77	77	77	77	77	77	77	77	77	77
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	36	36	11	42	42	6	6	6	6
g / C, Green / Cycle	0.06	0.46	0.46	0.14	0.55	0.55	0.08	0.08	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.03	0.27	0.27	0.13	0.32	0.32	0.05	0.01	0.05	0.06
s, saturation flow rate [veh/h]	1810	1900	1851	1810	1900	1871	1810	1615	1810	1615
c, Capacity [veh/h]	111	880	857	259	1035	1020	142	132	142	132
d1, Uniform Delay [s]	34.94	15.27	15.27	32.49	11.73	11.75	34.47	32.83	34.47	34.59
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.08	2.90	2.98	11.35	2.44	2.50	4.95	0.49	4.95	8.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.47	0.59	0.59	0.91	0.59	0.59	0.65	0.14	0.65	0.76
d, Delay for Lane Group [s/veh]	38.02	18.18	18.26	43.83	14.17	14.25	39.42	33.32	39.42	42.99
Lane Group LOS	D	B	B	D	B	B	D	C	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.98	6.36	6.22	4.78	6.20	6.15	1.83	0.34	1.83	2.10
50th-Percentile Queue Length [ft/ln]	24.47	158.9	155.3	119.6	155.0	153.7	45.65	8.51	45.65	52.43
95th-Percentile Queue Length [veh/ln]	1.76	10.49	10.30	8.37	10.28	10.22	3.29	0.61	3.29	3.77
95th-Percentile Queue Length [ft/ln]	44.05	262.3	257.6	209.2	257.1	255.4	82.18	15.32	82.18	94.37

Movement, Approach, & Intersection Results

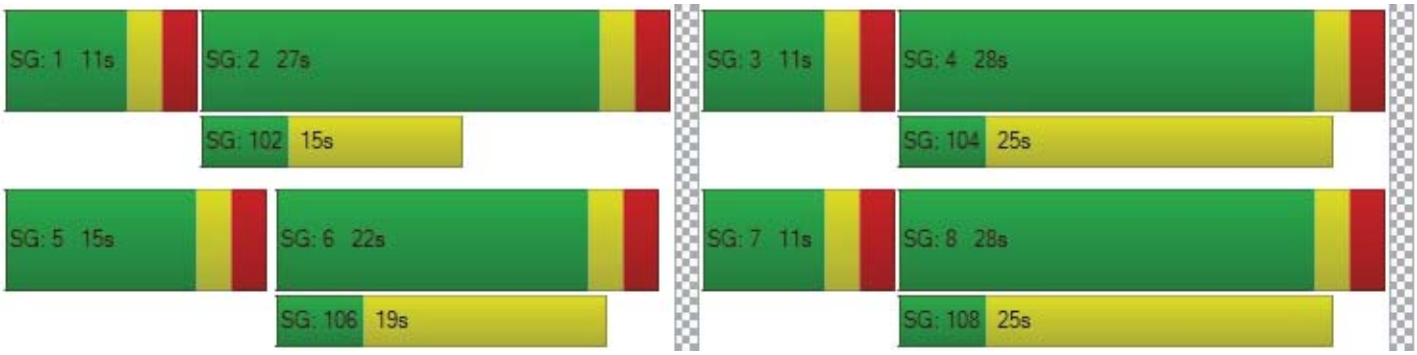
d_M, Delay for Movement [s/veh]	38.02	18.21	18.26	43.83	14.21	14.25	39.42	33.32	33.32	39.42	42.99	42.99
Movement LOS	D	B	B	D	B	B	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	19.17			19.01			38.37			41.28		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	21.35											
Intersection LOS	C											
Intersection V/C	0.516											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	30.03	30.03	30.03	30.03
l_p,int, Pedestrian LOS Score for Intersection	3.026	3.089	2.022	2.309
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	468	597	623	623
d_b, Bicycle Delay [s]	22.60	18.94	18.24	18.24
l_b,int, Bicycle LOS Score for Intersection	2.470	2.764	1.754	1.931
Bicycle LOS	B	C	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Pepper Ave/Auto Driveway

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Pepper Ave					
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Pepper Ave					
Base Volume Input [veh/h]	824	0	0	974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.2400	1.0000	1.0000	1.2400	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	82	0	0	66	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1104	0	0	1274	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	276	0	0	319	0	0
Total Analysis Volume [veh/h]	1104	0	0	1274	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	12.46
Movement LOS	A	A		A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		12.46	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Pepper Ave/Truck Driveway

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Pepper Ave		Pepper Ave		S Project Driveway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Pepper Ave		Pepper Ave		S Project Driveway	
Base Volume Input [veh/h]	824	0	0	974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	2.00	0.00
Growth Factor	1.2400	1.0000	1.0000	1.2400	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	82	0	0	66	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1104	0	0	1274	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	276	0	0	319	0	0
Total Analysis Volume [veh/h]	1104	0	0	1274	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	10.63	0.00	0.00	12.46
Movement LOS	A	A	B	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		12.46	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Pepper Ave/Winchester Dr-Terrace Rd

Control Type:	Signalized	Delay (sec / veh):	8.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.485

Intersection Setup

Name	Pepper Ave			Pepper Ave			Winchester Dr			Terrace Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			Winchester Dr			Terrace Rd		
Base Volume Input [veh/h]	112	725	0	7	910	76	80	2	80	8	1	10
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.240	1.000	1.000	1.240	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	78	0	0	63	3	4	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	20	0	0	20	0	0	3
Total Hourly Volume [veh/h]	112	977	0	7	1191	59	84	2	60	8	1	7
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	28	244	0	2	298	15	21	1	15	2	0	2
Total Analysis Volume [veh/h]	112	977	0	7	1191	59	84	2	60	8	1	7
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	15	0	20	25	0	0	25	0	0	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	43	43	1	38	38	7	7
g / C, Green / Cycle	0.10	0.72	0.72	0.01	0.64	0.64	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.06	0.26	0.26	0.00	0.33	0.33	0.09	0.01
s, saturation flow rate [veh/h]	1810	1900	1900	1810	1900	1867	1614	1734
c, Capacity [veh/h]	179	1371	1371	25	1210	1189	279	288
d1, Uniform Delay [s]	25.98	3.13	3.13	29.28	5.91	5.92	25.70	23.75
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.59	0.72	0.72	5.85	1.60	1.64	1.52	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.63	0.36	0.36	0.28	0.52	0.52	0.52	0.06
d, Delay for Lane Group [s/veh]	29.56	3.85	3.85	35.14	7.52	7.56	27.22	23.83
Lane Group LOS	C	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.55	0.96	0.96	0.13	2.86	2.83	2.05	0.20
50th-Percentile Queue Length [ft/ln]	38.64	24.12	24.12	3.29	71.60	70.85	51.37	5.05
95th-Percentile Queue Length [veh/ln]	2.78	1.74	1.74	0.24	5.16	5.10	3.70	0.36
95th-Percentile Queue Length [ft/ln]	69.56	43.41	43.41	5.91	128.8	127.5	92.47	9.09

Movement, Approach, & Intersection Results

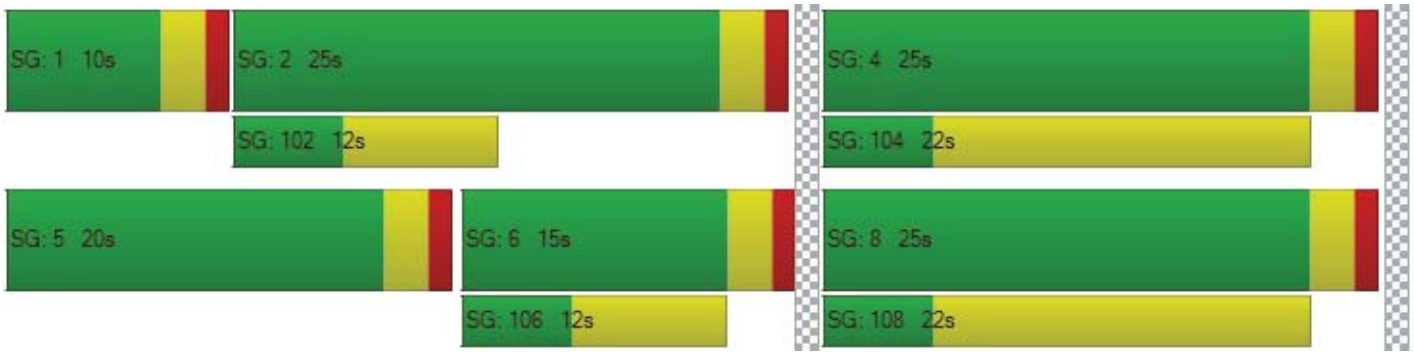
d_M, Delay for Movement [s/veh]	29.56	3.85	3.85	35.14	7.54	7.56	27.22	27.22	27.22	23.83	23.83	23.83
Movement LOS	C	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	6.50			7.69			27.22			23.83		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	8.41											
Intersection LOS	A											
Intersection V/C	0.485											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	2.985	3.115	1.869	1.711
Crosswalk LOS	C	C	A	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	400	733	733	733
d_b, Bicycle Delay [s]	19.20	12.03	12.03	12.03
l_b,int, Bicycle LOS Score for Intersection	2.458	2.613	1.834	1.591
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Pepper Ave/Baseline Rd

Control Type:	Signalized	Delay (sec / veh):	29.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.571

Intersection Setup

Name	Pepper Ave			Pepper Ave			Baseline Rd			Baseline Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	40.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	85.00	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			Baseline Rd			Baseline Rd		
Base Volume Input [veh/h]	160	577	56	155	694	116	99	237	133	69	326	206
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.240	1.240	1.240	1.240	1.240	1.240	1.240	1.240	1.240	1.240	1.240	1.240
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	32	0	19	27	17	22	0	0	0	0	24
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	17	0	0	40	0	0	41	0	0	70
Total Hourly Volume [veh/h]	198	747	52	211	888	121	145	294	124	86	404	209
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	50	187	13	53	222	30	36	74	31	22	101	52
Total Analysis Volume [veh/h]	198	747	52	211	888	121	145	294	124	86	404	209
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtP	Permi	Permi	ProtP	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	42	0	10	42	0	15	25	0	43	53	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	76	66	66	76	66	66	11	27	27	7	24	24
g / C, Green / Cycle	0.63	0.55	0.55	0.63	0.55	0.55	0.09	0.23	0.23	0.06	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.28	0.21	0.21	0.26	0.27	0.27	0.08	0.11	0.12	0.05	0.17	0.17
s, saturation flow rate [veh/h]	698	1900	1855	809	1900	1819	1810	1900	1713	1810	1900	1685
c, Capacity [veh/h]	433	1046	1022	515	1046	1001	172	434	391	114	373	330
d1, Uniform Delay [s]	11.84	15.39	15.39	10.51	16.61	16.64	53.43	40.37	40.46	55.33	46.73	46.82
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.44	1.08	1.11	2.41	1.65	1.74	10.66	0.90	1.04	9.80	6.23	7.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.46	0.39	0.39	0.41	0.49	0.49	0.84	0.50	0.51	0.76	0.87	0.88
d, Delay for Lane Group [s/veh]	15.29	16.46	16.49	12.92	18.26	18.38	64.10	41.27	41.50	65.14	52.96	54.17
Lane Group LOS	B	B	B	B	B	B	E	D	D	E	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.33	6.17	6.04	2.41	8.53	8.23	4.74	5.62	5.18	2.83	9.79	8.88
50th-Percentile Queue Length [ft/ln]	58.32	154.1	150.8	60.13	213.1	205.7	118.4	140.4	129.4	70.78	244.8	221.9
95th-Percentile Queue Length [veh/ln]	4.20	10.24	10.06	4.33	13.32	12.94	8.31	9.50	8.91	5.10	14.92	13.76
95th-Percentile Queue Length [ft/ln]	104.9	255.9	251.6	108.2	332.8	323.3	207.7	237.6	222.7	127.4	373.1	344.1

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	15.29	16.48	16.49	12.92	18.31	18.38	64.10	41.33	41.50	65.14	53.20	54.17
Movement LOS	B	B	B	B	B	B	E	D	D	E	D	D
d_A, Approach Delay [s/veh]	16.24			17.39			47.23			54.96		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	29.44											
Intersection LOS	C											
Intersection V/C	0.571											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersection	2.969	3.083	2.889	2.934
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	650	650	367	833
d_b, Bicycle Delay [s]	27.34	27.34	40.02	20.42
l_b,int, Bicycle LOS Score for Intersection	2.396	2.599	2.058	2.194
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Vistro File: C:\...\Pepper Ave Industrial - Revised May 2022 - HB - Updated.vistro
Report File: C:\...\GP PM.pdf

Scenario 26 GP PM
7/15/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Pepper Ave/I-210 WB	Signalized	HCM 6th Edition	WB Left	0.600	26.8	C
2	Pepper Ave/I-210 EB	Signalized	HCM 6th Edition	SB Left	0.582	20.1	C
3	Pepper Avenue/North Driveway	Signalized	HCM 6th Edition	SB Left	0.457	20.9	C
4	Pepper Ave/Auto Driveway	Two-way stop	HCM 6th Edition	SB Thru	0.011	0.0	A
5	Pepper Ave/Truck Driveway	Two-way stop	HCM 6th Edition	SB Thru	0.011	0.0	A
6	Pepper Ave/Winchester Dr-Terrace Rd	Signalized	HCM 6th Edition	SB Left	0.322	4.7	A
7	Pepper Ave/Baseline Rd	Signalized	HCM 6th Edition	WB Left	0.464	30.2	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Pepper Ave/I-210 WB

Control Type:	Signalized	Delay (sec / veh):	26.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.600

Intersection Setup

Name	Pepper Ave			Pepper Ave						I-210 WB		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	310.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	750.0	100.0	100.0
No. of Lanes in Exit Pocket	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	100.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes						Yes		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave						I-210 WB		
Base Volume Input [veh/h]	369	441	0	0	244	139	0	0	0	294	5	72
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.040	1.040	1.000	1.000	1.040	1.040	1.000	1.000	1.000	1.040	1.040	1.040
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	100	38	0	0	32	0	0	0	0	87	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	36	0	0	0	0	0	19
Total Hourly Volume [veh/h]	484	497	0	0	286	109	0	0	0	393	5	56
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	121	124	0	0	72	27	0	0	0	98	1	14
Total Analysis Volume [veh/h]	484	497	0	0	286	109	0	0	0	393	5	56
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Split	Split	Split
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	42	53	0	0	11	0	0	0	0	0	37	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	3	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		L	C
C, Cycle Length [s]	90	90	90	90		90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00
g_i, Effective Green Time [s]	26	62	33	33		22	22
g / C, Green / Cycle	0.29	0.69	0.36	0.36		0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.27	0.14	0.10	0.12		0.22	0.04
s, saturation flow rate [veh/h]	1810	3618	1900	1717		1810	1635
c, Capacity [veh/h]	530	2495	690	624		441	399
d1, Uniform Delay [s]	30.72	5.03	20.35	20.61		32.88	26.74
k, delay calibration	0.19	0.50	0.50	0.50		0.15	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	10.57	0.18	1.04	1.33		8.73	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.20	0.29	0.32		0.89	0.15
d, Delay for Lane Group [s/veh]	41.29	5.21	21.39	21.94		41.61	26.91
Lane Group LOS	D	A	C	C		D	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	10.89	1.27	2.92	2.98		8.89	1.01
50th-Percentile Queue Length [ft/ln]	272.19	31.66	72.91	74.53		222.31	25.17
95th-Percentile Queue Length [veh/ln]	16.30	2.28	5.25	5.37		13.78	1.81
95th-Percentile Queue Length [ft/ln]	407.48	56.99	131.24	134.16		344.57	45.31

Movement, Approach, & Intersection Results

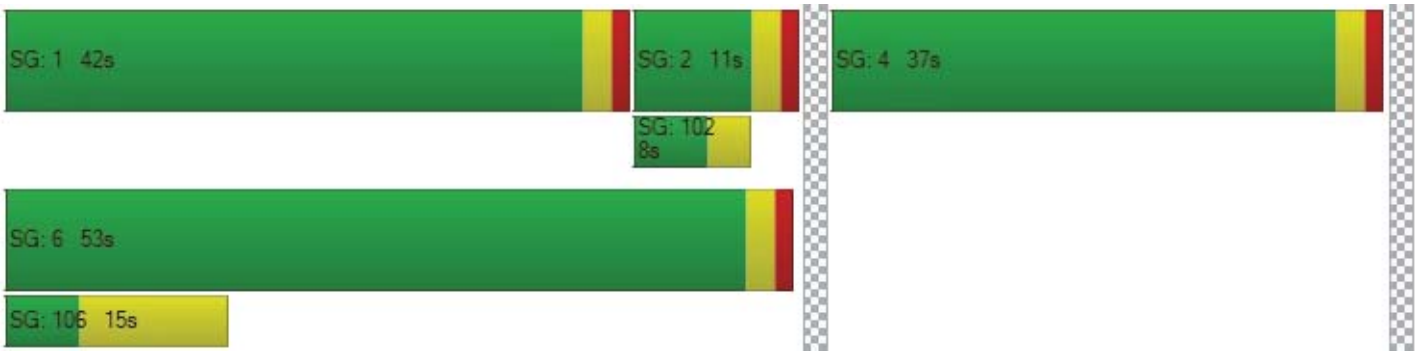
d_M, Delay for Movement [s/veh]	41.29	5.21	0.00	0.00	21.56	21.94	0.00	0.00	0.00	41.61	26.91	26.91
Movement LOS	D	A			C	C				D	C	C
d_A, Approach Delay [s/veh]	23.01			21.66			0.00			39.63		
Approach LOS	C			C			A			D		
d_I, Intersection Delay [s/veh]	26.84											
Intersection LOS	C											
Intersection V/C	0.600											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.043	2.174
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1111	178	0	756
d_b, Bicycle Delay [s]	8.89	37.36	45.00	17.42
l_b,int, Bicycle LOS Score for Intersection	2.369	1.915	4.132	2.340
Bicycle LOS	B	A	D	B

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Pepper Ave/I-210 EB

Control Type:	Signalized	Delay (sec / veh):	20.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.582

Intersection Setup

Name	Pepper Ave			Pepper Ave			I-210 EB					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	310.0	100.0	100.0	750.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			I-210 EB					
Base Volume Input [veh/h]	0	586	303	57	482	0	224	4	410	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.000	1.040	1.040	1.040	1.040	1.000	1.040	1.040	1.040	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	138	103	0	119	0	0	0	85	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	105	0	0	0	0	0	128	0	0	0
Total Hourly Volume [veh/h]	0	747	313	59	620	0	233	4	383	0	0	0
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	187	78	15	155	0	58	1	96	0	0	0
Total Analysis Volume [veh/h]	0	747	313	59	620	0	233	4	383	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Permi	Permi	Protec	Permi	Permi	Split	Split	Split	Permi	Permi	Permi
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	26	0	33	59	0	0	41	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	
C, Cycle Length [s]	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	59	59	6	67	27	27	
g / C, Green / Cycle	0.59	0.59	0.06	0.67	0.27	0.27	
(v / s)_i Volume / Saturation Flow Rate	0.28	0.31	0.03	0.17	0.13	0.24	
s, saturation flow rate [veh/h]	1900	1711	1810	3618	1810	1618	
c, Capacity [veh/h]	1114	1003	106	2440	480	429	
d1, Uniform Delay [s]	11.87	12.40	45.83	6.39	30.96	35.46	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.20	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.46	1.99	4.57	0.25	0.76	11.89	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.48	0.53	0.56	0.25	0.49	0.90	
d, Delay for Lane Group [s/veh]	13.33	14.39	50.40	6.64	31.72	47.35	
Lane Group LOS	B	B	D	A	C	D	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	6.26	6.62	1.51	2.13	4.67	10.10	
50th-Percentile Queue Length [ft/ln]	156.47	165.52	37.84	53.33	116.64	252.51	
95th-Percentile Queue Length [veh/ln]	10.36	10.84	2.72	3.84	8.21	15.31	
95th-Percentile Queue Length [ft/ln]	259.04	271.02	68.11	95.99	205.21	382.82	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	13.64	14.39	50.40	6.64	0.00	31.72	47.35	47.35	0.00	0.00	0.00
Movement LOS		B	B	D	A		C	D	D			
d_A, Approach Delay [s/veh]	13.86			10.45			41.48			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	20.14											
Intersection LOS	C											
Intersection V/C	0.582											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	690.19	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	41.41	41.41
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.453	1.899
Crosswalk LOS	F	F	B	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	460	1120	760	0
d_b, Bicycle Delay [s]	29.65	9.68	19.22	50.00
l_b,int, Bicycle LOS Score for Intersection	2.521	2.120	2.794	4.132
Bicycle LOS	B	B	C	D

Sequence

Ring 1	-	2	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Pepper Avenue/North Driveway

Control Type:	Signalized	Delay (sec / veh):	20.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.457

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	889	0	0	892	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.040	1.000	1.000	1.040	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	72	0	21	112	20	92	101	0	53	24	0	70
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	-59	59	60	-60	0	0	0	0	58	0	58
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	20	0	0	23	0	0	13	0	0	32
Total Hourly Volume [veh/h]	72	866	60	172	888	69	101	0	40	82	0	96
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	18	217	15	43	222	17	25	0	10	21	0	24
Total Analysis Volume [veh/h]	72	866	60	172	888	69	101	0	40	82	0	96
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Split [s]	10	22	0	10	22	0	10	28	0	10	28	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	10	0	0	20	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	72	72	72	72	72	72	72	72	72	72
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	35	35	7	37	37	6	6	6	6
g / C, Green / Cycle	0.07	0.48	0.48	0.10	0.51	0.51	0.08	0.09	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.04	0.25	0.25	0.10	0.25	0.26	0.06	0.02	0.05	0.06
s, saturation flow rate [veh/h]	1810	1900	1857	1810	1900	1852	1810	1615	1810	1615
c, Capacity [veh/h]	134	919	898	176	962	938	153	147	142	137
d1, Uniform Delay [s]	32.13	12.74	12.74	32.43	11.77	11.77	31.97	30.51	32.03	32.05
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.29	2.02	2.06	26.81	1.88	1.93	4.84	0.99	3.68	6.32
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.54	0.51	0.51	0.98	0.50	0.50	0.66	0.27	0.58	0.70
d, Delay for Lane Group [s/veh]	35.42	14.76	14.80	59.24	13.65	13.70	36.81	31.50	35.71	38.37
Lane Group LOS	D	B	B	E	B	B	D	C	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.24	4.71	4.61	4.06	4.59	4.49	1.86	0.67	1.48	1.82
50th-Percentile Queue Length [ft/ln]	31.10	117.6	115.2	101.5	114.7	112.2	46.39	16.72	37.02	45.41
95th-Percentile Queue Length [veh/ln]	2.24	8.26	8.13	7.31	8.10	7.97	3.34	1.20	2.67	3.27
95th-Percentile Queue Length [ft/ln]	55.97	206.5	203.3	182.8	202.5	199.1	83.50	30.09	66.63	81.74

Movement, Approach, & Intersection Results

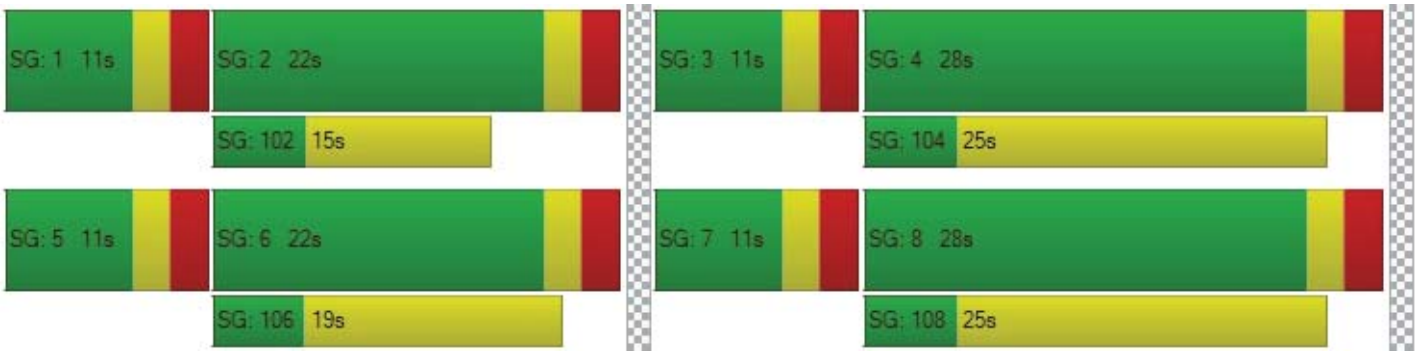
d_M, Delay for Movement [s/veh]	35.42	14.78	14.80	59.24	13.67	13.70	36.81	31.50	31.50	35.71	38.37	38.37
Movement LOS	D	B	B	E	B	B	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	16.27			20.62			35.30			37.14		
Approach LOS	B			C			D			D		
d_I, Intersection Delay [s/veh]	20.89											
Intersection LOS	C											
Intersection V/C	0.457											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	27.56	27.56	27.56	27.56
l_p,int, Pedestrian LOS Score for Intersection	2.916	2.980	2.052	2.280
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	500	667	667
d_b, Bicycle Delay [s]	20.25	20.25	16.00	16.00
l_b,int, Bicycle LOS Score for Intersection	2.399	2.510	1.814	1.906
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Pepper Ave/Auto Driveway

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Pepper Ave					
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Pepper Ave					
Base Volume Input [veh/h]	889	0	0	974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0400	1.0000	1.0000	1.0400	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	93	0	0	96	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1018	0	0	1109	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	255	0	0	277	0	0
Total Analysis Volume [veh/h]	1018	0	0	1109	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	12.00
Movement LOS	A	A		A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		12.00	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Pepper Ave/Truck Driveway

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Pepper Ave		Pepper Ave		S Project Driveway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Pepper Ave		Pepper Ave		S Project Driveway	
Base Volume Input [veh/h]	889	0	0	974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	2.00	0.00
Growth Factor	1.0400	1.0000	1.0000	1.0400	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	93	0	0	96	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1018	0	0	1109	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	255	0	0	277	0	0
Total Analysis Volume [veh/h]	1018	0	0	1109	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	10.22	0.00	0.00	12.00
Movement LOS	A	A	B	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		12.00	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Pepper Ave/Winchester Dr-Terrace Rd

Control Type:	Signalized	Delay (sec / veh):	4.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.322

Intersection Setup

Name	Pepper Ave			Pepper Ave			Winchester Dr			Terrace Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			Winchester Dr			Terrace Rd		
Base Volume Input [veh/h]	22	820	2	7	795	91	58	2	10	4	1	5
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.040	1.000	1.000	1.040	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	87	0	0	90	6	6	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	24	0	0	3	0	0	1
Total Hourly Volume [veh/h]	22	940	1	7	917	73	64	2	7	4	1	4
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	6	235	0	2	229	18	16	1	2	1	0	1
Total Analysis Volume [veh/h]	22	940	1	7	917	73	64	2	7	4	1	4
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	15	0	25	30	0	0	25	0	0	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	2	50	50	1	49	49	5	5
g / C, Green / Cycle	0.04	0.77	0.77	0.01	0.75	0.75	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.01	0.25	0.25	0.00	0.26	0.26	0.05	0.01
s, saturation flow rate [veh/h]	1810	1900	1899	1810	1900	1849	1603	1778
c, Capacity [veh/h]	64	1458	1458	25	1418	1380	232	222
d1, Uniform Delay [s]	30.60	2.33	2.33	31.72	2.85	2.85	28.67	27.66
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.10	0.59	0.59	5.70	0.69	0.71	0.77	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.34	0.32	0.32	0.28	0.35	0.35	0.31	0.04
d, Delay for Lane Group [s/veh]	33.70	2.92	2.92	37.42	3.54	3.56	29.44	27.73
Lane Group LOS	C	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.36	0.62	0.62	0.14	0.96	0.94	1.11	0.13
50th-Percentile Queue Length [ft/ln]	9.10	15.49	15.49	3.51	23.99	23.57	27.79	3.27
95th-Percentile Queue Length [veh/ln]	0.66	1.12	1.11	0.25	1.73	1.70	2.00	0.24
95th-Percentile Queue Length [ft/ln]	16.38	27.88	27.87	6.32	43.19	42.43	50.02	5.89

Movement, Approach, & Intersection Results

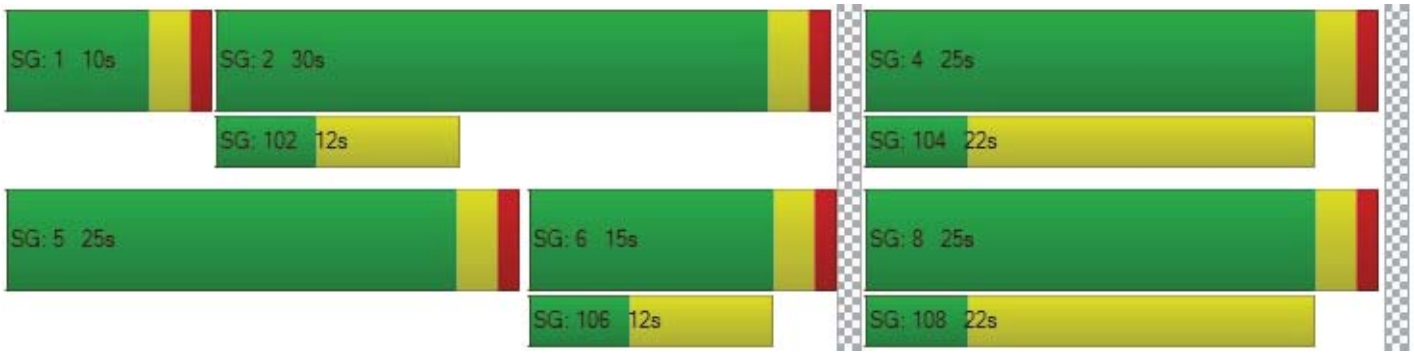
d_M, Delay for Movement [s/veh]	33.70	2.92	2.92	37.42	3.55	3.56	29.44	29.44	29.44	27.73	27.73	27.73
Movement LOS	C	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	3.62			3.79			29.44			27.73		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	4.73											
Intersection LOS	A											
Intersection V/C	0.322											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.12	24.12	24.12	24.12
l_p,int, Pedestrian LOS Score for Intersection	2.846	3.004	1.784	1.710
Crosswalk LOS	C	C	A	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	369	831	677	677
d_b, Bicycle Delay [s]	21.61	11.11	14.22	14.22
l_b,int, Bicycle LOS Score for Intersection	2.355	2.402	1.685	1.576
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Pepper Ave/Baseline Rd

Control Type:	Signalized	Delay (sec / veh):	30.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.464

Intersection Setup

Name	Pepper Ave			Pepper Ave			Baseline Rd			Baseline Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	40.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	85.00	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			Baseline Rd			Baseline Rd		
Base Volume Input [veh/h]	108	586	99	130	568	116	140	415	104	74	369	130
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	39	0	24	41	25	24	0	0	0	0	24
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	26	0	0	37	0	0	27	0	0	40
Total Hourly Volume [veh/h]	112	648	77	159	632	109	170	432	81	77	384	119
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	28	162	19	40	158	27	43	108	20	19	96	30
Total Analysis Volume [veh/h]	112	648	77	159	632	109	170	432	81	77	384	119
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtP	Permi	Permi	ProtP	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	39	0	10	39	0	40	32	0	39	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	78	68	68	78	68	68	13	26	26	7	19	19
g / C, Green / Cycle	0.65	0.57	0.57	0.65	0.57	0.57	0.11	0.22	0.22	0.06	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.13	0.19	0.19	0.19	0.20	0.20	0.09	0.14	0.14	0.04	0.14	0.14
s, saturation flow rate [veh/h]	838	1900	1828	849	1900	1801	1810	1900	1797	1810	1900	1749
c, Capacity [veh/h]	551	1080	1039	560	1082	1025	203	412	390	103	307	283
d1, Uniform Delay [s]	8.74	13.88	13.88	8.97	13.90	13.91	52.22	42.71	42.75	55.75	48.87	48.97
k, delay calibration	0.12	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.20	0.86	0.90	1.27	0.90	0.95	8.88	1.65	1.77	10.37	6.45	7.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.20	0.34	0.34	0.28	0.35	0.35	0.84	0.64	0.64	0.75	0.85	0.86
d, Delay for Lane Group [s/veh]	8.94	14.74	14.78	10.24	14.80	14.86	61.10	44.36	44.51	66.12	55.32	56.47
Lane Group LOS	A	B	B	B	B	B	E	D	D	E	E	E
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.99	5.21	5.04	1.60	5.39	5.13	5.43	7.14	6.80	2.56	7.97	7.53
50th-Percentile Queue Length [ft/ln]	24.77	130.2	125.8	39.97	134.6	128.3	135.7	178.4	169.9	63.95	199.3	188.1
95th-Percentile Queue Length [veh/ln]	1.78	8.95	8.71	2.88	9.19	8.85	9.25	11.52	11.08	4.60	12.60	12.02
95th-Percentile Queue Length [ft/ln]	44.59	223.8	217.8	71.95	229.8	221.2	231.2	287.9	276.9	115.1	315.1	300.6

Movement, Approach, & Intersection Results

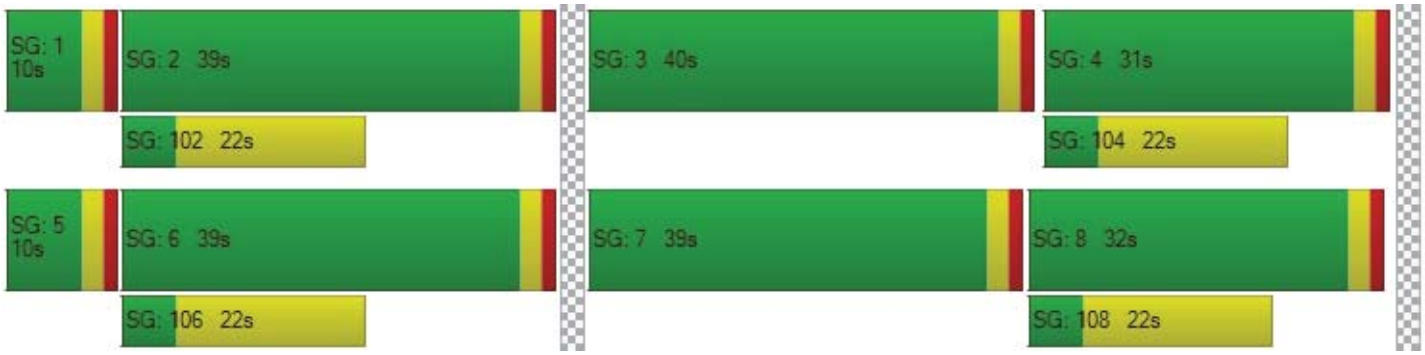
d_M, Delay for Movement [s/veh]	8.94	14.76	14.78	10.24	14.83	14.86	61.10	44.42	44.51	66.12	55.69	56.47
Movement LOS	A	B	B	B	B	B	E	D	D	E	E	E
d_A, Approach Delay [s/veh]	13.98			14.02			48.58			57.24		
Approach LOS	B			B			D			E		
d_I, Intersection Delay [s/veh]	30.23											
Intersection LOS	C											
Intersection V/C	0.464											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersection	2.843	2.928	2.798	2.846
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	600	483	467
d_b, Bicycle Delay [s]	29.40	29.40	34.50	35.27
l_b,int, Bicycle LOS Score for Intersection	2.272	2.333	2.145	2.071
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Vistro File: C:\...\Pepper Ave Industrial - Revised May 2022 - HB - Updated.vistro
Report File: C:\...\OY AM Plus Project.pdf

Scenario 21 OY AM + Proj
7/15/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Pepper Ave/I-210 WB	Signalized	HCM 6th Edition	WB Left	0.739	34.1	C
2	Pepper Ave/I-210 EB	Signalized	HCM 6th Edition	SB Left	0.521	18.2	B
3	Pepper Avenue/North Driveway	Signalized	HCM 6th Edition	WB Right	0.319	4.2	A
4	Pepper Ave/Auto Driveway	Two-way stop	HCM 6th Edition	WB Right	0.008	11.9	B
5	Pepper Ave/Truck Driveway	Two-way stop	HCM 6th Edition	WB Right	0.041	12.0	B
6	Pepper Ave/Winchester Dr-Terrace Rd	Signalized	HCM 6th Edition	SB Left	0.529	11.5	B
7	Pepper Ave/Baseline Rd	Signalized	HCM 6th Edition	WB Left	0.516	27.8	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Pepper Ave/I-210 WB

Control Type:	Signalized	Delay (sec / veh):	34.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.739

Intersection Setup

Name	Pepper Ave			Pepper Ave						I-210 WB		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	310.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	750.0	100.0	100.0
No. of Lanes in Exit Pocket	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	100.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes						Yes		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave						I-210 WB		
Base Volume Input [veh/h]	425	269	0	0	249	235	0	0	0	414	6	79
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.040	1.040	1.000	1.000	1.040	1.040	1.000	1.000	1.000	1.040	1.040	1.040
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	2	0	0	8	0	0	0	34	44	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	61	0	0	9	0	0	21
Total Hourly Volume [veh/h]	455	282	0	0	267	183	0	0	34	475	6	61
Peak Hour Factor	0.942	0.942	1.000	1.000	0.818	0.818	1.000	1.000	1.000	0.862	0.862	0.862
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	121	75	0	0	82	56	0	0	9	138	2	18
Total Analysis Volume [veh/h]	483	299	0	0	326	224	0	0	34	551	7	71
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Split	Split	Split
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	39	50	0	0	11	0	0	0	0	0	40	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	3	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		L	C
C, Cycle Length [s]	90	90	90	90		90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00
g_i, Effective Green Time [s]	26	54	25	25		30	30
g / C, Green / Cycle	0.29	0.60	0.28	0.28		0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.27	0.08	0.14	0.17		0.30	0.05
s, saturation flow rate [veh/h]	1810	3618	1900	1636		1810	1637
c, Capacity [veh/h]	528	2185	530	456		596	539
d1, Uniform Delay [s]	30.81	7.70	27.35	28.12		29.09	21.24
k, delay calibration	0.23	0.50	0.50	0.50		0.28	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	12.53	0.13	3.60	5.79		14.53	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.14	0.52	0.60		0.92	0.14
d, Delay for Lane Group [s/veh]	43.34	7.83	30.95	33.91		43.62	21.37
Lane Group LOS	D	A	C	C		D	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	11.16	1.07	5.18	5.51		13.04	1.12
50th-Percentile Queue Length [ft/ln]	279.05	26.80	129.40	137.75		326.11	27.95
95th-Percentile Queue Length [veh/ln]	16.64	1.93	8.91	9.36		18.97	2.01
95th-Percentile Queue Length [ft/ln]	416.03	48.24	222.68	233.99		474.20	50.31

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.34	7.83	0.00	0.00	31.42	33.91	0.00	0.00	0.00	43.62	21.37	21.37
Movement LOS	D	A			C	C				D	C	C
d_A, Approach Delay [s/veh]	29.76			32.43			0.00			40.86		
Approach LOS	C			C			A			D		
d_I, Intersection Delay [s/veh]	34.07											
Intersection LOS	C											
Intersection V/C	0.739											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.181	2.253
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1044	178	0	822
d_b, Bicycle Delay [s]	10.27	37.36	45.00	15.61
l_b,int, Bicycle LOS Score for Intersection	2.205	2.064	4.132	2.632
Bicycle LOS	B	B	D	B

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Pepper Ave/I-210 EB

Control Type:	Signalized	Delay (sec / veh):	18.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.521

Intersection Setup

Name	Pepper Ave			Pepper Ave			I-210 EB					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	310.0	100.0	100.0	750.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			I-210 EB					
Base Volume Input [veh/h]	0	564	260	65	567	0	134	0	407	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.000	1.040	1.040	1.040	1.040	1.000	1.040	1.040	1.040	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	15	13	0	86	0	0	0	10	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	71	0	0	0	0	0	108	0	0	0
Total Hourly Volume [veh/h]	0	602	212	68	676	0	139	0	325	0	0	0
Peak Hour Factor	1.000	0.905	0.905	0.898	0.898	1.000	0.917	0.917	0.917	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	166	59	19	188	0	38	0	89	0	0	0
Total Analysis Volume [veh/h]	0	665	234	76	753	0	152	0	354	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Permi	Permi	Protec	Permi	Permi	Split	Split	Split	Permi	Permi	Permi
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	27	0	33	60	0	0	40	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	
C, Cycle Length [s]	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	60	60	6	70	24	24	
g / C, Green / Cycle	0.60	0.60	0.06	0.70	0.24	0.24	
(v / s)_i Volume / Saturation Flow Rate	0.24	0.26	0.04	0.21	0.08	0.22	
s, saturation flow rate [veh/h]	1900	1732	1810	3618	1810	1615	
c, Capacity [veh/h]	1145	1044	115	2517	442	394	
d1, Uniform Delay [s]	10.35	10.67	45.79	5.84	31.19	36.59	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.17	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.01	1.30	6.39	0.30	0.46	10.92	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.39	0.43	0.66	0.30	0.34	0.90	
d, Delay for Lane Group [s/veh]	11.36	11.97	52.18	6.14	31.65	47.51	
Lane Group LOS	B	B	D	A	C	D	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	4.71	4.90	1.99	2.43	2.99	9.20	
50th-Percentile Queue Length [ft/ln]	117.69	122.45	49.67	60.68	74.68	230.08	
95th-Percentile Queue Length [veh/ln]	8.27	8.53	3.58	4.37	5.38	14.18	
95th-Percentile Queue Length [ft/ln]	206.65	213.19	89.41	109.22	134.43	354.46	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	11.56	11.97	52.18	6.14	0.00	31.65	47.51	47.51	0.00	0.00	0.00
Movement LOS		B	B	D	A		C	D	D			
d_A, Approach Delay [s/veh]	11.66			10.36			42.75			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	18.22											
Intersection LOS	B											
Intersection V/C	0.521											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	690.19	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	41.41	41.41
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.367	1.801
Crosswalk LOS	F	F	B	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	480	1140	740	0
d_b, Bicycle Delay [s]	28.88	9.25	19.85	50.00
l_b,int, Bicycle LOS Score for Intersection	2.360	2.244	2.573	4.132
Bicycle LOS	B	B	B	D

Sequence

Ring 1	-	2	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Pepper Avenue/North Driveway

Control Type:	Signalized	Delay (sec / veh):	4.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.319

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	824	0	0	974	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.040	1.000	1.000	1.040	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	24	6	28	68	0	0	0	0	3	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	0	0	0	0	0	0	1
Total Hourly Volume [veh/h]	0	881	4	28	1081	0	0	0	0	3	0	3
Peak Hour Factor	0.900	0.905	0.900	0.900	0.898	0.900	0.900	0.900	0.900	0.900	0.900	0.900
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	243	1	8	301	0	0	0	0	1	0	1
Total Analysis Volume [veh/h]	0	973	4	31	1204	0	0	0	0	3	0	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Split [s]	10	22	0	10	22	0	10	28	0	60	78	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	10	0	0	20	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	122	122	122	122	122	122	122	122	122	122
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	99	99	5	103	103	0	0	1	1
g / C, Green / Cycle	0.00	0.81	0.81	0.04	0.85	0.85	0.00	0.00	0.01	0.01
(v / s)_i Volume / Saturation Flow Rate	0.00	0.26	0.26	0.02	0.32	0.32	0.00	0.00	0.00	0.00
s, saturation flow rate [veh/h]	1810	1900	1897	1810	1900	1900	1810	1900	1810	1615
c, Capacity [veh/h]	0	1536	1534	68	1607	1607	0	1	12	11
d1, Uniform Delay [s]	0.00	3.02	3.02	57.52	2.13	2.13	0.00	0.00	60.32	60.29
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.55	0.55	4.79	0.67	0.67	0.00	0.00	11.23	13.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.32	0.32	0.46	0.37	0.37	0.00	0.00	0.26	0.28
d, Delay for Lane Group [s/veh]	0.00	3.56	3.57	62.30	2.80	2.80	0.00	0.00	71.54	73.45
Lane Group LOS	A	A	A	E	A	A	A	A	E	E
Critical Lane Group	No	No	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	2.15	2.15	1.01	1.75	1.75	0.00	0.00	0.13	0.13
50th-Percentile Queue Length [ft/ln]	0.00	53.70	53.63	25.16	43.74	43.74	0.00	0.00	3.22	3.31
95th-Percentile Queue Length [veh/ln]	0.00	3.87	3.86	1.81	3.15	3.15	0.00	0.00	0.23	0.24
95th-Percentile Queue Length [ft/ln]	0.00	96.65	96.53	45.29	78.72	78.72	0.00	0.00	5.80	5.95

Movement, Approach, & Intersection Results

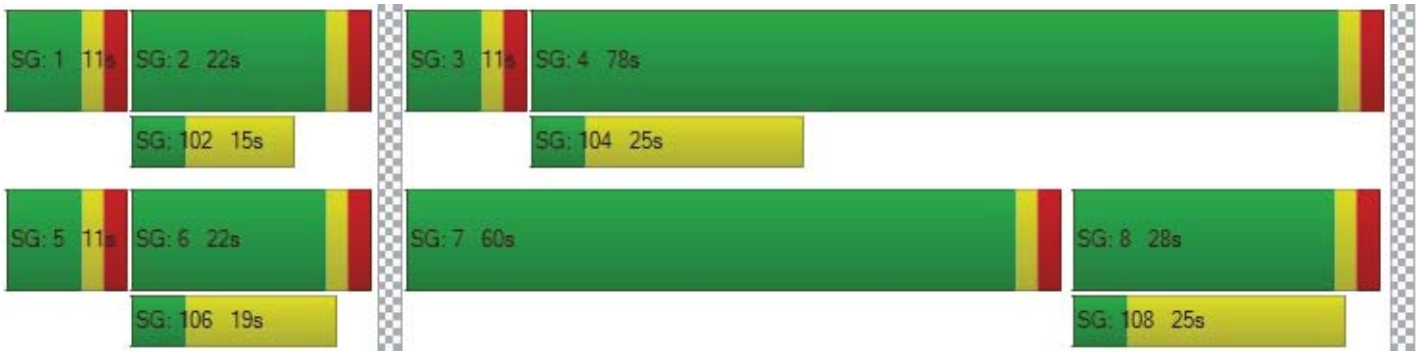
d_M, Delay for Movement [s/veh]	0.00	3.56	3.57	62.30	2.80	2.80	0.00	0.00	0.00	71.54	73.45	73.45
Movement LOS	A	A	A	E	A	A	A	A	A	E	E	E
d_A, Approach Delay [s/veh]	3.56			4.29			0.00			72.50		
Approach LOS	A			A			A			E		
d_I, Intersection Delay [s/veh]	4.16											
Intersection LOS	A											
Intersection V/C	0.319											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	52.33	52.33	52.33	52.33
l_p,int, Pedestrian LOS Score for Intersection	2.958	2.963	1.956	2.159
Crosswalk LOS	C	C	A	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	295	295	393	1213
d_b, Bicycle Delay [s]	44.33	44.33	39.36	9.44
l_b,int, Bicycle LOS Score for Intersection	2.367	2.578	1.560	1.571
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Pepper Ave/Auto Driveway

Control Type:	Two-way stop	Delay (sec / veh):	11.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	Pepper Ave					
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Pepper Ave					
Base Volume Input [veh/h]	824	0	0	974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0400	1.0000	1.0000	1.0400	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	26	6	0	71	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	883	6	0	1084	0	4
Peak Hour Factor	0.9050	0.9000	1.0000	0.8980	1.0000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	244	2	0	302	0	1
Total Analysis Volume [veh/h]	976	7	0	1207	0	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	11.87
Movement LOS	A	A		A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.57
d_A, Approach Delay [s/veh]	0.00		0.00		11.87	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.02					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Pepper Ave/Truck Driveway

Control Type:	Two-way stop	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.041

Intersection Setup

Name	Pepper Ave		Pepper Ave		S Project Driveway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Pepper Ave		Pepper Ave		S Project Driveway	
Base Volume Input [veh/h]	824	0	0	974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	2.00	0.00
Growth Factor	1.0400	1.0000	1.0000	1.0400	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	0	68	3	0	20
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	869	0	68	1016	0	20
Peak Hour Factor	0.9050	0.9000	0.9000	0.8980	1.0000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	240	0	19	283	0	6
Total Analysis Volume [veh/h]	960	0	76	1131	0	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.10	0.01	0.00	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	10.55	0.00	0.00	11.98
Movement LOS	A	A	B	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.35	0.00	0.00	0.13
95th-Percentile Queue Length [ft/ln]	0.00	0.00	8.75	0.00	0.00	3.20
d_A, Approach Delay [s/veh]	0.00		0.66		11.98	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.49					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Pepper Ave/Winchester Dr-Terrace Rd

Control Type:	Signalized	Delay (sec / veh):	11.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.529

Intersection Setup

Name	Pepper Ave			Pepper Ave			Winchester Dr			Terrace Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			Winchester Dr			Terrace Rd		
Base Volume Input [veh/h]	112	725	0	7	910	76	80	2	80	8	1	10
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.040	1.000	1.000	1.040	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	0	0	3	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	19	0	0	20	0	0	3
Total Hourly Volume [veh/h]	112	766	0	7	949	57	80	2	60	8	1	7
Peak Hour Factor	0.847	0.847	0.847	0.905	0.905	0.905	0.565	0.565	0.565	0.633	0.633	0.633
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	33	226	0	2	262	16	35	1	27	3	0	3
Total Analysis Volume [veh/h]	132	904	0	8	1049	63	142	4	106	13	2	11
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	22	0	13	25	0	0	25	0	0	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	39	39	1	33	33	11	11
g / C, Green / Cycle	0.10	0.64	0.64	0.02	0.56	0.56	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.07	0.24	0.24	0.00	0.30	0.30	0.16	0.02
s, saturation flow rate [veh/h]	1810	1900	1900	1810	1900	1860	1574	1537
c, Capacity [veh/h]	188	1221	1221	29	1054	1032	395	384
d1, Uniform Delay [s]	25.99	5.02	5.02	29.19	8.45	8.45	23.12	19.90
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.72	0.86	0.86	5.24	1.93	1.98	1.71	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.37	0.37	0.28	0.53	0.53	0.64	0.07
d, Delay for Lane Group [s/veh]	30.71	5.89	5.89	34.43	10.38	10.43	24.84	19.98
Lane Group LOS	C	A	A	C	B	B	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.87	1.69	1.69	0.14	3.62	3.57	3.42	0.29
50th-Percentile Queue Length [ft/ln]	46.64	42.35	42.35	3.62	90.62	89.24	85.57	7.34
95th-Percentile Queue Length [veh/ln]	3.36	3.05	3.05	0.26	6.52	6.43	6.16	0.53
95th-Percentile Queue Length [ft/ln]	83.95	76.23	76.23	6.51	163.1	160.6	154.03	13.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.71	5.89	5.89	34.43	10.40	10.43	24.84	24.84	24.84	19.98	19.98	19.98
Movement LOS	C	A	A	C	B	B	C	C	C	B	B	B
d_A, Approach Delay [s/veh]	9.05			10.57			24.84			19.98		
Approach LOS	A			B			C			B		
d_I, Intersection Delay [s/veh]	11.50											
Intersection LOS	B											
Intersection V/C	0.529											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	2.950	3.153	1.922	1.716
Crosswalk LOS	C	C	A	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	633	733	733	733
d_b, Bicycle Delay [s]	14.01	12.03	12.03	12.03
l_b,int, Bicycle LOS Score for Intersection	2.414	2.499	2.008	1.607
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Pepper Ave/Baseline Rd

Control Type:	Signalized	Delay (sec / veh):	27.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.516

Intersection Setup

Name	Pepper Ave			Pepper Ave			Baseline Rd			Baseline Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	40.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	85.00	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			Baseline Rd			Baseline Rd		
Base Volume Input [veh/h]	160	577	56	155	694	116	99	237	133	69	326	206
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	0	1	1	1	4	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	15	0	0	31	0	0	35	0	0	55
Total Hourly Volume [veh/h]	166	604	43	162	723	91	107	246	103	72	339	163
Peak Hour Factor	0.870	0.870	0.870	0.858	0.858	0.858	0.882	0.882	0.882	0.927	0.927	0.927
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	48	174	12	47	211	27	30	70	29	19	91	44
Total Analysis Volume [veh/h]	191	694	49	189	843	106	121	279	117	78	366	176
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtP	Permi	Permi	ProtP	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	44	0	11	44	0	13	25	0	40	52	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	80	70	70	80	70	70	10	24	24	7	21	21
g / C, Green / Cycle	0.67	0.59	0.59	0.67	0.59	0.59	0.08	0.20	0.20	0.06	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.26	0.20	0.20	0.23	0.25	0.26	0.07	0.11	0.11	0.04	0.15	0.15
s, saturation flow rate [veh/h]	721	1900	1855	836	1900	1824	1810	1900	1714	1810	1900	1696
c, Capacity [veh/h]	482	1111	1085	569	1111	1067	147	378	341	104	333	298
d1, Uniform Delay [s]	9.38	12.89	12.89	8.35	13.87	13.88	54.30	43.17	43.29	55.70	47.97	48.09
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.43	0.83	0.85	1.57	1.24	1.30	10.95	1.22	1.42	10.27	6.20	7.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.40	0.34	0.34	0.33	0.44	0.44	0.82	0.54	0.56	0.75	0.85	0.87
d, Delay for Lane Group [s/veh]	11.82	13.71	13.74	9.92	15.11	15.18	65.24	44.39	44.71	65.97	54.17	55.58
Lane Group LOS	B	B	B	A	B	B	E	D	D	E	D	E
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.92	5.06	4.95	1.83	7.04	6.79	3.99	5.52	5.12	2.59	8.66	7.95
50th-Percentile Queue Length [ft/ln]	48.06	126.5	123.7	45.64	175.9	169.8	99.63	138.0	128.0	64.70	216.4	198.8
95th-Percentile Queue Length [veh/ln]	3.46	8.75	8.60	3.29	11.39	11.07	7.17	9.38	8.83	4.66	13.48	12.58
95th-Percentile Queue Length [ft/ln]	86.51	218.7	215.0	82.15	284.7	276.7	179.3	234.4	220.8	116.4	337.0	314.4

Movement, Approach, & Intersection Results

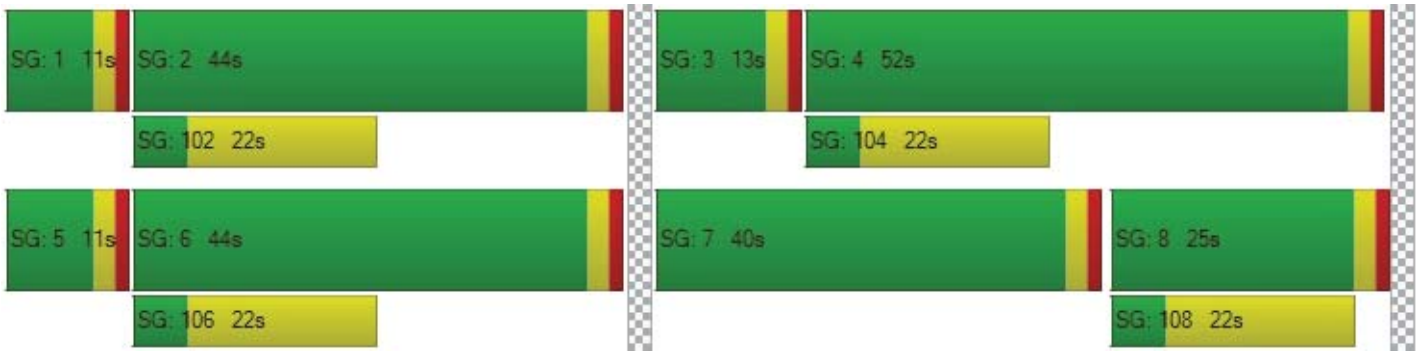
d_M, Delay for Movement [s/veh]	11.82	13.72	13.74	9.92	15.14	15.18	65.24	44.47	44.71	65.97	54.48	55.58
Movement LOS	B	B	B	A	B	B	E	D	D	E	D	E
d_A, Approach Delay [s/veh]	13.34			14.28			49.39			56.24		
Approach LOS	B			B			D			E		
d_I, Intersection Delay [s/veh]	27.77											
Intersection LOS	C											
Intersection V/C	0.516											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersection	2.928	3.007	2.852	2.869
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	683	683	367	817
d_b, Bicycle Delay [s]	26.00	26.00	40.02	21.00
l_b,int, Bicycle LOS Score for Intersection	2.343	2.524	2.015	2.116
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Vistro File: C:\...\Pepper Ave Industrial - Revised May 2022 - HB - Updated.vistro
Report File: C:\...\OY PM Plus Project.pdf

Scenario 22 OY PM + Proj
7/15/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Pepper Ave/I-210 WB	Signalized	HCM 6th Edition	WB Left	0.579	25.6	C
2	Pepper Ave/I-210 EB	Signalized	HCM 6th Edition	SB Left	0.571	20.2	C
3	Pepper Avenue/North Driveway	Signalized	HCM 6th Edition	WB Left	0.320	4.4	A
4	Pepper Ave/Auto Driveway	Two-way stop	HCM 6th Edition	WB Right	0.030	13.0	B
5	Pepper Ave/Truck Driveway	Two-way stop	HCM 6th Edition	WB Right	0.154	13.6	B
6	Pepper Ave/Winchester Dr-Terrace Rd	Signalized	HCM 6th Edition	SB Left	0.318	5.0	A
7	Pepper Ave/Baseline Rd	Signalized	HCM 6th Edition	WB Left	0.484	31.0	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Pepper Ave/I-210 WB

Control Type:	Signalized	Delay (sec / veh):	25.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.579

Intersection Setup

Name	Pepper Ave			Pepper Ave						I-210 WB		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	310.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	750.0	100.0	100.0
No. of Lanes in Exit Pocket	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	100.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes						Yes		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave						I-210 WB		
Base Volume Input [veh/h]	369	441	0	0	244	139	0	0	0	294	5	72
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.040	1.040	1.000	1.000	1.040	1.040	1.000	1.000	1.000	1.040	1.040	1.040
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	44	8	0	0	3	0	0	0	0	17	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	36	0	0	0	0	0	19
Total Hourly Volume [veh/h]	428	467	0	0	257	109	0	0	0	323	5	56
Peak Hour Factor	0.939	0.939	1.000	1.000	0.878	0.878	1.000	1.000	1.000	0.874	0.874	0.874
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	114	124	0	0	73	31	0	0	0	92	1	16
Total Analysis Volume [veh/h]	456	497	0	0	293	124	0	0	0	370	6	64
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Split	Split	Split
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	42	53	0	0	11	0	0	0	0	0	37	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	3	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		L	C
C, Cycle Length [s]	90	90	90	90		90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00
g_i, Effective Green Time [s]	25	63	35	35		21	21
g / C, Green / Cycle	0.28	0.70	0.39	0.39		0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.25	0.14	0.11	0.12		0.20	0.04
s, saturation flow rate [veh/h]	1810	3618	1900	1706		1810	1636
c, Capacity [veh/h]	502	2541	745	669		418	378
d1, Uniform Delay [s]	31.43	4.62	18.69	18.95		33.47	27.81
k, delay calibration	0.16	0.50	0.50	0.50		0.13	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	9.38	0.17	0.94	1.22		7.48	0.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.20	0.28	0.31		0.89	0.19
d, Delay for Lane Group [s/veh]	40.81	4.79	19.62	20.17		40.95	28.05
Lane Group LOS	D	A	B	C		D	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	10.15	1.17	2.92	2.99		8.26	1.19
50th-Percentile Queue Length [ft/ln]	253.80	29.36	72.91	74.68		206.55	29.68
95th-Percentile Queue Length [veh/ln]	15.38	2.11	5.25	5.38		12.98	2.14
95th-Percentile Queue Length [ft/ln]	384.43	52.85	131.24	134.42		324.40	53.42

Movement, Approach, & Intersection Results

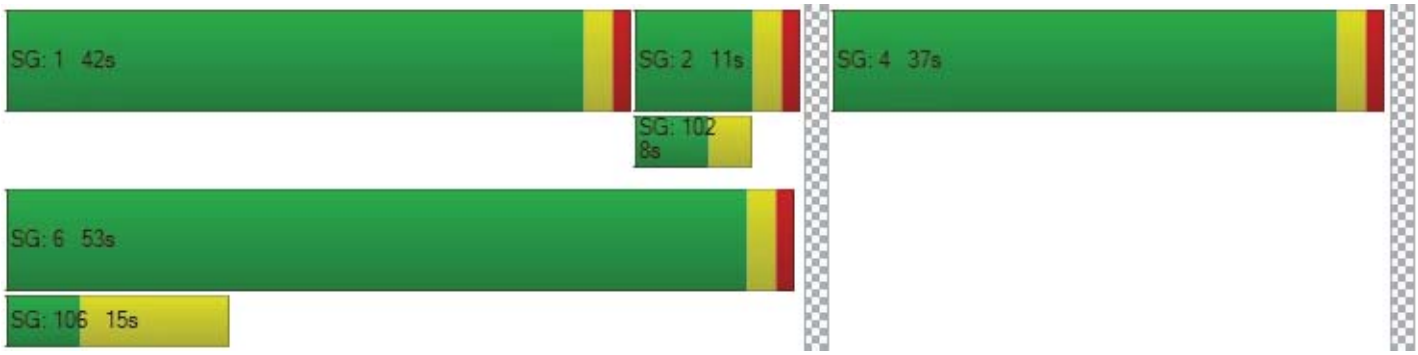
d_M, Delay for Movement [s/veh]	40.81	4.79	0.00	0.00	19.78	20.17	0.00	0.00	0.00	40.95	28.05	28.05
Movement LOS	D	A			B	C				D	C	C
d_A, Approach Delay [s/veh]	22.02			19.90			0.00			38.89		
Approach LOS	C			B			A			D		
d_I, Intersection Delay [s/veh]	25.64											
Intersection LOS	C											
Intersection V/C	0.579											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.031	2.168
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1111	178	0	756
d_b, Bicycle Delay [s]	8.89	37.36	45.00	17.42
l_b,int, Bicycle LOS Score for Intersection	2.346	1.933	4.132	2.317
Bicycle LOS	B	A	D	B

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Pepper Ave/I-210 EB

Control Type:	Signalized	Delay (sec / veh):	20.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.571

Intersection Setup

Name	Pepper Ave			Pepper Ave			I-210 EB					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	310.0	100.0	100.0	750.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			I-210 EB					
Base Volume Input [veh/h]	0	586	303	57	482	0	224	4	410	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.000	1.040	1.040	1.040	1.040	1.000	1.040	1.040	1.040	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	52	42	0	20	0	0	0	17	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	89	0	0	0	0	0	111	0	0	0
Total Hourly Volume [veh/h]	0	661	268	59	521	0	233	4	332	0	0	0
Peak Hour Factor	1.000	0.866	0.866	0.947	0.947	1.000	0.926	0.926	0.926	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	191	77	16	138	0	63	1	90	0	0	0
Total Analysis Volume [veh/h]	0	763	309	62	550	0	252	4	359	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Permi	Permi	Protec	Permi	Permi	Split	Split	Split	Permi	Permi	Permi
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	29	0	33	62	0	0	38	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	
C, Cycle Length [s]	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	60	60	6	69	25	25	
g / C, Green / Cycle	0.60	0.60	0.06	0.69	0.25	0.25	
(v / s)_i Volume / Saturation Flow Rate	0.28	0.31	0.03	0.15	0.14	0.22	
s, saturation flow rate [veh/h]	1900	1716	1810	3618	1810	1618	
c, Capacity [veh/h]	1140	1030	107	2495	453	405	
d1, Uniform Delay [s]	11.13	11.63	45.81	5.68	32.64	36.22	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.20	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.39	1.88	4.81	0.20	1.07	12.39	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.47	0.52	0.58	0.22	0.56	0.90	
d, Delay for Lane Group [s/veh]	12.53	13.51	50.62	5.89	33.71	48.61	
Lane Group LOS	B	B	D	A	C	D	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	6.05	6.40	1.59	1.71	5.25	9.58	
50th-Percentile Queue Length [ft/ln]	151.27	159.89	39.85	42.77	131.34	239.43	
95th-Percentile Queue Length [veh/ln]	10.09	10.54	2.87	3.08	9.01	14.65	
95th-Percentile Queue Length [ft/ln]	252.13	263.57	71.73	76.98	225.31	366.32	

Movement, Approach, & Intersection Results

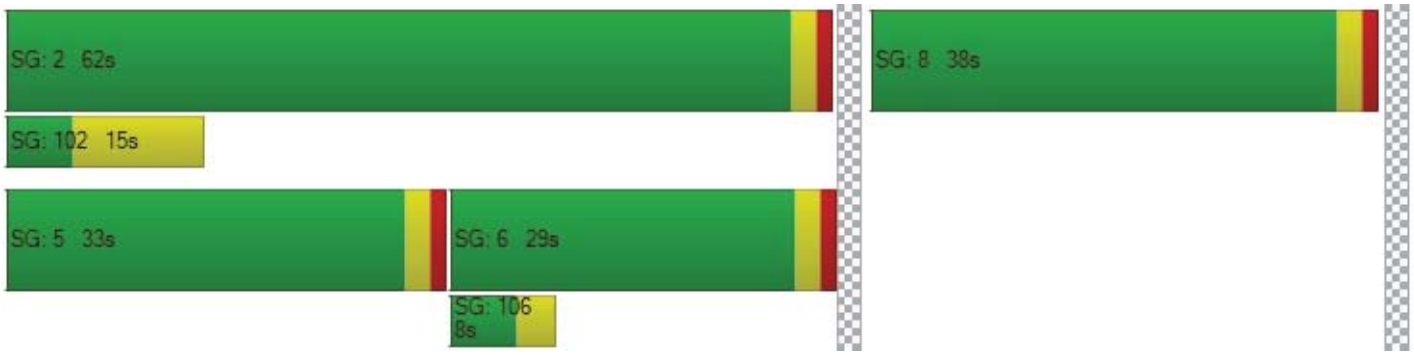
d_M, Delay for Movement [s/veh]	0.00	12.82	13.51	50.62	5.89	0.00	33.71	48.61	48.61	0.00	0.00	0.00
Movement LOS		B	B	D	A		C	D	D			
d_A, Approach Delay [s/veh]	13.02			10.42			42.50			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	20.21											
Intersection LOS	C											
Intersection V/C	0.571											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	690.19	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	41.41	41.41
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.419	1.882
Crosswalk LOS	F	F	B	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	520	1180	700	0
d_b, Bicycle Delay [s]	27.38	8.41	21.13	50.00
l_b,int, Bicycle LOS Score for Intersection	2.517	2.065	2.758	4.132
Bicycle LOS	B	B	C	D

Sequence

Ring 1	-	2	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Pepper Avenue/North Driveway

Control Type:	Signalized	Delay (sec / veh):	4.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.320

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	889	0	0	892	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.040	1.000	1.000	1.040	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	81	3	11	26	0	0	0	0	12	0	13
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	0	0	0	0	0	0	3
Total Hourly Volume [veh/h]	0	1006	2	11	954	0	0	0	0	12	0	10
Peak Hour Factor	0.900	0.866	0.900	0.900	0.947	0.900	0.900	0.900	0.900	0.900	0.900	0.900
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	290	1	3	252	0	0	0	0	3	0	3
Total Analysis Volume [veh/h]	0	1162	2	12	1007	0	0	0	0	13	0	11
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Split [s]	10	22	0	48	60	0	10	28	0	22	40	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	10	0	0	20	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	122	122	122	122	122	122	122	122	122	122
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	99	99	2	101	101	0	0	3	3
g / C, Green / Cycle	0.00	0.81	0.81	0.02	0.83	0.83	0.00	0.00	0.02	0.02
(v / s)_i Volume / Saturation Flow Rate	0.00	0.31	0.31	0.01	0.27	0.27	0.00	0.00	0.01	0.01
s, saturation flow rate [veh/h]	1810	1900	1899	1810	1900	1900	1810	1900	1810	1615
c, Capacity [veh/h]	0	1542	1541	36	1579	1579	0	1	37	34
d1, Uniform Delay [s]	0.00	3.12	3.12	58.99	2.36	2.36	0.00	0.00	58.92	58.87
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.71	0.71	5.34	0.53	0.53	0.00	0.00	5.42	5.42
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.38	0.38	0.33	0.32	0.32	0.00	0.00	0.35	0.32
d, Delay for Lane Group [s/veh]	0.00	3.83	3.83	64.34	2.89	2.89	0.00	0.00	64.35	64.29
Lane Group LOS	A	A	A	E	A	A	A	A	E	E
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.00	2.65	2.65	0.41	1.70	1.70	0.00	0.00	0.45	0.39
50th-Percentile Queue Length [ft/ln]	0.00	66.31	66.27	10.29	42.49	42.49	0.00	0.00	11.33	9.67
95th-Percentile Queue Length [veh/ln]	0.00	4.77	4.77	0.74	3.06	3.06	0.00	0.00	0.82	0.70
95th-Percentile Queue Length [ft/ln]	0.00	119.3	119.2	18.52	76.48	76.48	0.00	0.00	20.40	17.40

Movement, Approach, & Intersection Results

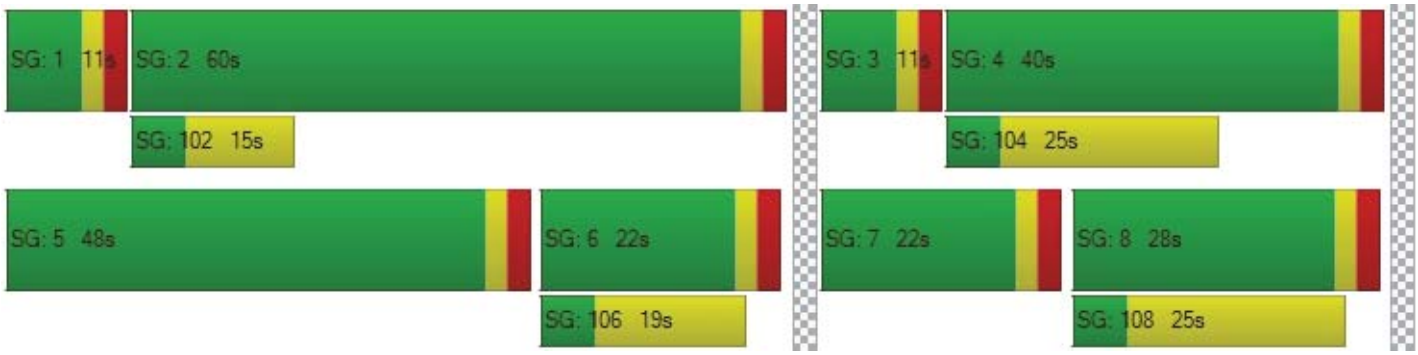
d_M, Delay for Movement [s/veh]	0.00	3.83	3.83	64.34	2.89	2.89	0.00	0.00	0.00	64.35	64.29	64.29
Movement LOS	A	A	A	E	A	A	A	A	A	E	E	E
d_A, Approach Delay [s/veh]	3.83			3.62			0.00			64.32		
Approach LOS	A			A			A			E		
d_I, Intersection Delay [s/veh]	4.39											
Intersection LOS	A											
Intersection V/C	0.320											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	52.33	52.33	52.33	52.33
l_p,int, Pedestrian LOS Score for Intersection	2.956	2.958	1.956	2.162
Crosswalk LOS	C	C	A	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	295	918	393	590
d_b, Bicycle Delay [s]	44.33	17.85	39.36	30.31
l_b,int, Bicycle LOS Score for Intersection	2.521	2.400	1.560	1.604
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Pepper Ave/Auto Driveway

Control Type:	Two-way stop	Delay (sec / veh):	13.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.030

Intersection Setup

Name	Pepper Ave					
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Pepper Ave					
Base Volume Input [veh/h]	889	0	0	974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0400	1.0000	1.0000	1.0400	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	71	3	0	38	0	13
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	996	3	0	1051	0	13
Peak Hour Factor	0.8660	0.9000	1.0000	0.9470	1.0000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	288	1	0	277	0	4
Total Analysis Volume [veh/h]	1150	3	0	1110	0	14
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	12.98
Movement LOS	A	A		A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.09
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	2.32
d_A, Approach Delay [s/veh]	0.00		0.00		12.98	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.08					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Pepper Ave/Truck Driveway

Control Type:	Two-way stop	Delay (sec / veh):	13.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.154

Intersection Setup

Name	Pepper Ave		Pepper Ave		S Project Driveway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Pepper Ave		Pepper Ave		S Project Driveway	
Base Volume Input [veh/h]	889	0	0	974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	2.00	0.00
Growth Factor	1.0400	1.0000	1.0000	1.0400	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	0	26	12	0	68
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	931	0	26	1025	0	68
Peak Hour Factor	0.8660	0.9000	0.9000	0.9470	1.0000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	269	0	7	271	0	19
Total Analysis Volume [veh/h]	1075	0	29	1082	0	76
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.04	0.01	0.00	0.15
d_M, Delay for Movement [s/veh]	0.00	0.00	10.74	0.00	0.00	13.63
Movement LOS	A	A	B	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.14	0.00	0.00	0.54
95th-Percentile Queue Length [ft/ln]	0.00	0.00	3.46	0.00	0.00	13.52
d_A, Approach Delay [s/veh]	0.00		0.28		13.63	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.60					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Pepper Ave/Winchester Dr-Terrace Rd

Control Type:	Signalized	Delay (sec / veh):	5.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.318

Intersection Setup

Name	Pepper Ave			Pepper Ave			Winchester Dr			Terrace Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			Winchester Dr			Terrace Rd		
Base Volume Input [veh/h]	22	820	2	7	795	91	58	2	10	4	1	5
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.040	1.000	1.000	1.040	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	0	0	12	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	23	0	0	3	0	0	1
Total Hourly Volume [veh/h]	22	859	1	7	839	68	58	2	7	4	1	4
Peak Hour Factor	0.884	0.884	0.884	0.951	0.951	0.951	0.841	0.841	0.841	0.625	0.625	0.625
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	6	243	0	2	221	18	17	1	2	2	0	2
Total Analysis Volume [veh/h]	25	972	1	7	882	72	69	2	8	6	2	6
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	15	0	25	30	0	0	25	0	0	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	3	50	50	1	48	48	5	5
g / C, Green / Cycle	0.04	0.77	0.77	0.01	0.74	0.74	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.01	0.26	0.26	0.00	0.25	0.25	0.05	0.01
s, saturation flow rate [veh/h]	1810	1900	1899	1810	1900	1848	1607	1784
c, Capacity [veh/h]	71	1453	1452	25	1405	1366	237	227
d1, Uniform Delay [s]	30.41	2.42	2.42	31.72	2.96	2.96	28.59	27.56
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.92	0.62	0.62	5.70	0.67	0.69	0.82	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.35	0.33	0.33	0.28	0.34	0.34	0.33	0.06
d, Delay for Lane Group [s/veh]	33.33	3.04	3.04	37.42	3.63	3.65	29.41	27.67
Lane Group LOS	C	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.41	0.69	0.69	0.14	0.99	0.98	1.20	0.20
50th-Percentile Queue Length [ft/ln]	10.18	17.14	17.13	3.51	24.86	24.40	30.07	5.09
95th-Percentile Queue Length [veh/ln]	0.73	1.23	1.23	0.25	1.79	1.76	2.17	0.37
95th-Percentile Queue Length [ft/ln]	18.32	30.84	30.84	6.32	44.75	43.91	54.13	9.15

Movement, Approach, & Intersection Results

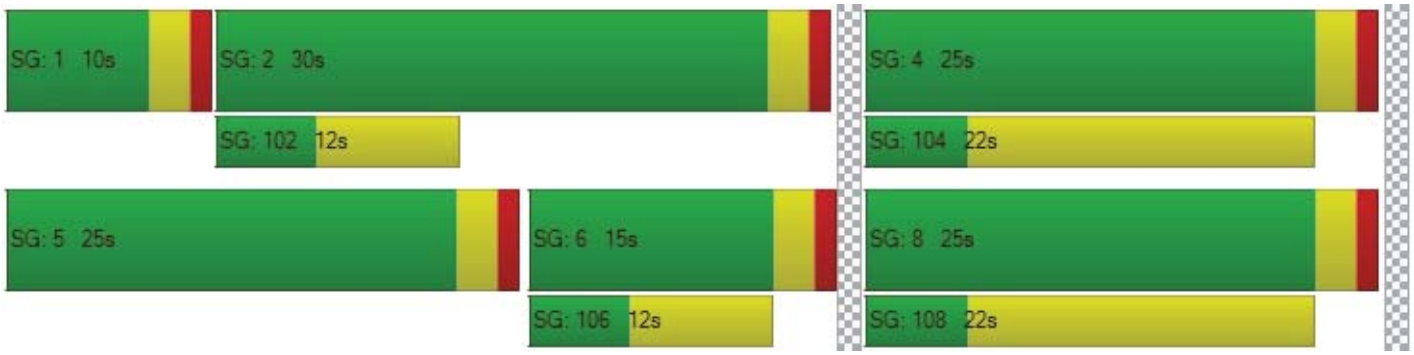
d_M, Delay for Movement [s/veh]	33.33	3.04	3.04	37.42	3.64	3.65	29.41	29.41	29.41	27.67	27.67	27.67
Movement LOS	C	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	3.80			3.89			29.41			27.67		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	4.99											
Intersection LOS	A											
Intersection V/C	0.318											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.12	24.12	24.12	24.12
l_p,int, Pedestrian LOS Score for Intersection	2.850	3.010	1.787	1.712
Crosswalk LOS	C	C	A	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	369	831	677	677
d_b, Bicycle Delay [s]	21.61	11.11	14.22	14.22
l_b,int, Bicycle LOS Score for Intersection	2.384	2.371	1.695	1.584
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Pepper Ave/Baseline Rd

Control Type:	Signalized	Delay (sec / veh):	31.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.484

Intersection Setup

Name	Pepper Ave			Pepper Ave			Baseline Rd			Baseline Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	40.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	85.00	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			Baseline Rd			Baseline Rd		
Base Volume Input [veh/h]	108	586	99	130	568	116	140	415	104	74	369	130
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	0	4	4	4	2	0	0	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	26	0	0	31	0	0	27	0	0	34
Total Hourly Volume [veh/h]	112	611	77	139	595	94	148	432	81	77	384	103
Peak Hour Factor	0.884	0.884	0.884	0.882	0.882	0.882	0.857	0.857	0.857	0.939	0.939	0.939
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	32	173	22	39	169	27	43	126	24	21	102	27
Total Analysis Volume [veh/h]	127	691	87	158	675	107	173	504	95	82	409	110
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtP	Permi	Permi	ProtP	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	35	0	10	32	0	21	33	0	42	54	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	78	68	68	78	68	68	13	26	26	7	20	20
g / C, Green / Cycle	0.65	0.56	0.56	0.65	0.57	0.57	0.11	0.22	0.22	0.06	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.16	0.21	0.21	0.19	0.21	0.21	0.10	0.16	0.16	0.05	0.14	0.14
s, saturation flow rate [veh/h]	815	1900	1824	818	1900	1807	1810	1900	1797	1810	1900	1764
c, Capacity [veh/h]	529	1073	1030	532	1073	1021	202	413	390	109	315	292
d1, Uniform Delay [s]	9.19	14.38	14.38	9.36	14.39	14.40	52.36	43.86	43.88	55.51	48.60	48.69
k, delay calibration	0.19	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.41	0.98	1.02	1.42	0.99	1.05	9.97	2.69	2.87	10.00	6.39	7.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.24	0.37	0.37	0.30	0.37	0.37	0.86	0.75	0.75	0.75	0.85	0.86
d, Delay for Lane Group [s/veh]	9.60	15.36	15.41	10.78	15.39	15.45	62.33	46.55	46.75	65.52	55.00	55.96
Lane Group LOS	A	B	B	B	B	B	E	D	D	E	D	E
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.18	5.77	5.57	1.62	5.84	5.58	5.59	8.65	8.22	2.71	8.19	7.76
50th-Percentile Queue Length [ft/ln]	29.38	144.3	139.1	40.60	145.9	139.5	139.6	216.3	205.5	67.72	204.7	194.0
95th-Percentile Queue Length [veh/ln]	2.12	9.72	9.44	2.92	9.80	9.45	9.46	13.48	12.93	4.88	12.88	12.33
95th-Percentile Queue Length [ft/ln]	52.88	242.8	235.8	73.08	245.0	236.3	236.5	336.9	323.1	121.9	322.1	308.2

Movement, Approach, & Intersection Results

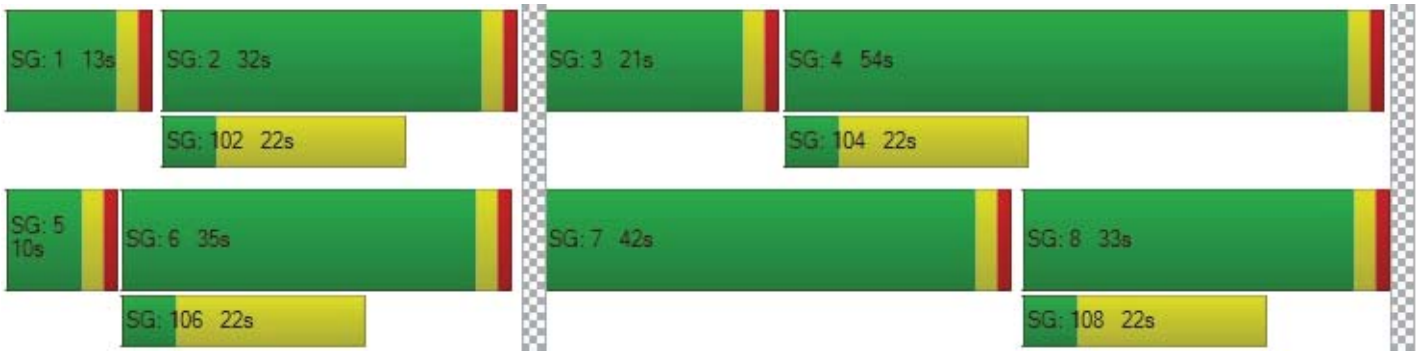
d_M, Delay for Movement [s/veh]	9.60	15.38	15.41	10.78	15.41	15.45	62.33	46.63	46.75	65.52	55.33	55.96
Movement LOS	A	B	B	B	B	B	E	D	D	E	E	E
d_A, Approach Delay [s/veh]	14.57			14.64			50.16			56.84		
Approach LOS	B			B			D			E		
d_I, Intersection Delay [s/veh]	31.02											
Intersection LOS	C											
Intersection V/C	0.484											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersection	2.882	2.938	2.842	2.861
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	533	483	500	850
d_b, Bicycle Delay [s]	32.27	34.50	33.75	19.84
l_b,int, Bicycle LOS Score for Intersection	2.328	2.361	2.219	2.083
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Vistro File: C:\...\Pepper Ave Industrial - Revised May 2022 - HB - Updated.vistro
Report File: C:\...\Future AM Plus Project.pdf

Scenario 23 Future AM + Proj
7/15/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Pepper Ave/I-210 WB	Signalized	HCM 6th Edition	SB Right	0.902	56.8	E
2	Pepper Ave/I-210 EB	Signalized	HCM 6th Edition	SB Left	0.675	21.7	C
3	Pepper Avenue/North Driveway	Signalized	HCM 6th Edition	SB Left	0.563	31.5	C
4	Pepper Ave/Auto Driveway	Two-way stop	HCM 6th Edition	WB Right	0.008	12.4	B
5	Pepper Ave/Truck Driveway	Two-way stop	HCM 6th Edition	WB Right	0.045	12.8	B
6	Pepper Ave/Winchester Dr-Terrace Rd	Signalized	HCM 6th Edition	SB Left	0.566	12.0	B
7	Pepper Ave/Baseline Rd	Signalized	HCM 6th Edition	WB Left	0.579	29.4	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Pepper Ave/I-210 WB

Control Type:	Signalized	Delay (sec / veh):	56.8
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.902

Intersection Setup

Name	Pepper Ave			Pepper Ave						I-210 WB		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	310.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	750.0	100.0	100.0
No. of Lanes in Exit Pocket	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	100.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes						Yes		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave						I-210 WB		
Base Volume Input [veh/h]	425	269	0	0	249	235	0	0	0	414	6	79
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.040	1.040	1.000	1.000	1.040	1.040	1.000	1.000	1.000	1.040	1.040	1.040
In-Process Volume [veh/h]	30	6	0	0	0	6	0	0	0	0	0	0
Site-Generated Trips [veh/h]	104	56	0	0	59	5	0	0	34	155	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	64	0	0	9	0	0	21
Total Hourly Volume [veh/h]	576	342	0	0	318	191	0	0	34	586	6	61
Peak Hour Factor	0.942	0.942	1.000	1.000	0.818	0.818	1.000	1.000	1.000	0.862	0.862	0.862
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	153	91	0	0	97	58	0	0	9	170	2	18
Total Analysis Volume [veh/h]	611	363	0	0	389	233	0	0	34	680	7	71
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Split	Split	Split
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	33	54	0	0	21	0	0	0	0	0	36	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	3	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		L	C
C, Cycle Length [s]	90	90	90	90		90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00
g_i, Effective Green Time [s]	30	51	18	18		33	33
g / C, Green / Cycle	0.33	0.57	0.20	0.20		0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.34	0.10	0.16	0.19		0.38	0.05
s, saturation flow rate [veh/h]	1810	3618	1900	1645		1810	1637
c, Capacity [veh/h]	603	2050	380	329		663	600
d1, Uniform Delay [s]	30.00	9.39	34.44	35.51		28.50	18.95
k, delay calibration	0.48	0.50	0.50	0.50		0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	39.34	0.19	17.57	37.44		41.27	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	1.01	0.18	0.82	0.95		1.02	0.13
d, Delay for Lane Group [s/veh]	69.34	9.58	52.01	72.95		69.77	19.05
Lane Group LOS	F	A	D	E		F	B
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	18.45	1.52	7.97	9.72		20.70	1.04
50th-Percentile Queue Length [ft/ln]	461.15	38.00	199.16	243.12		517.40	25.99
95th-Percentile Queue Length [veh/ln]	25.71	2.74	12.60	14.84		28.64	1.87
95th-Percentile Queue Length [ft/ln]	642.79	68.40	314.88	370.98		716.11	46.78

Movement, Approach, & Intersection Results

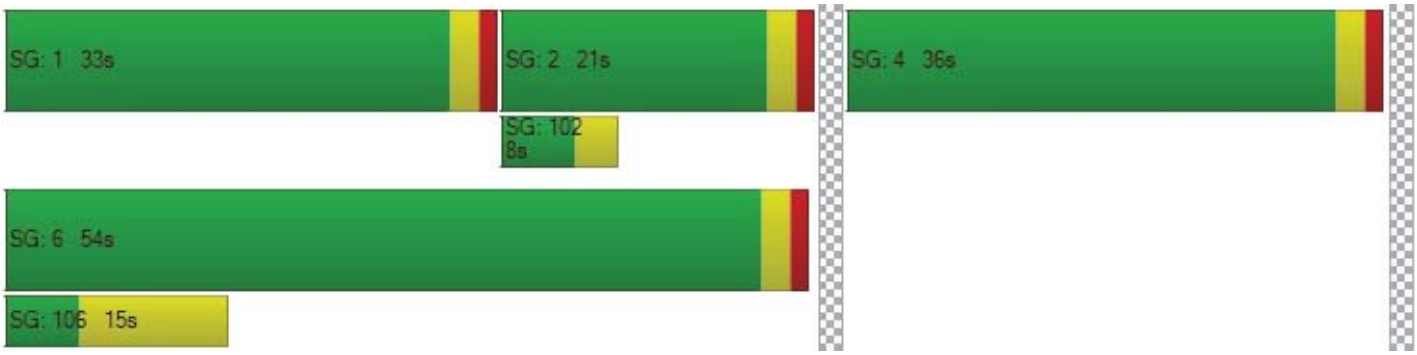
d_M, Delay for Movement [s/veh]	69.34	9.58	0.00	0.00	56.21	72.95	0.00	0.00	0.00	69.77	19.05	19.05
Movement LOS	F	A			E	E				F	B	B
d_A, Approach Delay [s/veh]	47.07			62.48			0.00			64.55		
Approach LOS	D			E			A			E		
d_I, Intersection Delay [s/veh]	56.77											
Intersection LOS	E											
Intersection V/C	0.902											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.317	2.309
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1133	400	0	733
d_b, Bicycle Delay [s]	8.45	28.80	45.00	18.05
I_b,int, Bicycle LOS Score for Intersection	2.363	2.126	4.132	2.845
Bicycle LOS	B	B	D	C

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Pepper Ave/I-210 EB

Control Type:	Signalized	Delay (sec / veh):	21.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.675

Intersection Setup

Name	Pepper Ave			Pepper Ave			I-210 EB					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	310.0	100.0	100.0	750.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			I-210 EB					
Base Volume Input [veh/h]	0	564	260	65	567	0	134	0	407	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.000	1.040	1.040	1.040	1.040	1.000	1.040	1.040	1.040	1.000	1.000	1.000
In-Process Volume [veh/h]	0	30	0	0	0	0	6	0	43	0	0	0
Site-Generated Trips [veh/h]	0	152	106	0	248	0	8	0	120	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	94	0	0	0	0	0	147	0	0	0
Total Hourly Volume [veh/h]	0	769	282	68	838	0	153	0	439	0	0	0
Peak Hour Factor	1.000	0.905	0.905	0.898	0.898	1.000	0.917	0.917	0.917	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	212	78	19	233	0	42	0	120	0	0	0
Total Analysis Volume [veh/h]	0	850	312	76	933	0	167	0	479	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Permi	Permi	Protec	Permi	Permi	Split	Split	Split	Permi	Permi	Permi
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	11	0	34	45	0	0	55	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	
C, Cycle Length [s]	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	52	52	6	62	32	32	
g / C, Green / Cycle	0.52	0.52	0.06	0.62	0.32	0.32	
(v / s)_i Volume / Saturation Flow Rate	0.31	0.34	0.04	0.26	0.09	0.30	
s, saturation flow rate [veh/h]	1900	1726	1810	3618	1810	1615	
c, Capacity [veh/h]	995	903	115	2232	585	522	
d1, Uniform Delay [s]	16.36	17.12	45.78	9.89	25.24	32.57	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.15	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	2.51	3.51	6.36	0.58	0.27	9.51	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.58	0.64	0.66	0.42	0.29	0.92	
d, Delay for Lane Group [s/veh]	18.86	20.63	52.14	10.47	25.51	42.08	
Lane Group LOS	B	C	D	B	C	D	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	8.76	9.33	1.99	4.63	2.89	11.91	
50th-Percentile Queue Length [ft/ln]	219.12	233.21	49.65	115.67	72.22	297.76	
95th-Percentile Queue Length [veh/ln]	13.62	14.34	3.57	8.15	5.20	17.57	
95th-Percentile Queue Length [ft/ln]	340.50	358.44	89.37	203.86	129.99	439.26	

Movement, Approach, & Intersection Results

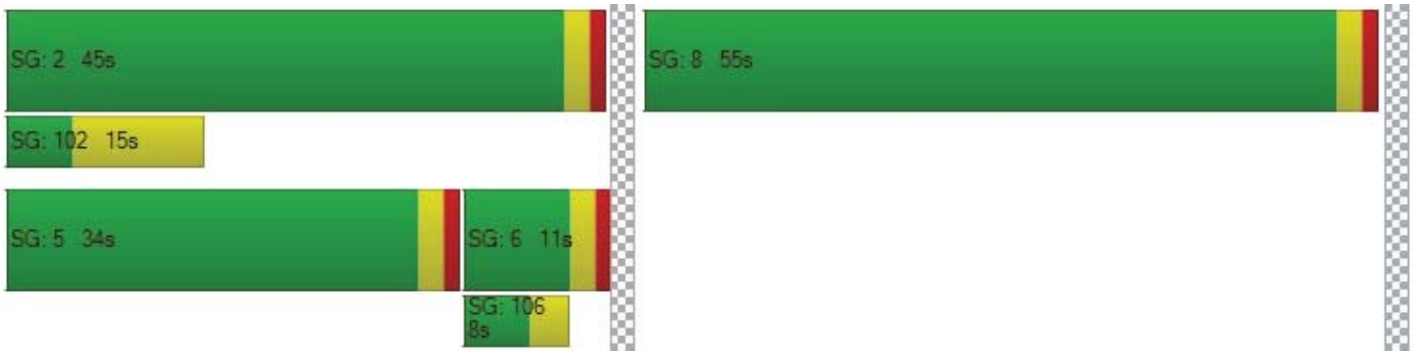
d_M, Delay for Movement [s/veh]	0.00	19.42	20.63	52.14	10.47	0.00	25.51	42.08	42.08	0.00	0.00	0.00
Movement LOS		B	C	D	B		C	D	D			
d_A, Approach Delay [s/veh]	19.75			13.60			37.80			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	21.69											
Intersection LOS	C											
Intersection V/C	0.675											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	690.19	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	41.41	41.41
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.500	1.900
Crosswalk LOS	F	F	B	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	160	840	1040	0
d_b, Bicycle Delay [s]	42.32	16.82	11.52	50.00
l_b,int, Bicycle LOS Score for Intersection	2.596	2.392	2.868	4.132
Bicycle LOS	B	B	C	D

Sequence

Ring 1	-	2	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Pepper Avenue/North Driveway

Control Type:	Signalized	Delay (sec / veh):	31.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.563

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	824	0	0	974	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.040	1.000	1.000	1.040	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	30	0	0	43	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	52	36	36	191	91	69	92	0	26	24	0	67
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	-72	72	71	-71	0	0	0	0	71	0	70
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	27	0	0	17	0	0	7	0	0	34
Total Hourly Volume [veh/h]	52	851	81	262	1076	52	92	0	19	95	0	103
Peak Hour Factor	0.900	0.905	0.900	0.900	0.898	0.900	0.900	0.900	0.900	0.900	0.900	0.900
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	14	235	23	73	300	14	26	0	5	26	0	29
Total Analysis Volume [veh/h]	58	940	90	291	1198	58	102	0	21	106	0	114
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Split [s]	10	22	0	14	26	0	11	28	0	11	28	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	10	0	0	20	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	76	76	76	76	76	76	76	76	76	76
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	36	36	10	41	41	6	7	6	7
g / C, Green / Cycle	0.07	0.47	0.47	0.13	0.54	0.54	0.08	0.09	0.08	0.09
(v / s)_i Volume / Saturation Flow Rate	0.03	0.28	0.28	0.16	0.33	0.33	0.06	0.01	0.06	0.07
s, saturation flow rate [veh/h]	1810	1900	1842	1810	1900	1869	1810	1615	1810	1615
c, Capacity [veh/h]	118	898	871	238	1024	1008	147	145	149	146
d1, Uniform Delay [s]	34.31	14.58	14.59	33.00	12.10	12.13	33.97	31.89	33.99	33.81
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.15	2.75	2.84	108.2	2.78	2.87	5.68	0.45	6.14	8.59
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.58	0.58	1.22	0.62	0.62	0.69	0.14	0.71	0.78
d, Delay for Lane Group [s/veh]	37.46	17.34	17.43	141.2	14.88	15.00	39.66	32.35	40.13	42.39
Lane Group LOS	D	B	B	F	B	B	D	C	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.07	6.14	5.98	11.21	6.61	6.57	2.02	0.37	2.11	2.35
50th-Percentile Queue Length [ft/ln]	26.81	153.4	149.3	280.2	165.2	164.3	50.43	9.15	52.77	58.79
95th-Percentile Queue Length [veh/ln]	1.93	10.20	9.98	18.09	10.82	10.78	3.63	0.66	3.80	4.23
95th-Percentile Queue Length [ft/ln]	48.25	255.0	249.6	452.3	270.6	269.4	90.77	16.47	94.98	105.83

Movement, Approach, & Intersection Results

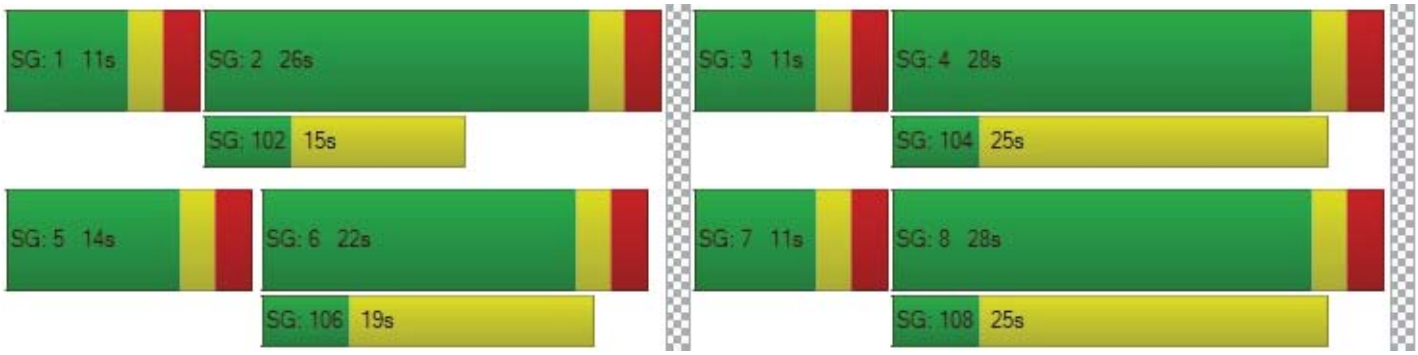
d_M, Delay for Movement [s/veh]	37.46	17.38	17.43	141.2	14.93	15.00	39.66	32.35	32.35	40.13	42.39	42.39
Movement LOS	D	B	B	F	B	B	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	18.45			38.70			38.41			41.30		
Approach LOS	B			D			D			D		
d_I, Intersection Delay [s/veh]	31.48											
Intersection LOS	C											
Intersection V/C	0.563											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.53	29.53	29.53	29.53
l_p,int, Pedestrian LOS Score for Intersection	3.047	3.123	2.029	2.334
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	474	579	632	632
d_b, Bicycle Delay [s]	22.13	19.18	17.79	17.79
l_b,int, Bicycle LOS Score for Intersection	2.479	2.850	1.774	1.979
Bicycle LOS	B	C	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Pepper Ave/Auto Driveway

Control Type:	Two-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	Pepper Ave					
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Pepper Ave					
Base Volume Input [veh/h]	824	0	0	974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	30	0	0	43	0	0
Site-Generated Trips [veh/h]	120	6	0	140	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	974	6	0	1157	0	4
Peak Hour Factor	0.9050	0.9000	1.0000	0.8980	1.0000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	269	2	0	322	0	1
Total Analysis Volume [veh/h]	1076	7	0	1288	0	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	12.40
Movement LOS	A	A		A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.62
d_A, Approach Delay [s/veh]	0.00		0.00		12.40	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.02					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Pepper Ave/Truck Driveway

Control Type:	Two-way stop	Delay (sec / veh):	12.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.045

Intersection Setup

Name	Pepper Ave		Pepper Ave		S Project Driveway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Pepper Ave		Pepper Ave		S Project Driveway	
Base Volume Input [veh/h]	824	0	0	974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	2.00	0.00
Growth Factor	1.0400	1.0000	1.0000	1.0400	1.0000	1.0000
In-Process Volume [veh/h]	30	0	0	43	0	0
Site-Generated Trips [veh/h]	106	0	68	72	0	20
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	993	0	68	1128	0	20
Peak Hour Factor	0.9050	0.9000	0.9000	0.8980	1.0000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	274	0	19	314	0	6
Total Analysis Volume [veh/h]	1097	0	76	1256	0	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.12	0.01	0.00	0.05
d_M, Delay for Movement [s/veh]	0.00	0.00	11.34	0.00	0.00	12.77
Movement LOS	A	A	B	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.40	0.00	0.00	0.14
95th-Percentile Queue Length [ft/ln]	0.00	0.00	9.98	0.00	0.00	3.55
d_A, Approach Delay [s/veh]	0.00		0.65		12.77	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.47					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Pepper Ave/Winchester Dr-Terrace Rd

Control Type:	Signalized	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.566

Intersection Setup

Name	Pepper Ave			Pepper Ave			Winchester Dr			Terrace Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			Winchester Dr			Terrace Rd		
Base Volume Input [veh/h]	112	725	0	7	910	76	80	2	80	8	1	10
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.040	1.000	1.000	1.040	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	30	0	0	43	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	102	0	0	69	3	4	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	20	0	0	20	0	0	3
Total Hourly Volume [veh/h]	112	886	0	7	1058	59	84	2	60	8	1	7
Peak Hour Factor	0.847	0.847	0.847	0.905	0.905	0.905	0.565	0.565	0.565	0.633	0.633	0.633
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	33	262	0	2	292	16	37	1	27	3	0	3
Total Analysis Volume [veh/h]	132	1046	0	8	1169	65	149	4	106	13	2	11
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	21	0	14	25	0	0	25	0	0	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	38	38	1	33	33	12	12
g / C, Green / Cycle	0.10	0.64	0.64	0.02	0.55	0.55	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.07	0.28	0.28	0.00	0.33	0.33	0.16	0.02
s, saturation flow rate [veh/h]	1810	1900	1900	1810	1900	1863	1571	1538
c, Capacity [veh/h]	188	1212	1212	29	1045	1024	403	392
d1, Uniform Delay [s]	25.99	5.43	5.43	29.18	9.04	9.05	22.97	19.66
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.72	1.12	1.12	5.14	2.51	2.57	1.72	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.43	0.43	0.28	0.60	0.60	0.64	0.07
d, Delay for Lane Group [s/veh]	30.71	6.56	6.56	34.32	11.55	11.62	24.69	19.73
Lane Group LOS	C	A	A	C	B	B	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.87	2.14	2.14	0.14	4.36	4.30	3.51	0.29
50th-Percentile Queue Length [ft/ln]	46.64	53.57	53.57	3.61	108.8	107.5	87.76	7.28
95th-Percentile Queue Length [veh/ln]	3.36	3.86	3.86	0.26	7.78	7.70	6.32	0.52
95th-Percentile Queue Length [ft/ln]	83.95	96.42	96.42	6.49	194.4	192.6	157.97	13.11

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.71	6.56	6.56	34.32	11.58	11.62	24.69	24.69	24.69	19.73	19.73	19.73
Movement LOS	C	A	A	C	B	B	C	C	C	B	B	B
d_A, Approach Delay [s/veh]	9.26			11.73			24.69			19.73		
Approach LOS	A			B			C			B		
d_I, Intersection Delay [s/veh]	11.97											
Intersection LOS	B											
Intersection V/C	0.566											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	3.026	3.244	1.926	1.716
Crosswalk LOS	C	C	A	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	733	733	733
d_b, Bicycle Delay [s]	14.70	12.03	12.03	12.03
l_b,int, Bicycle LOS Score for Intersection	2.531	2.601	2.020	1.607
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Pepper Ave/Baseline Rd

Control Type:	Signalized	Delay (sec / veh):	29.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.579

Intersection Setup

Name	Pepper Ave			Pepper Ave			Baseline Rd			Baseline Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	40.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	85.00	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			Baseline Rd			Baseline Rd		
Base Volume Input [veh/h]	160	577	56	155	694	116	99	237	133	69	326	206
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
In-Process Volume [veh/h]	0	17	0	10	26	0	0	0	0	0	0	6
Site-Generated Trips [veh/h]	13	36	0	20	28	21	38	29	20	0	16	28
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	15	0	0	36	0	0	40	0	0	62
Total Hourly Volume [veh/h]	179	653	43	191	776	106	141	275	118	72	355	186
Peak Hour Factor	0.870	0.870	0.870	0.858	0.858	0.858	0.882	0.882	0.882	0.927	0.927	0.927
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	51	188	12	56	226	31	40	78	33	19	96	50
Total Analysis Volume [veh/h]	206	751	49	223	904	124	160	312	134	78	383	201
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtP	Permi	Permi	ProtP	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	47	0	10	47	0	16	25	0	38	47	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	76	66	66	76	66	66	12	28	28	7	23	23
g / C, Green / Cycle	0.63	0.55	0.55	0.63	0.55	0.55	0.10	0.23	0.23	0.06	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.30	0.21	0.21	0.28	0.28	0.28	0.09	0.12	0.12	0.04	0.16	0.16
s, saturation flow rate [veh/h]	689	1900	1858	808	1900	1818	1810	1900	1710	1810	1900	1684
c, Capacity [veh/h]	428	1046	1023	515	1046	1001	187	444	400	104	357	316
d1, Uniform Delay [s]	12.10	15.40	15.40	10.60	16.73	16.77	52.92	40.16	40.24	55.72	47.24	47.35
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.85	1.08	1.11	2.64	1.71	1.81	10.61	0.96	1.10	10.38	6.24	7.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.48	0.39	0.39	0.43	0.50	0.50	0.86	0.52	0.53	0.75	0.86	0.87
d, Delay for Lane Group [s/veh]	15.95	16.48	16.50	13.24	18.45	18.57	63.53	41.12	41.34	66.10	53.48	54.84
Lane Group LOS	B	B	B	B	B	B	E	D	D	E	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.46	6.17	6.05	2.57	8.75	8.46	5.21	6.01	5.52	2.59	9.34	8.50
50th-Percentile Queue Length [ft/ln]	61.60	154.3	151.2	64.34	218.8	211.4	130.2	150.3	137.9	64.76	233.5	212.4
95th-Percentile Queue Length [veh/ln]	4.43	10.25	10.08	4.63	13.61	13.23	8.96	10.04	9.37	4.66	14.36	13.28
95th-Percentile Queue Length [ft/ln]	110.8	256.2	252.1	115.8	340.1	330.6	223.8	250.9	234.2	116.5	358.9	331.9

Movement, Approach, & Intersection Results

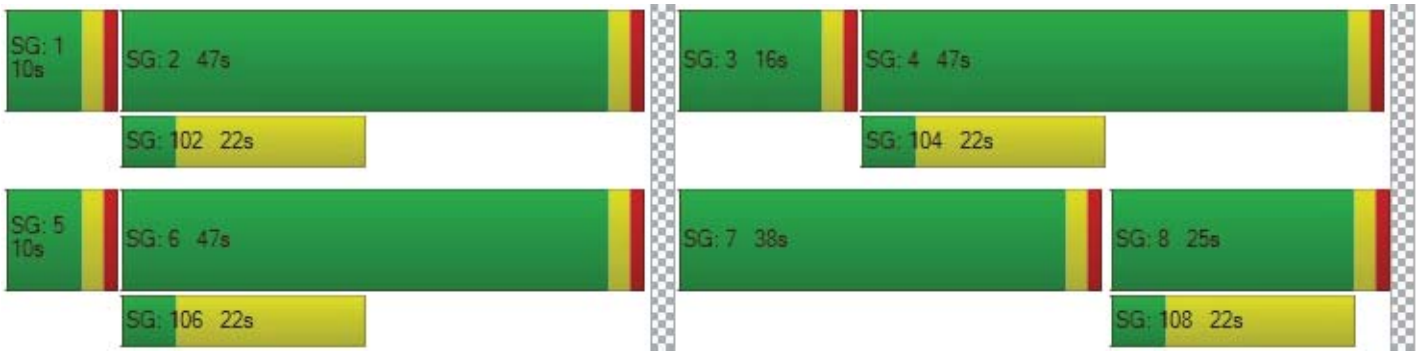
d_M, Delay for Movement [s/veh]	15.95	16.49	16.50	13.24	18.50	18.57	63.53	41.17	41.34	66.10	53.74	54.84
Movement LOS	B	B	B	B	B	B	E	D	D	E	D	D
d_A, Approach Delay [s/veh]	16.38			17.57			47.11			55.53		
Approach LOS	B			B			D			E		
d_I, Intersection Delay [s/veh]	29.44											
Intersection LOS	C											
Intersection V/C	0.579											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersection	2.973	3.086	2.901	2.927
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	733	733	367	733
d_b, Bicycle Delay [s]	24.07	24.07	40.02	24.07
l_b,int, Bicycle LOS Score for Intersection	2.402	2.621	2.093	2.157
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Vistro File: C:\...\Pepper Ave Industrial - Revised May 2022 - HB - Updated.vistro
Report File: C:\...\Future PM Plus Project.pdf

Scenario 24 Future PM + Proj
7/15/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Pepper Ave/I-210 WB	Signalized	HCM 6th Edition	NB Left	0.754	32.1	C
2	Pepper Ave/I-210 EB	Signalized	HCM 6th Edition	SB Left	0.732	23.6	C
3	Pepper Avenue/North Driveway	Signalized	HCM 6th Edition	SB Left	0.579	27.5	C
4	Pepper Ave/Auto Driveway	Two-way stop	HCM 6th Edition	WB Right	0.035	14.3	B
5	Pepper Ave/Truck Driveway	Two-way stop	HCM 6th Edition	WB Right	0.178	15.2	C
6	Pepper Ave/Winchester Dr-Terrace Rd	Signalized	HCM 6th Edition	SB Left	0.363	5.2	A
7	Pepper Ave/Baseline Rd	Signalized	HCM 6th Edition	WB Left	0.560	32.0	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Pepper Ave/I-210 WB

Control Type:	Signalized	Delay (sec / veh):	32.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.754

Intersection Setup

Name	Pepper Ave			Pepper Ave						I-210 WB		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	310.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	750.0	100.0	100.0
No. of Lanes in Exit Pocket	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	100.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes						Yes		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave						I-210 WB		
Base Volume Input [veh/h]	369	441	0	0	244	139	0	0	0	294	5	72
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.040	1.040	1.000	1.000	1.040	1.040	1.000	1.000	1.000	1.040	1.040	1.040
In-Process Volume [veh/h]	64	19	0	0	0	16	0	0	0	1	0	0
Site-Generated Trips [veh/h]	147	56	0	0	39	7	0	0	0	108	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	42	0	0	0	0	0	19
Total Hourly Volume [veh/h]	595	534	0	0	293	126	0	0	0	415	5	56
Peak Hour Factor	0.939	0.939	1.000	1.000	0.878	0.878	1.000	1.000	1.000	0.874	0.874	0.874
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	158	142	0	0	83	36	0	0	0	119	1	16
Total Analysis Volume [veh/h]	634	569	0	0	334	144	0	0	0	475	6	64
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Split	Split	Split
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	42	53	0	0	11	0	0	0	0	0	37	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	3	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		L	C
C, Cycle Length [s]	90	90	90	90		90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00
g_i, Effective Green Time [s]	34	58	22	22		26	26
g / C, Green / Cycle	0.37	0.65	0.24	0.24		0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.35	0.16	0.13	0.14		0.26	0.04
s, saturation flow rate [veh/h]	1810	3618	1900	1694		1810	1636
c, Capacity [veh/h]	675	2333	453	404		522	472
d1, Uniform Delay [s]	27.23	6.74	29.85	30.38		30.89	23.80
k, delay calibration	0.33	0.50	0.50	0.50		0.25	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	16.98	0.25	4.35	6.24		12.95	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.94	0.24	0.53	0.59		0.91	0.15
d, Delay for Lane Group [s/veh]	44.20	6.98	34.20	36.63		43.84	23.94
Lane Group LOS	D	A	C	D		D	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	15.01	1.87	4.77	5.00		11.20	1.08
50th-Percentile Queue Length [ft/ln]	375.23	46.71	119.25	124.97		279.90	26.92
95th-Percentile Queue Length [veh/ln]	21.36	3.36	8.35	8.67		16.68	1.94
95th-Percentile Queue Length [ft/ln]	534.07	84.08	208.80	216.63		417.09	48.46

Movement, Approach, & Intersection Results

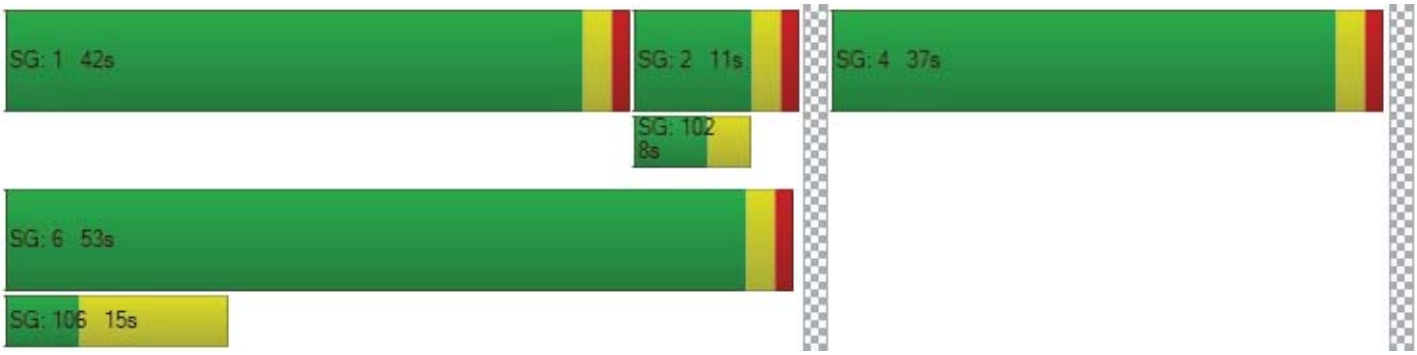
d_M, Delay for Movement [s/veh]	44.20	6.98	0.00	0.00	34.89	36.63	0.00	0.00	0.00	43.84	23.94	23.94
Movement LOS	D	A			C	D				D	C	C
d_A, Approach Delay [s/veh]	26.60			35.41			0.00			41.28		
Approach LOS	C			D			A			D		
d_I, Intersection Delay [s/veh]	32.09											
Intersection LOS	C											
Intersection V/C	0.754											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.230	2.213
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1111	178	0	756
d_b, Bicycle Delay [s]	8.89	37.36	45.00	17.42
l_b,int, Bicycle LOS Score for Intersection	2.552	1.989	4.132	2.490
Bicycle LOS	B	A	D	B

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Pepper Ave/I-210 EB

Control Type:	Signalized	Delay (sec / veh):	23.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.732

Intersection Setup

Name	Pepper Ave			Pepper Ave			I-210 EB					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	310.0	100.0	100.0	750.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			I-210 EB					
Base Volume Input [veh/h]	0	586	303	57	482	0	224	4	410	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.000	1.040	1.040	1.040	1.040	1.000	1.040	1.040	1.040	1.000	1.000	1.000
In-Process Volume [veh/h]	0	64	1	0	1	0	19	0	39	0	0	0
Site-Generated Trips [veh/h]	0	196	148	0	147	0	7	0	106	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	116	0	0	0	0	0	143	0	0	0
Total Hourly Volume [veh/h]	0	869	348	59	649	0	259	4	428	0	0	0
Peak Hour Factor	1.000	0.866	0.866	0.947	0.947	1.000	0.926	0.926	0.926	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	251	100	16	171	0	70	1	116	0	0	0
Total Analysis Volume [veh/h]	0	1003	402	62	685	0	280	4	462	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Permi	Permi	Protec	Permi	Permi	Split	Split	Split	Permi	Permi	Permi
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	11	0	33	44	0	0	56	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	
C, Cycle Length [s]	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	53	53	6	62	32	32	
g / C, Green / Cycle	0.53	0.53	0.06	0.62	0.32	0.32	
(v / s)_i Volume / Saturation Flow Rate	0.37	0.41	0.03	0.19	0.15	0.29	
s, saturation flow rate [veh/h]	1900	1716	1810	3618	1810	1617	
c, Capacity [veh/h]	1014	916	107	2254	573	512	
d1, Uniform Delay [s]	17.25	18.40	45.81	8.76	27.61	32.78	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.13	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	3.89	6.12	4.81	0.35	0.65	7.94	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.69	0.77	0.58	0.30	0.49	0.91	
d, Delay for Lane Group [s/veh]	21.14	24.52	50.62	9.11	28.25	40.72	
Lane Group LOS	C	C	D	A	C	D	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	11.53	12.69	1.59	3.03	5.28	11.37	
50th-Percentile Queue Length [ft/ln]	288.20	317.22	39.85	75.63	132.09	284.21	
95th-Percentile Queue Length [veh/ln]	17.10	18.53	2.87	5.45	9.05	16.90	
95th-Percentile Queue Length [ft/ln]	427.41	463.26	71.73	136.14	226.33	422.45	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	22.15	24.52	50.62	9.11	0.00	28.25	40.72	40.72	0.00	0.00	0.00
Movement LOS		C	C	D	A		C	D	D			
d_A, Approach Delay [s/veh]	22.83			12.55			36.04			0.00		
Approach LOS	C			B			D			A		
d_I, Intersection Delay [s/veh]	23.58											
Intersection LOS	C											
Intersection V/C	0.732											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	690.19	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	41.41	41.41
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.535	1.999
Crosswalk LOS	F	F	B	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	160	820	1060	0
d_b, Bicycle Delay [s]	42.32	17.41	11.05	50.00
l_b,int, Bicycle LOS Score for Intersection	2.814	2.176	3.026	4.132
Bicycle LOS	C	B	C	D

Sequence

Ring 1	-	2	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Pepper Avenue/North Driveway

Control Type:	Signalized	Delay (sec / veh):	27.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.579

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	889	0	0	892	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.040	1.000	1.000	1.040	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	64	0	0	39	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	72	90	24	123	58	92	101	0	53	36	0	83
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	-59	59	60	-60	0	0	0	0	58	0	58
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	21	0	0	23	0	0	13	0	0	35
Total Hourly Volume [veh/h]	72	1020	62	183	965	69	101	0	40	94	0	106
Peak Hour Factor	0.900	0.866	0.900	0.900	0.947	0.900	0.900	0.900	0.900	0.900	0.900	0.900
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	20	294	17	51	255	19	28	0	11	26	0	29
Total Analysis Volume [veh/h]	80	1178	69	203	1019	77	112	0	44	104	0	118
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Split [s]	10	22	0	10	22	0	10	28	0	10	28	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	10	0	0	20	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	72	72	72	72	72	72	72	72	72	72
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	34	34	7	35	35	6	7	6	7
g / C, Green / Cycle	0.08	0.47	0.47	0.10	0.49	0.49	0.09	0.10	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.04	0.33	0.33	0.11	0.29	0.29	0.06	0.03	0.06	0.07
s, saturation flow rate [veh/h]	1810	1900	1863	1810	1900	1854	1810	1615	1810	1615
c, Capacity [veh/h]	140	897	879	176	934	911	157	155	154	152
d1, Uniform Delay [s]	32.04	15.00	15.02	32.50	13.14	13.16	32.00	30.25	31.97	31.87
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.59	4.56	4.68	83.59	2.77	2.86	5.87	0.99	5.09	8.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.70	0.70	1.16	0.59	0.59	0.71	0.28	0.68	0.78
d, Delay for Lane Group [s/veh]	35.64	19.56	19.70	116.1	15.91	16.02	37.87	31.25	37.06	40.10
Lane Group LOS	D	B	B	F	B	B	D	C	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.39	7.70	7.60	6.90	5.87	5.77	2.09	0.73	1.92	2.29
50th-Percentile Queue Length [ft/ln]	34.65	192.4	190.1	172.5	146.8	144.3	52.31	18.27	47.96	57.20
95th-Percentile Queue Length [veh/ln]	2.49	12.25	12.13	11.79	9.85	9.71	3.77	1.32	3.45	4.12
95th-Percentile Queue Length [ft/ln]	62.37	306.2	303.1	294.6	246.2	242.8	94.16	32.89	86.32	102.97

Movement, Approach, & Intersection Results

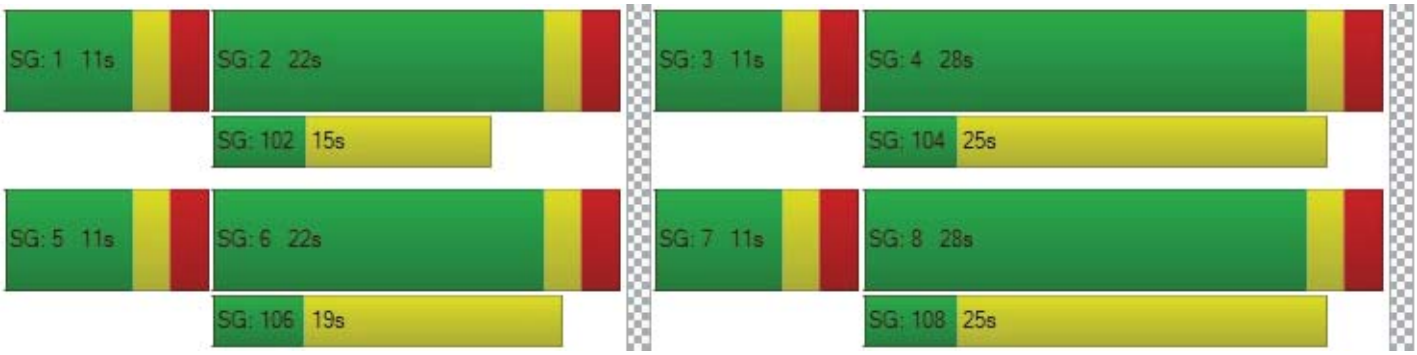
d_M, Delay for Movement [s/veh]	35.64	19.63	19.70	116.1	15.96	16.02	37.87	31.25	31.25	37.06	40.10	40.10
Movement LOS	D	B	B	F	B	B	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	20.60			31.61			36.00			38.67		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	27.50											
Intersection LOS	C											
Intersection V/C	0.579											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	27.56	27.56	27.56	27.56
l_p,int, Pedestrian LOS Score for Intersection	3.059	3.132	2.062	2.305
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	500	667	667
d_b, Bicycle Delay [s]	20.25	20.25	16.00	16.00
l_b,int, Bicycle LOS Score for Intersection	2.672	2.650	1.838	1.984
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Pepper Ave/Auto Driveway

Control Type:	Two-way stop	Delay (sec / veh):	14.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.035

Intersection Setup

Name	Pepper Ave					
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Pepper Ave					
Base Volume Input [veh/h]	889	0	0	974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0400	1.0000	1.0000	1.0400	1.0000	1.0000
In-Process Volume [veh/h]	64	0	0	39	0	0
Site-Generated Trips [veh/h]	173	3	0	146	0	13
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1162	3	0	1198	0	13
Peak Hour Factor	0.8660	0.9000	1.0000	0.9470	1.0000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	335	1	0	316	0	4
Total Analysis Volume [veh/h]	1342	3	0	1265	0	14
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	14.26
Movement LOS	A	A		A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.11
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	2.70
d_A, Approach Delay [s/veh]	0.00		0.00		14.26	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.08					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Pepper Ave/Truck Driveway

Control Type:	Two-way stop	Delay (sec / veh):	15.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.178

Intersection Setup

Name	Pepper Ave		Pepper Ave		S Project Driveway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Pepper Ave		Pepper Ave		S Project Driveway	
Base Volume Input [veh/h]	889	0	0	974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	2.00	0.00
Growth Factor	1.0400	1.0000	1.0000	1.0400	1.0000	1.0000
In-Process Volume [veh/h]	64	0	0	39	0	0
Site-Generated Trips [veh/h]	108	0	26	120	0	68
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1097	0	26	1172	0	68
Peak Hour Factor	0.8660	0.9000	0.9000	0.9470	1.0000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	317	0	7	309	0	19
Total Analysis Volume [veh/h]	1267	0	29	1238	0	76
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.05	0.01	0.00	0.18
d_M, Delay for Movement [s/veh]	0.00	0.00	11.84	0.00	0.00	15.25
Movement LOS	A	A	B	A		C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.16	0.00	0.00	0.64
95th-Percentile Queue Length [ft/ln]	0.00	0.00	4.12	0.00	0.00	16.00
d_A, Approach Delay [s/veh]	0.00		0.27		15.25	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.58					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 6: Pepper Ave/Winchester Dr-Terrace Rd

Control Type:	Signalized	Delay (sec / veh):	5.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.363

Intersection Setup

Name	Pepper Ave			Pepper Ave			Winchester Dr			Terrace Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			Winchester Dr			Terrace Rd		
Base Volume Input [veh/h]	22	820	2	7	795	91	58	2	10	4	1	5
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.040	1.000	1.000	1.040	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	64	0	0	39	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	102	0	0	114	6	6	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	24	0	0	3	0	0	1
Total Hourly Volume [veh/h]	22	1019	1	7	980	73	64	2	7	4	1	4
Peak Hour Factor	0.884	0.884	0.884	0.951	0.951	0.951	0.841	0.841	0.841	0.625	0.625	0.625
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	6	288	0	2	258	19	19	1	2	2	0	2
Total Analysis Volume [veh/h]	25	1153	1	7	1030	77	76	2	8	6	2	6
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	15	0	30	35	0	0	25	0	0	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	3	54	54	1	53	53	6	6
g / C, Green / Cycle	0.04	0.78	0.78	0.01	0.75	0.75	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.01	0.30	0.30	0.00	0.29	0.30	0.05	0.01
s, saturation flow rate [veh/h]	1810	1900	1899	1810	1900	1852	1599	1801
c, Capacity [veh/h]	70	1473	1472	26	1426	1390	228	221
d1, Uniform Delay [s]	32.79	2.54	2.54	34.15	3.09	3.09	30.98	29.72
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.04	0.79	0.79	5.59	0.81	0.84	1.03	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.39	0.39	0.27	0.39	0.39	0.38	0.06
d, Delay for Lane Group [s/veh]	35.84	3.33	3.33	39.73	3.90	3.93	32.01	29.84
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.44	0.97	0.97	0.15	1.33	1.31	1.44	0.22
50th-Percentile Queue Length [ft/ln]	11.07	24.29	24.28	3.74	33.36	32.80	35.99	5.54
95th-Percentile Queue Length [veh/ln]	0.80	1.75	1.75	0.27	2.40	2.36	2.59	0.40
95th-Percentile Queue Length [ft/ln]	19.92	43.72	43.71	6.73	60.05	59.03	64.79	9.98

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.84	3.33	3.33	39.73	3.91	3.93	32.01	32.01	32.01	29.84	29.84	29.84
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	4.02			4.14			32.01			29.84		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	5.23											
Intersection LOS	A											
Intersection V/C	0.363											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.58	26.58	26.58	26.58
l_p,int, Pedestrian LOS Score for Intersection	2.950	3.125	1.796	1.716
Crosswalk LOS	C	C	A	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	343	914	629	629
d_b, Bicycle Delay [s]	24.03	10.31	16.46	16.46
l_b,int, Bicycle LOS Score for Intersection	2.533	2.498	1.706	1.584
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Pepper Ave/Baseline Rd

Control Type:	Signalized	Delay (sec / veh):	32.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.560

Intersection Setup

Name	Pepper Ave			Pepper Ave			Baseline Rd			Baseline Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	40.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	85.00	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			Baseline Rd			Baseline Rd		
Base Volume Input [veh/h]	108	586	99	130	568	116	140	415	104	74	369	130
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
In-Process Volume [veh/h]	0	40	0	11	24	0	0	1	0	0	0	16
Site-Generated Trips [veh/h]	18	41	0	28	45	41	35	23	18	0	26	26
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	26	0	0	41	0	0	32	0	0	44
Total Hourly Volume [veh/h]	130	690	77	174	660	121	181	456	94	77	410	133
Peak Hour Factor	0.884	0.884	0.884	0.882	0.882	0.882	0.857	0.857	0.857	0.939	0.939	0.939
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	37	195	22	49	187	34	53	133	27	21	109	35
Total Analysis Volume [veh/h]	147	781	87	197	748	137	211	532	110	82	437	142
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtP	Permi	Permi	ProtP	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	37	0	13	40	0	35	28	0	42	35	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	73	62	62	73	63	63	16	31	31	7	22	22
g / C, Green / Cycle	0.61	0.52	0.52	0.61	0.52	0.52	0.13	0.26	0.26	0.06	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.19	0.23	0.23	0.25	0.24	0.24	0.12	0.17	0.17	0.05	0.16	0.16
s, saturation flow rate [veh/h]	765	1900	1831	791	1900	1795	1810	1900	1789	1810	1900	1743
c, Capacity [veh/h]	455	980	945	469	996	941	243	489	461	109	348	319
d1, Uniform Delay [s]	12.00	18.31	18.32	12.49	17.84	17.86	50.87	40.04	40.04	55.51	47.56	47.64
k, delay calibration	0.30	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.13	1.50	1.56	2.75	1.51	1.60	9.02	1.64	1.74	10.00	6.43	7.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.45	0.45	0.42	0.46	0.46	0.87	0.68	0.68	0.75	0.86	0.87
d, Delay for Lane Group [s/veh]	13.12	19.81	19.87	15.24	19.35	19.46	59.89	41.67	41.79	65.52	53.99	54.97
Lane Group LOS	B	B	B	B	B	B	E	D	D	E	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.66	7.62	7.38	2.46	7.75	7.37	6.71	8.78	8.29	2.71	9.16	8.56
50th-Percentile Queue Length [ft/ln]	41.62	190.6	184.4	61.55	193.7	184.3	167.6	219.5	207.2	67.72	228.9	214.0
95th-Percentile Queue Length [veh/ln]	3.00	12.15	11.83	4.43	12.32	11.83	10.95	13.64	13.01	4.88	14.12	13.36
95th-Percentile Queue Length [ft/ln]	74.91	303.8	295.8	110.7	307.9	295.6	273.7	341.0	325.3	121.9	353.0	334.0

Movement, Approach, & Intersection Results

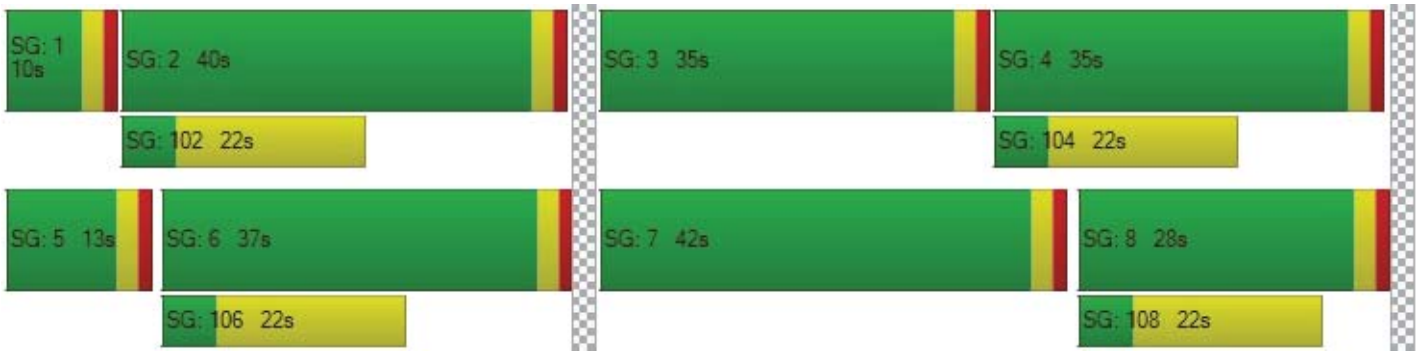
d_M, Delay for Movement [s/veh]	13.12	19.84	19.87	15.24	19.39	19.46	59.89	41.72	41.79	65.52	54.29	54.97
Movement LOS	B	B	B	B	B	B	E	D	D	E	D	D
d_A, Approach Delay [s/veh]	18.87			18.64			46.22			55.83		
Approach LOS	B			B			D			E		
d_I, Intersection Delay [s/veh]	32.03											
Intersection LOS	C											
Intersection V/C	0.560											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersection	2.941	3.046	2.902	2.929
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	567	617	417	533
d_b, Bicycle Delay [s]	30.82	28.70	37.60	32.27
l_b,int, Bicycle LOS Score for Intersection	2.418	2.486	2.290	2.141
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Vistro File: C:\...\Pepper Ave Industrial - Revised May 2022 - HB - Updated.vistro
Report File: C:\...\GP AM Plus Project.pdf

Scenario 27 GP AM + Proj
7/15/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Pepper Ave/I-210 WB	Signalized	HCM 6th Edition	SB Right	0.893	54.2	D
2	Pepper Ave/I-210 EB	Signalized	HCM 6th Edition	SB Left	0.671	21.3	C
3	Pepper Avenue/North Driveway	Signalized	HCM 6th Edition	SB Left	0.541	23.5	C
4	Pepper Ave/Auto Driveway	Two-way stop	HCM 6th Edition	WB Right	0.008	12.7	B
5	Pepper Ave/Truck Driveway	Two-way stop	HCM 6th Edition	WB Right	0.042	12.9	B
6	Pepper Ave/Winchester Dr-Terrace Rd	Signalized	HCM 6th Edition	SB Left	0.485	8.4	A
7	Pepper Ave/Baseline Rd	Signalized	HCM 6th Edition	WB Left	0.575	29.6	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Pepper Ave/I-210 WB

Control Type:	Signalized	Delay (sec / veh):	54.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.893

Intersection Setup

Name	Pepper Ave			Pepper Ave						I-210 WB		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	310.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	750.0	100.0	100.0
No. of Lanes in Exit Pocket	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	100.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes						Yes		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave						I-210 WB		
Base Volume Input [veh/h]	425	269	0	0	249	235	0	0	0	414	6	79
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.240	1.240	1.000	1.000	1.240	1.240	1.000	1.000	1.000	1.240	1.240	1.240
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	100	44	0	0	58	0	0	0	34	154	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	73	0	0	9	0	0	25
Total Hourly Volume [veh/h]	627	378	0	0	367	218	0	0	34	667	7	73
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	157	95	0	0	92	55	0	0	9	167	2	18
Total Analysis Volume [veh/h]	627	378	0	0	367	218	0	0	34	667	7	73
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Split	Split	Split
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	34	54	0	0	20	0	0	0	0	0	36	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	3	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		L	C
C, Cycle Length [s]	90	90	90	90		90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00
g_i, Effective Green Time [s]	31	51	17	17		33	33
g / C, Green / Cycle	0.34	0.57	0.19	0.19		0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.35	0.10	0.15	0.18		0.37	0.05
s, saturation flow rate [veh/h]	1810	3618	1900	1645		1810	1636
c, Capacity [veh/h]	623	2050	359	311		663	600
d1, Uniform Delay [s]	29.50	9.44	34.99	36.01		28.50	18.98
k, delay calibration	0.48	0.50	0.50	0.50		0.48	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	36.80	0.20	18.14	38.13		35.57	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	1.01	0.18	0.82	0.94		1.01	0.13
d, Delay for Lane Group [s/veh]	66.30	9.63	53.14	74.14		64.07	19.08
Lane Group LOS	F	A	D	E		F	B
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	18.56	1.59	7.59	9.24		19.65	1.07
50th-Percentile Queue Length [ft/ln]	464.08	39.76	189.67	230.91		491.15	26.69
95th-Percentile Queue Length [veh/ln]	25.73	2.86	12.10	14.22		27.02	1.92
95th-Percentile Queue Length [ft/ln]	643.34	71.57	302.60	355.51		675.39	48.04

Movement, Approach, & Intersection Results

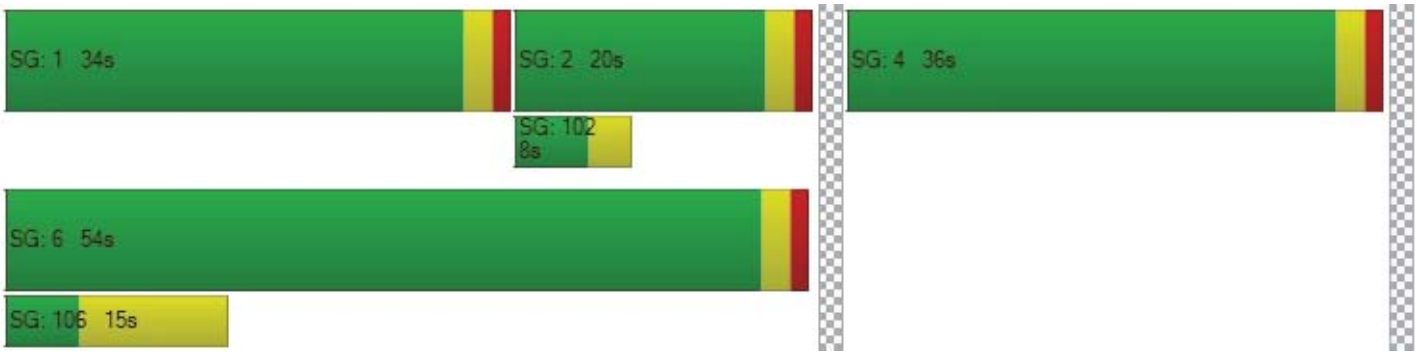
d_M, Delay for Movement [s/veh]	66.30	9.63	0.00	0.00	57.40	74.14	0.00	0.00	0.00	64.07	19.08	19.08
Movement LOS	F	A			E	E				F	B	B
d_A, Approach Delay [s/veh]	44.98			63.64			0.00			59.25		
Approach LOS	D			E			A			E		
d_I, Intersection Delay [s/veh]	54.21											
Intersection LOS	D											
Intersection V/C	0.893											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.327	2.312
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1133	378	0	733
d_b, Bicycle Delay [s]	8.45	29.61	45.00	18.05
I_b,int, Bicycle LOS Score for Intersection	2.389	2.102	4.132	2.833
Bicycle LOS	B	B	D	C

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Pepper Ave/I-210 EB

Control Type:	Signalized	Delay (sec / veh):	21.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.671

Intersection Setup

Name	Pepper Ave			Pepper Ave			I-210 EB					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	310.0	100.0	100.0	750.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			I-210 EB					
Base Volume Input [veh/h]	0	564	260	65	567	0	134	0	407	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.000	1.240	1.240	1.240	1.240	1.000	1.240	1.240	1.240	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	144	102	0	246	0	0	0	119	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	106	0	0	0	0	0	156	0	0	0
Total Hourly Volume [veh/h]	0	843	318	81	949	0	166	0	468	0	0	0
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	211	80	20	237	0	42	0	117	0	0	0
Total Analysis Volume [veh/h]	0	843	318	81	949	0	166	0	468	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Permi	Permi	Protec	Permi	Permi	Split	Split	Split	Permi	Permi	Permi
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	11	0	34	45	0	0	55	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	
C, Cycle Length [s]	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	53	53	6	62	32	32	
g / C, Green / Cycle	0.53	0.53	0.06	0.62	0.32	0.32	
(v / s)_i Volume / Saturation Flow Rate	0.31	0.34	0.04	0.26	0.09	0.29	
s, saturation flow rate [veh/h]	1900	1723	1810	3618	1810	1615	
c, Capacity [veh/h]	1005	912	117	2256	572	511	
d1, Uniform Delay [s]	15.96	16.72	45.80	9.60	25.73	32.91	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.14	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	2.42	3.39	7.16	0.58	0.28	9.00	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.58	0.64	0.69	0.42	0.29	0.92	
d, Delay for Lane Group [s/veh]	18.38	20.11	52.96	10.17	26.01	41.91	
Lane Group LOS	B	C	D	B	C	D	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	8.60	9.16	2.14	4.61	2.91	11.59	
50th-Percentile Queue Length [ft/ln]	215.09	229.08	53.39	115.26	72.63	289.84	
95th-Percentile Queue Length [veh/ln]	13.41	14.13	3.84	8.13	5.23	17.18	
95th-Percentile Queue Length [ft/ln]	335.35	353.19	96.10	203.30	130.74	429.45	

Movement, Approach, & Intersection Results

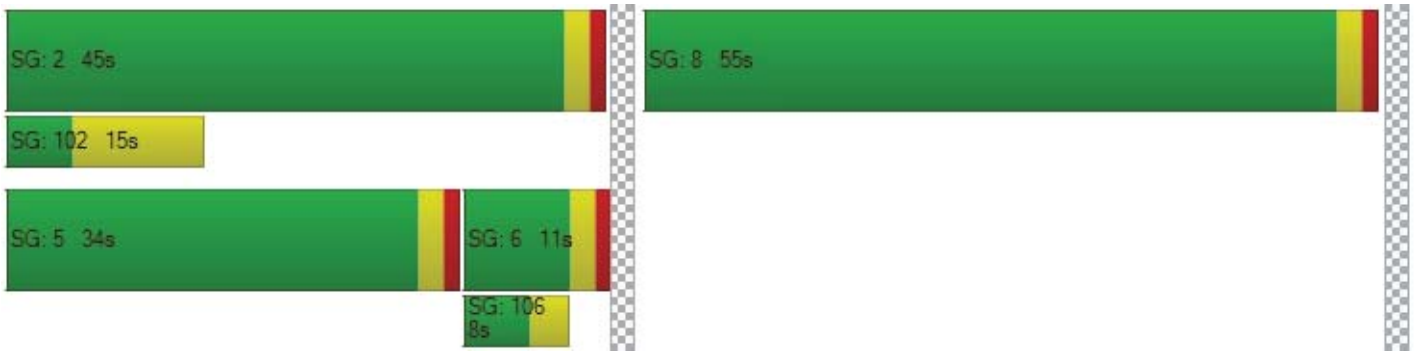
d_M, Delay for Movement [s/veh]	0.00	18.91	20.11	52.96	10.17	0.00	26.01	41.91	41.91	0.00	0.00	0.00
Movement LOS		B	C	D	B		C	D	D			
d_A, Approach Delay [s/veh]	19.24			13.54			37.75			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	21.32											
Intersection LOS	C											
Intersection V/C	0.671											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	690.19	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	41.41	41.41
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.511	1.922
Crosswalk LOS	F	F	B	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	160	840	1040	0
d_b, Bicycle Delay [s]	42.32	16.82	11.52	50.00
l_b,int, Bicycle LOS Score for Intersection	2.605	2.409	2.863	4.132
Bicycle LOS	B	B	C	D

Sequence

Ring 1	-	2	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Pepper Avenue/North Driveway

Control Type:	Signalized	Delay (sec / veh):	23.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.541

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	824	0	0	974	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.240	1.000	1.000	1.240	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	52	24	36	191	88	69	92	0	26	24	0	67
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	-72	72	71	-71	0	0	0	0	71	0	70
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	27	0	0	17	0	0	7	0	0	34
Total Hourly Volume [veh/h]	52	974	81	262	1225	52	92	0	19	95	0	103
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	13	244	20	66	306	13	23	0	5	24	0	26
Total Analysis Volume [veh/h]	52	974	81	262	1225	52	92	0	19	95	0	103
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Split [s]	10	22	0	15	27	0	10	28	0	10	28	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	10	0	0	20	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	77	77	77	77	77	77	77	77	77	77
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	36	36	11	42	42	6	6	6	6
g / C, Green / Cycle	0.06	0.46	0.46	0.14	0.55	0.55	0.08	0.08	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.03	0.28	0.28	0.14	0.34	0.34	0.05	0.01	0.05	0.06
s, saturation flow rate [veh/h]	1810	1900	1849	1810	1900	1873	1810	1615	1810	1615
c, Capacity [veh/h]	111	879	855	259	1034	1019	142	132	143	134
d1, Uniform Delay [s]	34.94	15.48	15.48	33.00	12.08	12.11	34.47	32.84	34.47	34.60
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.08	3.13	3.21	29.41	2.80	2.88	4.95	0.49	5.21	9.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.47	0.61	0.61	1.01	0.62	0.62	0.65	0.14	0.66	0.77
d, Delay for Lane Group [s/veh]	38.02	18.60	18.69	62.41	14.88	14.98	39.42	33.33	39.68	43.64
Lane Group LOS	D	B	B	F	B	B	D	C	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.98	6.65	6.50	6.57	6.77	6.74	1.83	0.34	1.89	2.18
50th-Percentile Queue Length [ft/ln]	24.47	166.2	162.4	164.1	169.3	168.5	45.65	8.51	47.32	54.46
95th-Percentile Queue Length [veh/ln]	1.76	10.88	10.68	10.83	11.04	11.00	3.29	0.61	3.41	3.92
95th-Percentile Queue Length [ft/ln]	44.05	271.9	266.8	270.7	276.0	275.0	82.18	15.32	85.18	98.02

Movement, Approach, & Intersection Results

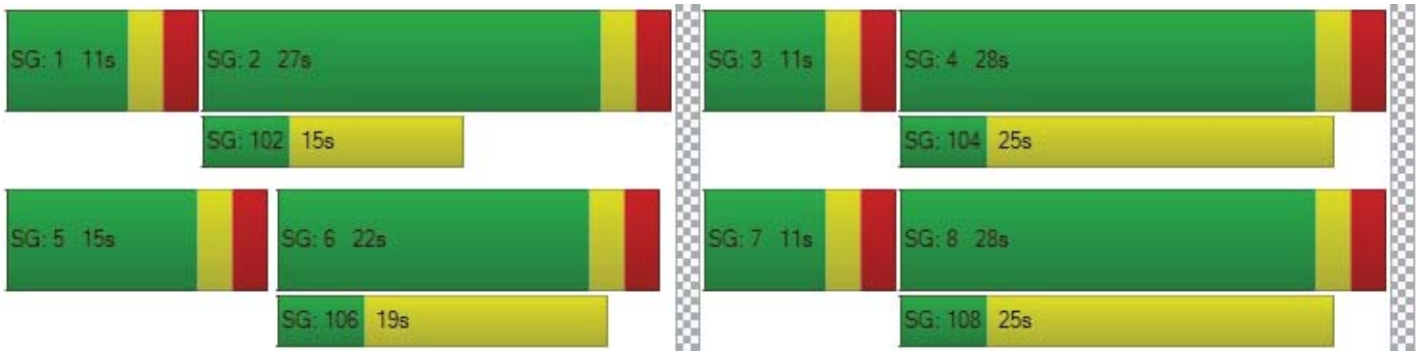
d_M, Delay for Movement [s/veh]	38.02	18.64	18.69	62.41	14.93	14.98	39.42	33.33	33.33	39.68	43.64	43.64
Movement LOS	D	B	B	F	B	B	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	19.56			23.01			38.38			41.74		
Approach LOS	B			C			D			D		
d_I, Intersection Delay [s/veh]	23.55											
Intersection LOS	C											
Intersection V/C	0.541											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	30.03	30.03	30.03	30.03
l_p,int, Pedestrian LOS Score for Intersection	3.057	3.125	2.022	2.320
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	468	597	623	623
d_b, Bicycle Delay [s]	22.60	18.94	18.24	18.24
l_b,int, Bicycle LOS Score for Intersection	2.495	2.843	1.754	1.942
Bicycle LOS	B	C	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Pepper Ave/Auto Driveway

Control Type:	Two-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	Pepper Ave					
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Pepper Ave					
Base Volume Input [veh/h]	824	0	0	974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.2400	1.0000	1.0000	1.2400	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	108	6	0	137	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1130	6	0	1345	0	4
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	283	2	0	336	0	1
Total Analysis Volume [veh/h]	1130	6	0	1345	0	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	12.71
Movement LOS	A	A		A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.64
d_A, Approach Delay [s/veh]	0.00		0.00		12.71	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.02					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Pepper Ave/Truck Driveway

Control Type:	Two-way stop	Delay (sec / veh):	12.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.042

Intersection Setup

Name	Pepper Ave		Pepper Ave		S Project Driveway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Pepper Ave		Pepper Ave		S Project Driveway	
Base Volume Input [veh/h]	824	0	0	974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	2.00	0.00
Growth Factor	1.2400	1.0000	1.0000	1.2400	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	94	0	68	69	0	20
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1116	0	68	1277	0	20
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	279	0	17	319	0	5
Total Analysis Volume [veh/h]	1116	0	68	1277	0	20
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.11	0.01	0.00	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	11.37	0.00	0.00	12.86
Movement LOS	A	A	B	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.36	0.00	0.00	0.13
95th-Percentile Queue Length [ft/ln]	0.00	0.00	8.98	0.00	0.00	3.27
d_A, Approach Delay [s/veh]	0.00		0.57		12.86	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.42					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Pepper Ave/Winchester Dr-Terrace Rd

Control Type:	Signalized	Delay (sec / veh):	8.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.485

Intersection Setup

Name	Pepper Ave			Pepper Ave			Winchester Dr			Terrace Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			Winchester Dr			Terrace Rd		
Base Volume Input [veh/h]	112	725	0	7	910	76	80	2	80	8	1	10
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.240	1.000	1.000	1.240	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	90	0	0	66	3	4	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	20	0	0	20	0	0	3
Total Hourly Volume [veh/h]	112	989	0	7	1194	59	84	2	60	8	1	7
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	28	247	0	2	299	15	21	1	15	2	0	2
Total Analysis Volume [veh/h]	112	989	0	7	1194	59	84	2	60	8	1	7
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	15	0	20	25	0	0	25	0	0	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	6	43	43	1	38	38	7	7
g / C, Green / Cycle	0.10	0.72	0.72	0.01	0.64	0.64	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.06	0.26	0.26	0.00	0.33	0.33	0.09	0.01
s, saturation flow rate [veh/h]	1810	1900	1900	1810	1900	1867	1614	1734
c, Capacity [veh/h]	179	1371	1371	25	1210	1189	279	288
d1, Uniform Delay [s]	25.98	3.14	3.14	29.28	5.92	5.93	25.70	23.75
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.59	0.74	0.74	5.85	1.61	1.65	1.52	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.63	0.36	0.36	0.28	0.52	0.52	0.52	0.06
d, Delay for Lane Group [s/veh]	29.56	3.88	3.88	35.14	7.53	7.57	27.22	23.83
Lane Group LOS	C	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.55	0.98	0.98	0.13	2.87	2.84	2.05	0.20
50th-Percentile Queue Length [ft/ln]	38.64	24.53	24.53	3.29	71.87	71.12	51.37	5.05
95th-Percentile Queue Length [veh/ln]	2.78	1.77	1.77	0.24	5.17	5.12	3.70	0.36
95th-Percentile Queue Length [ft/ln]	69.56	44.16	44.16	5.91	129.3	128.0	92.47	9.09

Movement, Approach, & Intersection Results

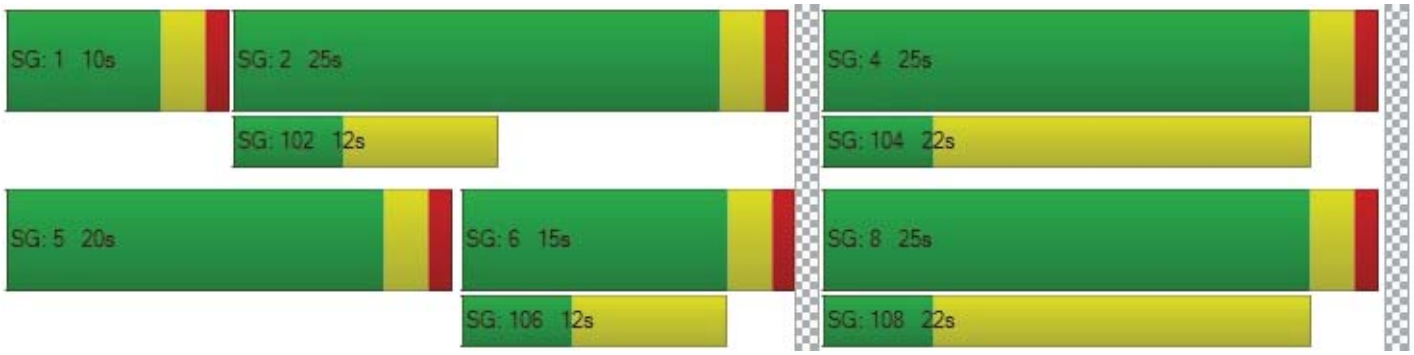
d_M, Delay for Movement [s/veh]	29.56	3.88	3.88	35.14	7.55	7.57	27.22	27.22	27.22	23.83	23.83	23.83
Movement LOS	C	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	6.49			7.71			27.22			23.83		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	8.41											
Intersection LOS	A											
Intersection V/C	0.485											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	2.989	3.120	1.869	1.711
Crosswalk LOS	C	C	A	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	400	733	733	733
d_b, Bicycle Delay [s]	19.20	12.03	12.03	12.03
l_b,int, Bicycle LOS Score for Intersection	2.468	2.616	1.834	1.591
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Pepper Ave/Baseline Rd

Control Type:	Signalized	Delay (sec / veh):	29.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.575

Intersection Setup

Name	Pepper Ave			Pepper Ave			Baseline Rd			Baseline Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	40.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	85.00	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			Baseline Rd			Baseline Rd		
Base Volume Input [veh/h]	160	577	56	155	694	116	99	237	133	69	326	206
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.240	1.240	1.240	1.240	1.240	1.240	1.240	1.240	1.240	1.240	1.240	1.240
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	36	0	20	28	18	26	0	0	0	0	28
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	17	0	0	41	0	0	41	0	0	71
Total Hourly Volume [veh/h]	198	751	52	212	889	121	149	294	124	86	404	212
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	50	188	13	53	222	30	37	74	31	22	101	53
Total Analysis Volume [veh/h]	198	751	52	212	889	121	149	294	124	86	404	212
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtP	Permi	Permi	ProtP	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	42	0	10	42	0	15	25	0	43	53	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	76	66	66	76	66	66	12	28	28	7	24	24
g / C, Green / Cycle	0.63	0.55	0.55	0.63	0.55	0.55	0.10	0.23	0.23	0.06	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.28	0.21	0.21	0.26	0.27	0.27	0.08	0.11	0.12	0.05	0.17	0.17
s, saturation flow rate [veh/h]	698	1900	1856	807	1900	1819	1810	1900	1713	1810	1900	1683
c, Capacity [veh/h]	431	1040	1016	510	1040	996	176	440	396	114	374	332
d1, Uniform Delay [s]	12.04	15.62	15.63	10.71	16.85	16.88	53.30	40.04	40.13	55.33	46.68	46.76
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.50	1.10	1.13	2.48	1.68	1.77	10.69	0.87	1.00	9.80	6.22	7.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.46	0.39	0.39	0.42	0.50	0.50	0.85	0.50	0.50	0.76	0.87	0.88
d, Delay for Lane Group [s/veh]	15.55	16.72	16.76	13.20	18.53	18.65	63.99	40.91	41.13	65.14	52.90	54.12
Lane Group LOS	B	B	B	B	B	B	E	D	D	E	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.36	6.26	6.13	2.45	8.62	8.32	4.87	5.59	5.15	2.83	9.84	8.91
50th-Percentile Queue Length [ft/ln]	59.02	156.5	153.2	61.22	215.4	207.9	121.6	139.7	128.7	70.78	246.1	222.8
95th-Percentile Queue Length [veh/ln]	4.25	10.37	10.19	4.41	13.43	13.05	8.48	9.47	8.87	5.10	14.99	13.81
95th-Percentile Queue Length [ft/ln]	106.2	259.1	254.7	110.2	335.8	326.2	212.1	236.6	221.7	127.4	374.7	345.2

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	15.55	16.74	16.76	13.20	18.58	18.65	63.99	40.97	41.13	65.14	53.14	54.12
Movement LOS	B	B	B	B	B	B	E	D	D	E	D	D
d_A, Approach Delay [s/veh]	16.50			17.65			47.05			54.90		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	29.59											
Intersection LOS	C											
Intersection V/C	0.575											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersection	2.970	3.089	2.889	2.937
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	650	650	367	833
d_b, Bicycle Delay [s]	27.34	27.34	40.02	20.42
l_b,int, Bicycle LOS Score for Intersection	2.399	2.602	2.061	2.197
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Vistro File: C:\...\Pepper Ave Industrial - Revised May 2022 - HB - Updated.vistro
Report File: C:\...\GP PM Plus Project.pdf

Scenario 28 GP PM + Proj
7/15/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Pepper Ave/I-210 WB	Signalized	HCM 6th Edition	NB Left	0.634	28.2	C
2	Pepper Ave/I-210 EB	Signalized	HCM 6th Edition	SB Left	0.615	20.4	C
3	Pepper Avenue/North Driveway	Signalized	HCM 6th Edition	SB Left	0.491	22.7	C
4	Pepper Ave/Auto Driveway	Two-way stop	HCM 6th Edition	WB Right	0.027	12.6	B
5	Pepper Ave/Truck Driveway	Two-way stop	HCM 6th Edition	WB Right	0.133	13.1	B
6	Pepper Ave/Winchester Dr-Terrace Rd	Signalized	HCM 6th Edition	SB Left	0.325	4.7	A
7	Pepper Ave/Baseline Rd	Signalized	HCM 6th Edition	WB Left	0.467	30.2	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Pepper Ave/I-210 WB

Control Type:	Signalized	Delay (sec / veh):	28.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.634

Intersection Setup

Name	Pepper Ave			Pepper Ave						I-210 WB		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	310.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	750.0	100.0	100.0
No. of Lanes in Exit Pocket	1	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	100.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes						Yes		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave						I-210 WB		
Base Volume Input [veh/h]	369	441	0	0	244	139	0	0	0	294	5	72
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.040	1.040	1.000	1.000	1.040	1.040	1.000	1.000	1.000	1.040	1.040	1.040
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	144	46	0	0	35	0	0	0	0	104	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	36	0	0	0	0	0	19
Total Hourly Volume [veh/h]	528	505	0	0	289	109	0	0	0	410	5	56
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	132	126	0	0	72	27	0	0	0	103	1	14
Total Analysis Volume [veh/h]	528	505	0	0	289	109	0	0	0	410	5	56
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Split	Split	Split
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	42	53	0	0	11	0	0	0	0	0	37	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	3	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		L	C
C, Cycle Length [s]	90	90	90	90		90	90
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00		3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00		1.00	1.00
g_i, Effective Green Time [s]	28	61	30	30		23	23
g / C, Green / Cycle	0.32	0.68	0.33	0.33		0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.29	0.14	0.10	0.12		0.23	0.04
s, saturation flow rate [veh/h]	1810	3618	1900	1717		1810	1635
c, Capacity [veh/h]	573	2462	628	567		458	413
d1, Uniform Delay [s]	29.67	5.34	22.53	22.82		32.48	26.09
k, delay calibration	0.23	0.50	0.50	0.50		0.17	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	12.56	0.19	1.32	1.70		9.71	0.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.21	0.32	0.35		0.90	0.15
d, Delay for Lane Group [s/veh]	42.23	5.53	23.86	24.52		42.18	26.26
Lane Group LOS	D	A	C	C		D	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	12.08	1.36	3.15	3.23		9.37	0.99
50th-Percentile Queue Length [ft/ln]	302.05	33.98	78.87	80.73		234.30	24.79
95th-Percentile Queue Length [veh/ln]	17.78	2.45	5.68	5.81		14.39	1.78
95th-Percentile Queue Length [ft/ln]	444.56	61.16	141.97	145.32		359.82	44.62

Movement, Approach, & Intersection Results

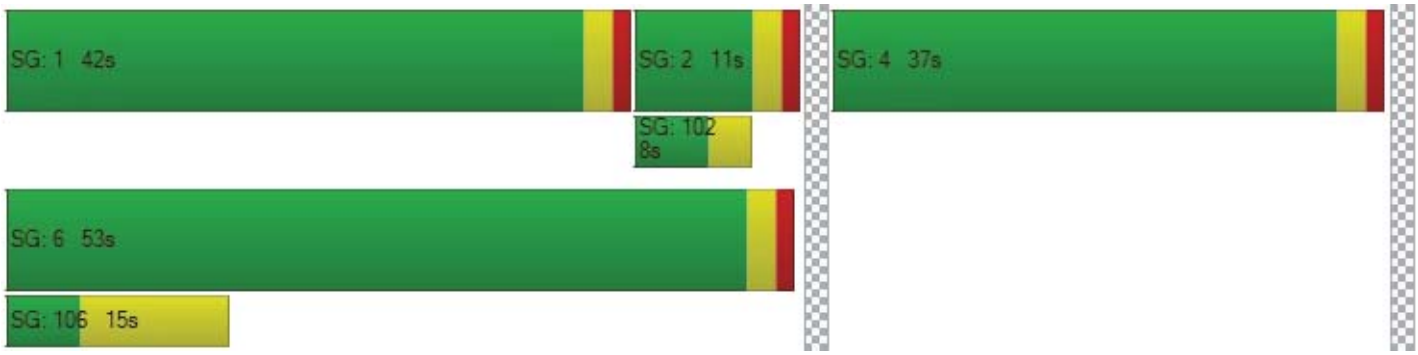
d_M, Delay for Movement [s/veh]	42.23	5.53	0.00	0.00	24.06	24.52	0.00	0.00	0.00	42.18	26.26	26.26
Movement LOS	D	A			C	C				D	C	C
d_A, Approach Delay [s/veh]	24.29			24.19			0.00			40.12		
Approach LOS	C			C			A			D		
d_I, Intersection Delay [s/veh]	28.19											
Intersection LOS	C											
Intersection V/C	0.634											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.086	2.181
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1111	178	0	756
d_b, Bicycle Delay [s]	8.89	37.36	45.00	17.42
l_b,int, Bicycle LOS Score for Intersection	2.412	1.918	4.132	2.368
Bicycle LOS	B	A	D	B

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Pepper Ave/I-210 EB

Control Type:	Signalized	Delay (sec / veh):	20.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.615

Intersection Setup

Name	Pepper Ave			Pepper Ave			I-210 EB					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	310.0	100.0	100.0	750.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			I-210 EB					
Base Volume Input [veh/h]	0	586	303	57	482	0	224	4	410	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.000	1.040	1.040	1.040	1.040	1.000	1.040	1.040	1.040	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	190	145	0	139	0	0	0	102	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	115	0	0	0	0	0	132	0	0	0
Total Hourly Volume [veh/h]	0	799	345	59	640	0	233	4	396	0	0	0
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	200	86	15	160	0	58	1	99	0	0	0
Total Analysis Volume [veh/h]	0	799	345	59	640	0	233	4	396	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Permi	Permi	Protec	Permi	Permi	Split	Split	Split	Permi	Permi	Permi
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	0	0	7	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	23	0	33	56	0	0	44	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	
C, Cycle Length [s]	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	
g_i, Effective Green Time [s]	58	58	6	67	27	27	
g / C, Green / Cycle	0.58	0.58	0.06	0.67	0.27	0.27	
(v / s)_i Volume / Saturation Flow Rate	0.30	0.33	0.03	0.18	0.13	0.25	
s, saturation flow rate [veh/h]	1900	1708	1810	3618	1810	1617	
c, Capacity [veh/h]	1097	986	106	2409	496	443	
d1, Uniform Delay [s]	12.76	13.41	45.83	6.78	30.24	35.01	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.18	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.77	2.49	4.57	0.27	0.69	10.72	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.52	0.58	0.56	0.27	0.47	0.90	
d, Delay for Lane Group [s/veh]	14.53	15.90	50.40	7.05	30.94	45.73	
Lane Group LOS	B	B	D	A	C	D	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	7.20	7.68	1.51	2.31	4.60	10.26	
50th-Percentile Queue Length [ft/ln]	180.03	192.05	37.84	57.79	114.90	256.58	
95th-Percentile Queue Length [veh/ln]	11.60	12.23	2.72	4.16	8.11	15.52	
95th-Percentile Queue Length [ft/ln]	290.05	305.69	68.11	104.02	202.80	387.93	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	14.92	15.90	50.40	7.05	0.00	30.94	45.73	45.73	0.00	0.00	0.00
Movement LOS		B	B	D	A		C	D	D			
d_A, Approach Delay [s/veh]	15.22			10.71			40.28			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	20.35											
Intersection LOS	C											
Intersection V/C	0.615											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	690.19	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	41.41	41.41
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.466	1.940
Crosswalk LOS	F	F	B	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	400	1060	820	0
d_b, Bicycle Delay [s]	32.00	11.05	17.41	50.00
l_b,int, Bicycle LOS Score for Intersection	2.598	2.136	2.822	4.132
Bicycle LOS	B	B	C	D

Sequence

Ring 1	-	2	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Pepper Avenue/North Driveway

Control Type:	Signalized	Delay (sec / veh):	22.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.491

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	889	0	0	892	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.040	1.000	1.000	1.040	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	72	81	24	123	46	92	101	0	53	36	0	83
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	-59	59	60	-60	0	0	0	0	58	0	58
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	21	0	0	23	0	0	13	0	0	35
Total Hourly Volume [veh/h]	72	947	62	183	914	69	101	0	40	94	0	106
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	18	237	16	46	229	17	25	0	10	24	0	27
Total Analysis Volume [veh/h]	72	947	62	183	914	69	101	0	40	94	0	106
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Split [s]	10	22	0	10	22	0	10	28	0	10	28	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	10	0	0	20	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	72	72	72	72	72	72	72	72	72	72
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	35	35	7	36	36	6	6	6	6
g / C, Green / Cycle	0.07	0.48	0.48	0.10	0.50	0.50	0.08	0.09	0.08	0.09
(v / s)_i Volume / Saturation Flow Rate	0.04	0.27	0.27	0.10	0.26	0.26	0.06	0.02	0.05	0.07
s, saturation flow rate [veh/h]	1810	1900	1859	1810	1900	1854	1810	1615	1810	1615
c, Capacity [veh/h]	134	914	894	176	957	934	153	144	149	141
d1, Uniform Delay [s]	32.13	13.25	13.25	32.50	12.00	12.00	31.97	30.61	31.97	32.08
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.29	2.45	2.51	42.83	2.01	2.07	4.84	1.03	4.34	7.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.54	0.56	0.56	1.04	0.52	0.52	0.66	0.28	0.63	0.75
d, Delay for Lane Group [s/veh]	35.42	15.70	15.76	75.34	14.01	14.07	36.81	31.64	36.31	39.82
Lane Group LOS	D	B	B	F	B	B	D	C	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.24	5.36	5.26	4.91	4.80	4.71	1.86	0.67	1.71	2.05
50th-Percentile Queue Length [ft/ln]	31.10	133.9	131.4	122.7	120.1	117.6	46.39	16.77	42.83	51.22
95th-Percentile Queue Length [veh/ln]	2.24	9.16	9.02	8.67	8.40	8.26	3.34	1.21	3.08	3.69
95th-Percentile Queue Length [ft/ln]	55.97	228.8	225.5	216.7	209.9	206.6	83.50	30.18	77.10	92.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.42	15.73	15.76	75.34	14.04	14.07	36.81	31.64	31.64	36.31	39.82	39.82
Movement LOS	D	B	B	F	B	B	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	17.04			23.66			35.34			38.17		
Approach LOS	B			C			D			D		
d_I, Intersection Delay [s/veh]	22.65											
Intersection LOS	C											
Intersection V/C	0.491											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	27.56	27.56	27.56	27.56
l_p,int, Pedestrian LOS Score for Intersection	2.953	3.018	2.052	2.293
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	500	667	667
d_b, Bicycle Delay [s]	20.25	20.25	16.00	16.00
l_b,int, Bicycle LOS Score for Intersection	2.469	2.541	1.814	1.947
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Pepper Ave/Auto Driveway

Control Type:	Two-way stop	Delay (sec / veh):	12.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.027

Intersection Setup

Name	Pepper Ave					
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Pepper Ave					
Base Volume Input [veh/h]	889	0	0	974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0400	1.0000	1.0000	1.0400	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	164	3	0	134	0	13
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1089	3	0	1147	0	13
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	272	1	0	287	0	3
Total Analysis Volume [veh/h]	1089	3	0	1147	0	13
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	12.60
Movement LOS	A	A		A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.08
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	2.05
d_A, Approach Delay [s/veh]	0.00		0.00		12.60	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.07					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Pepper Ave/Truck Driveway

Control Type:	Two-way stop	Delay (sec / veh):	13.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.133

Intersection Setup

Name	Pepper Ave		Pepper Ave		S Project Driveway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Pepper Ave		Pepper Ave		S Project Driveway	
Base Volume Input [veh/h]	889	0	0	974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	2.00	0.00
Growth Factor	1.0400	1.0000	1.0000	1.0400	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	99	0	26	108	0	68
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1024	0	26	1121	0	68
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	256	0	7	280	0	17
Total Analysis Volume [veh/h]	1024	0	26	1121	0	68
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.04	0.01	0.00	0.13
d_M, Delay for Movement [s/veh]	0.00	0.00	10.46	0.00	0.00	13.10
Movement LOS	A	A	B	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.12	0.00	0.00	0.46
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.95	0.00	0.00	11.39
d_A, Approach Delay [s/veh]	0.00		0.24		13.10	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.52					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Pepper Ave/Winchester Dr-Terrace Rd

Control Type:	Signalized	Delay (sec / veh):	4.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.325

Intersection Setup

Name	Pepper Ave			Pepper Ave			Winchester Dr			Terrace Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			Winchester Dr			Terrace Rd		
Base Volume Input [veh/h]	22	820	2	7	795	91	58	2	10	4	1	5
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.040	1.000	1.000	1.040	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	93	0	0	102	6	6	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	24	0	0	3	0	0	1
Total Hourly Volume [veh/h]	22	946	1	7	929	73	64	2	7	4	1	4
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	6	237	0	2	232	18	16	1	2	1	0	1
Total Analysis Volume [veh/h]	22	946	1	7	929	73	64	2	7	4	1	4
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	15	0	25	30	0	0	25	0	0	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	2	50	50	1	49	49	5	5
g / C, Green / Cycle	0.04	0.77	0.77	0.01	0.75	0.75	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.01	0.25	0.25	0.00	0.27	0.27	0.05	0.01
s, saturation flow rate [veh/h]	1810	1900	1899	1810	1900	1850	1603	1778
c, Capacity [veh/h]	64	1458	1458	25	1418	1380	232	222
d1, Uniform Delay [s]	30.60	2.34	2.34	31.72	2.86	2.86	28.67	27.66
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.10	0.59	0.59	5.70	0.71	0.73	0.77	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.34	0.32	0.32	0.28	0.36	0.36	0.31	0.04
d, Delay for Lane Group [s/veh]	33.70	2.93	2.93	37.42	3.57	3.59	29.44	27.73
Lane Group LOS	C	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.36	0.63	0.62	0.14	0.98	0.96	1.11	0.13
50th-Percentile Queue Length [ft/ln]	9.10	15.63	15.62	3.51	24.40	23.98	27.79	3.27
95th-Percentile Queue Length [veh/ln]	0.66	1.13	1.12	0.25	1.76	1.73	2.00	0.24
95th-Percentile Queue Length [ft/ln]	16.38	28.13	28.12	6.32	43.92	43.16	50.02	5.89

Movement, Approach, & Intersection Results

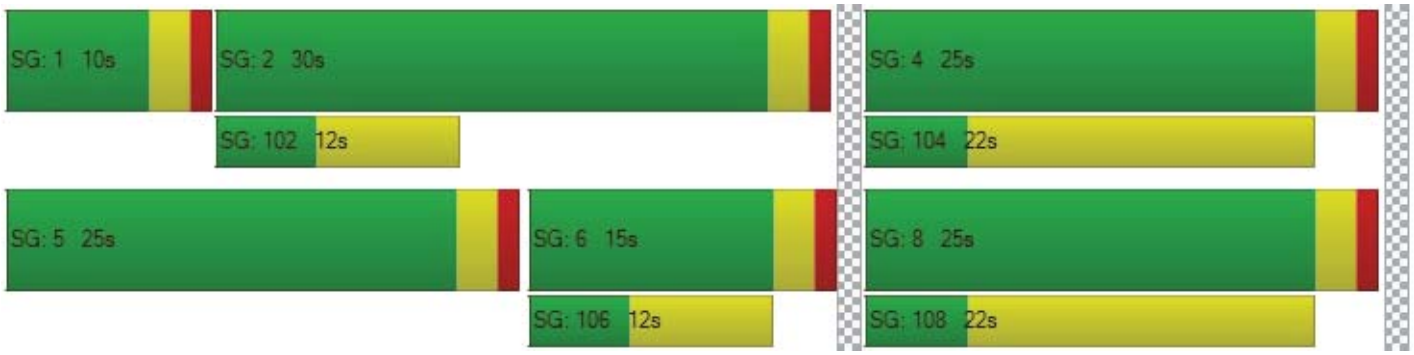
d_M, Delay for Movement [s/veh]	33.70	2.93	2.93	37.42	3.58	3.59	29.44	29.44	29.44	27.73	27.73	27.73
Movement LOS	C	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	3.63			3.81			29.44			27.73		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	4.74											
Intersection LOS	A											
Intersection V/C	0.325											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.12	24.12	24.12	24.12
l_p,int, Pedestrian LOS Score for Intersection	2.851	3.009	1.784	1.710
Crosswalk LOS	C	C	A	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	369	831	677	677
d_b, Bicycle Delay [s]	21.61	11.11	14.22	14.22
l_b,int, Bicycle LOS Score for Intersection	2.360	2.412	1.685	1.576
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Pepper Ave/Baseline Rd

Control Type:	Signalized	Delay (sec / veh):	30.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.467

Intersection Setup

Name	Pepper Ave			Pepper Ave			Baseline Rd			Baseline Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	40.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	85.00	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			Baseline Rd			Baseline Rd		
Base Volume Input [veh/h]	108	586	99	130	568	116	140	415	104	74	369	130
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	41	0	28	45	29	26	0	0	0	0	26
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	26	0	0	38	0	0	27	0	0	40
Total Hourly Volume [veh/h]	112	650	77	163	636	112	172	432	81	77	384	121
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	28	163	19	41	159	28	43	108	20	19	96	30
Total Analysis Volume [veh/h]	112	650	77	163	636	112	172	432	81	77	384	121
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	5			5			5			5		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtP	Permi	Permi	ProtP	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	39	0	10	39	0	40	32	0	39	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	78	68	68	78	68	68	14	26	26	7	19	19
g / C, Green / Cycle	0.65	0.57	0.57	0.65	0.57	0.57	0.11	0.22	0.22	0.06	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.13	0.19	0.20	0.19	0.20	0.20	0.10	0.14	0.14	0.04	0.14	0.14
s, saturation flow rate [veh/h]	834	1900	1828	849	1900	1799	1810	1900	1797	1810	1900	1747
c, Capacity [veh/h]	546	1076	1036	557	1079	1021	205	415	393	103	308	283
d1, Uniform Delay [s]	8.85	14.00	14.01	9.09	14.05	14.06	52.15	42.52	42.55	55.75	48.83	48.93
k, delay calibration	0.12	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.21	0.87	0.91	1.33	0.92	0.97	8.88	1.60	1.71	10.37	6.44	7.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.21	0.34	0.34	0.29	0.36	0.36	0.84	0.63	0.64	0.75	0.85	0.86
d, Delay for Lane Group [s/veh]	9.06	14.88	14.92	10.42	14.97	15.03	61.03	44.12	44.27	66.12	55.28	56.44
Lane Group LOS	A	B	B	B	B	B	E	D	D	E	E	E
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.00	5.26	5.08	1.66	5.48	5.22	5.49	7.11	6.78	2.56	8.01	7.55
50th-Percentile Queue Length [ft/ln]	24.97	131.4	127.0	41.41	137.1	130.5	137.2	177.8	169.4	63.95	200.1	188.7
95th-Percentile Queue Length [veh/ln]	1.80	9.02	8.78	2.98	9.33	8.97	9.34	11.49	11.05	4.60	12.65	12.06
95th-Percentile Queue Length [ft/ln]	44.94	225.4	219.4	74.54	233.1	224.2	233.3	287.2	276.1	115.1	316.1	301.4

Movement, Approach, & Intersection Results

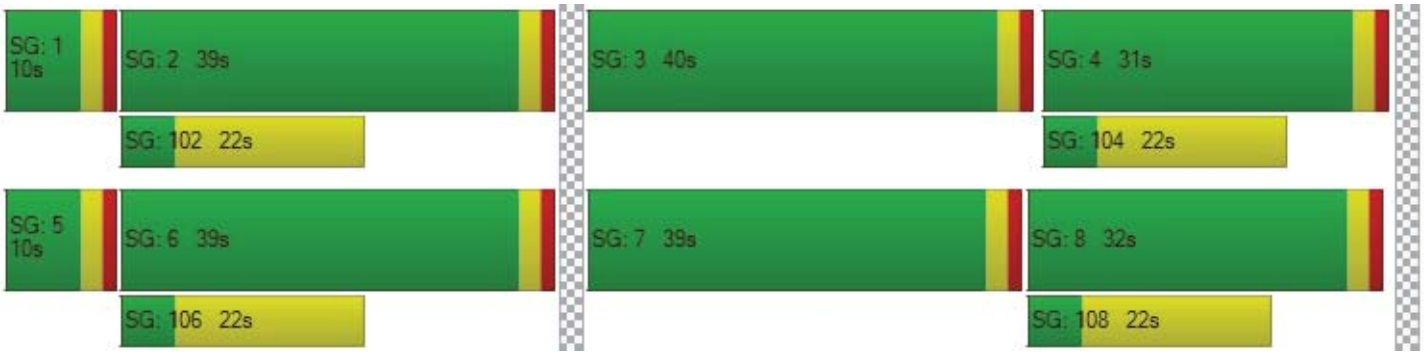
d_M, Delay for Movement [s/veh]	9.06	14.89	14.92	10.42	15.00	15.03	61.03	44.18	44.27	66.12	55.65	56.44
Movement LOS	A	B	B	B	B	B	E	D	D	E	E	E
d_A, Approach Delay [s/veh]	14.12			14.18			48.42			57.20		
Approach LOS	B			B			D			E		
d_I, Intersection Delay [s/veh]	30.24											
Intersection LOS	C											
Intersection V/C	0.467											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersection	2.845	2.934	2.800	2.851
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	600	483	467
d_b, Bicycle Delay [s]	29.40	29.40	34.50	35.27
l_b,int, Bicycle LOS Score for Intersection	2.273	2.343	2.147	2.073
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Option 1: Copy of Pepper Ave/I-210 WB

Number	1											
Intersection	Pepper Ave/I-210 WB											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name	Pepper Ave			Pepper Ave						I-210 WB		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	425	269	0	0	249	235	0	0	0	414	6	79
Total Analysis Volume [veh/h]	611	363	0	0	389	233	0	0	34	680	7	71

Intersection Settings

Cycle Length [s]	90											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	0.00											
Control Type	Split	Split	Split	Split	Split	Split	Permi	Permi	Permi	Split	Split	Split
Signal Group	0	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	0	20	0	0	25	0	0	0	0	0	45	0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No						No	
Maximum Recall		No			No						No	
Pedestrian Recall		No			No						No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.25	0.25	0.25	0.25	0.25		0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.18	0.18	0.18	0.16	0.19		0.38	0.05
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900		1900	1900
Arrival type	3			3		3	3	
s, saturation flow rate [veh/h]	1810	1822	1729	1900	1663		1810	1637
c, Capacity [veh/h]	449	453	429	478	419		724	655
X, volume / capacity	0.73	0.73	0.73	0.65	0.74		0.94	0.12
d, Delay for Lane Group [s/veh]	41.15	41.08	41.58	36.82	42.30		42.15	17.10
Lane Group LOS	D	D	D	D	D		D	B

Critical Lane Group	Yes	No	No	No	Yes			Yes	No
50th-Percentile Queue Length [veh/ln]	7.37	7.41	7.09	6.53	7.12			15.96	0.97
50th-Percentile Queue Length [ft/ln]	184.1	185.2	177.2	163.20	177.89			399.11	24.26
95th-Percentile Queue Length [veh/ln]	11.82	11.87	11.46	10.72	11.49			22.52	1.75
95th-Percentile Queue Length [ft/ln]	295.4	296.8	286.4	267.96	287.25			562.93	43.67

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.12	41.52	0.00	0.00	37.92	42.30	0.00	0.00	0.00	42.15	17.10	17.10
Movement LOS	D	D			D	D				D	B	B
Critical Movement	No	No			No	Yes				No	No	No
d_A, Approach Delay [s/veh]	41.27			39.56			0.00			39.57		
Approach LOS	D			D			A			D		
d_I, Intersection Delay [s/veh]	40.27											
Intersection LOS	D											
Intersection V/C	0.745											

Option 1: Copy of Pepper Ave/I-210 WB

Number	1											
Intersection	Pepper Ave/I-210 WB											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name	Pepper Ave			Pepper Ave						I-210 WB		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	425	269	0	0	249	235	0	0	0	414	6	79
Total Analysis Volume [veh/h]	627	378	0	0	367	218	0	0	34	667	7	73

Intersection Settings

Cycle Length [s]	90											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	0.00											
Control Type	Split	Split	Split	Split	Split	Split	Permi	Permi	Permi	Split	Split	Split
Signal Group	0	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	0	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	0	27	0	0	15	0	0	0	0	0	48	0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No						No	
Maximum Recall		No			No						No	
Pedestrian Recall		No			No						No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

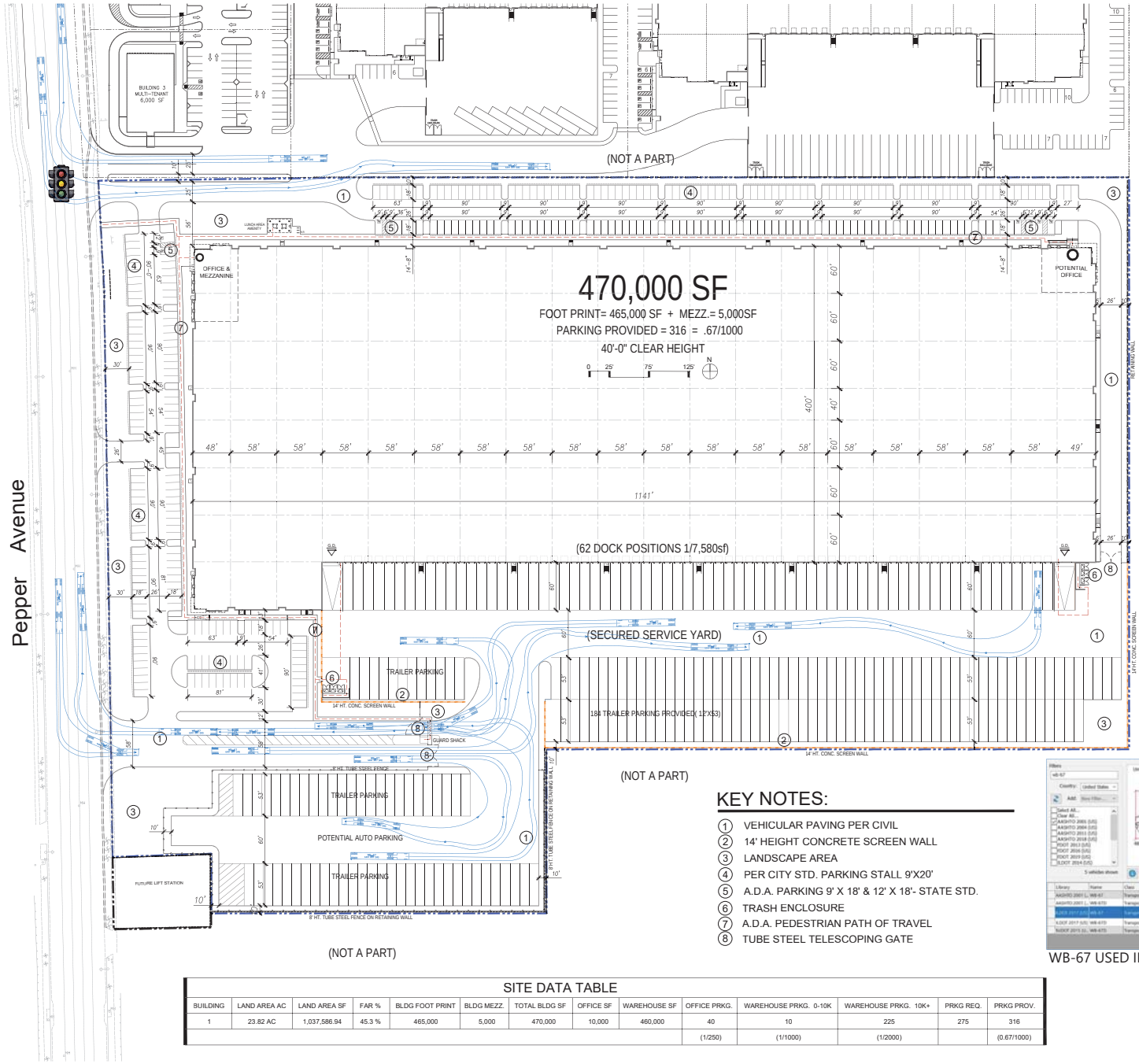
g / C, Green / Cycle	0.25	0.25	0.25	0.25	0.25		0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.19	0.19	0.19	0.15	0.18		0.37	0.05
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900		1900	1900
Arrival type	3			3		3	3	
s, saturation flow rate [veh/h]	1810	1823	1729	1900	1664		1810	1636
c, Capacity [veh/h]	461	465	441	476	417		714	646
X, volume / capacity	0.74	0.74	0.74	0.61	0.70		0.93	0.12
d, Delay for Lane Group [s/veh]	40.78	40.71	41.21	35.69	40.14		39.86	17.43
Lane Group LOS	D	D	D	D	D		D	B

Critical Lane Group	Yes	No	No	No	Yes			Yes	No
50th-Percentile Queue Length [veh/ln]	7.58	7.63	7.30	6.01	6.47			15.19	1.01
50th-Percentile Queue Length [ft/ln]	189.5	190.7	182.4	150.14	161.81			379.73	25.19
95th-Percentile Queue Length [veh/ln]	12.10	12.16	11.73	10.02	10.64			21.58	1.81
95th-Percentile Queue Length [ft/ln]	302.4	304.0	293.2	250.62	266.12			539.52	45.34

Movement, Approach, & Intersection Results

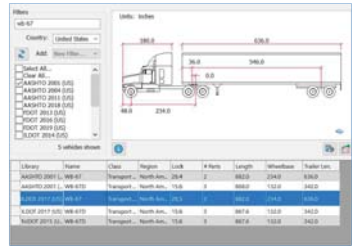
d_M, Delay for Movement [s/veh]	40.75	41.14	0.00	0.00	36.60	40.14	0.00	0.00	0.00	39.86	17.43	17.43
Movement LOS	D	D			D	D				D	B	B
Critical Movement	No	Yes			No	No				No	No	No
d_A, Approach Delay [s/veh]	40.89			37.92			0.00			37.46		
Approach LOS	D			D			A			D		
d_I, Intersection Delay [s/veh]	39.05											
Intersection LOS	D											
Intersection V/C	0.732											

APPENDIX D – FULL-SIZED SITE PLAN



KEY NOTES:

1. VEHICULAR PAVING PER CIVIL
2. 14' HEIGHT CONCRETE SCREEN WALL
3. LANDSCAPE AREA
4. PER CITY STD. PARKING STALL 9'X20'
5. A.D.A. PARKING 9' X 18' & 12' X 18'- STATE STD.
6. TRASH ENCLOSURE
7. A.D.A. PEDESTRIAN PATH OF TRAVEL
8. TUBE STEEL TELESCOPING GATE



WB-67 USED IN SIMULATION

SITE DATA TABLE

BUILDING	LAND AREA AC	LAND AREA SF	FAR %	BLDG FOOT PRINT	BLDG MEZZ.	TOTAL BLDG SF	OFFICE SF	WAREHOUSE SF	OFFICE PRKG.	WAREHOUSE PRKG. 0-10K	WAREHOUSE PRKG. 10K+	PRKG REQ.	PRKG PROV.
1	23.82 AC	1,037,586.94	45.3 %	465,000	5,000	470,000	10,000	460,000	40	10	225	275	316
									(1/250)	(1/1000)	(1/2000)		(0.67/1000)

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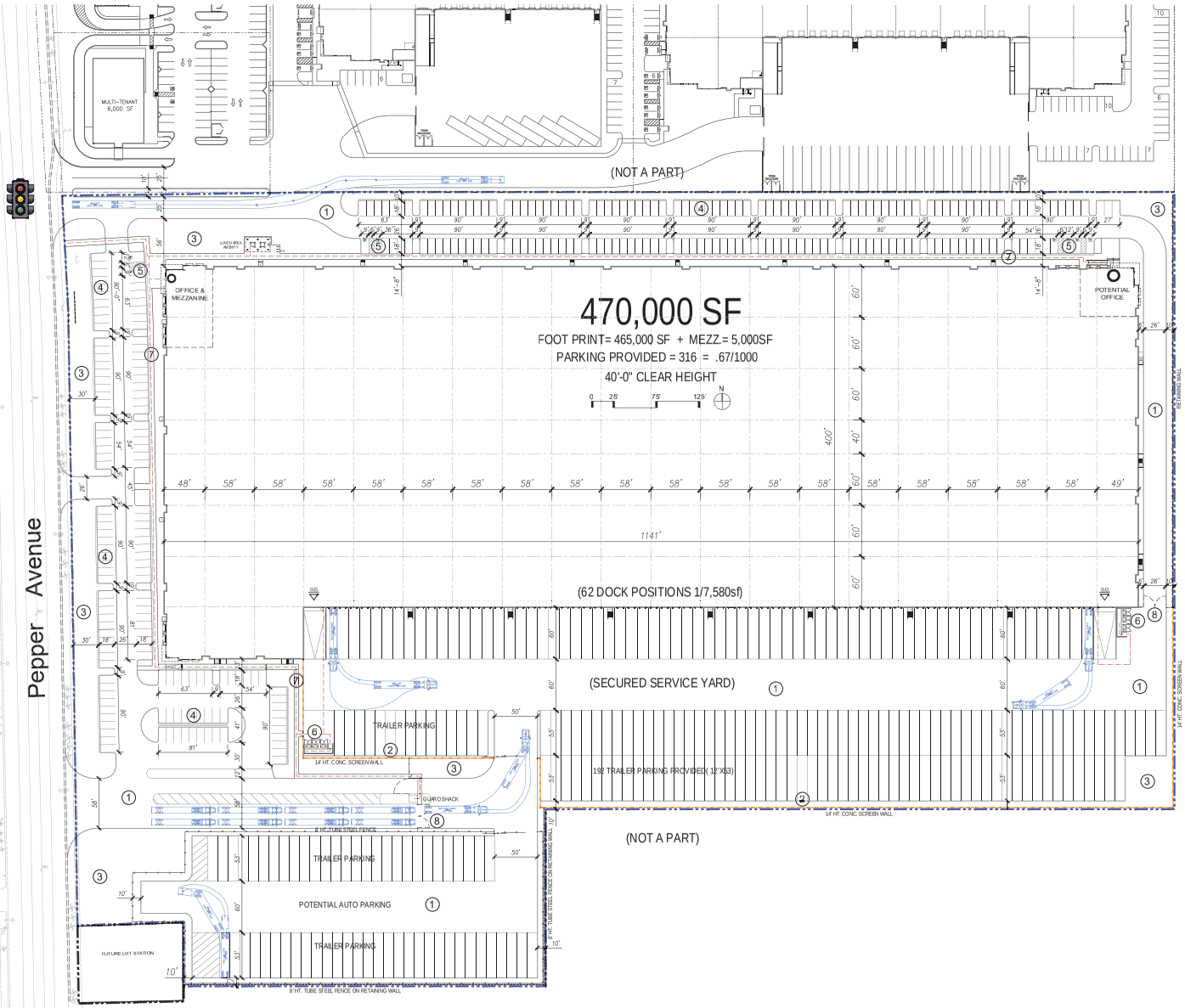
PEPPER AVENUE BUSINESS CENTER
Rialto, CA

COMPREHENSIVE TRUCK TURNING

Architecture. Design. Relationships.

03

1" =50'-0"
2020-185
2022-07-07



LEGAL DESCRIPTION

PARCEL 1 (APN 0264-201-06)

THAT PORTION OF THE NORTHEAST ¼ OF SECTION 26, TOWNSHIP 1 NORTH, RANGE 5 WEST, SAN BERNARDINO BASE AND MERIDIAN, ACCORDING TO THE UNITED STATES GOVERNMENT TOWNSHIP PLAT THEREOF, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF WHAT IS KNOWN AS THE HENRY WEIL VINEYARD SAID CORNER BEING AT THE POINT DISTANT 11.80 CHAINS WEST OF A POST 10.00 CHAINS SOUTH OF THE NORTHEAST CORNER OF SAID SOUTHWEST ¼ OF THE NORTHEAST ¼ OF SAID SECTION 26; THENCE NORTH 10° WEST 3.00 CHAINS; THENCE NORTH 14 LINKS; THENCE WEST 3 CHAINS, 62 LINKS; THENCE SOUTH 3 CHAINS, 14 LINKS; THENCE EAST TO THE POINT OF BEGINNING

PARCEL 2

THAT PORTION OF THE NORTHEAST ¼ OF SECTION 26, TOWNSHIP 1 NORTH, RANGE 5 WEST, SAN BERNARDINO BASE AND MERIDIAN, ACCORDING TO THE UNITED STATES GOVERNMENT TOWNSHIP PLAT THEREOF, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

COMMENCING 14.57 CHAINS WEST OF THE SOUTHEAST CORNER OF THE NORTHEAST ¼ OF THE NORTHWEST ¼ OF SAID SECTION 26; THENCE SOUTH 14.09 CHAINS; THENCE WEST 3 CHAINS; THENCE SOUTH 4.83 CHAINS; THENCE WEST 8.66 CHAINS; THENCE NORTH 19° WEST 18.85 CHAINS; THENCE EAST 18.36 CHAINS TO THE POINT OF BEGINNING.

EXCEPT THEREFROM THAT PORTION OF SAID LAND CONVEYED TO THE CITY OF RIALTO BY DEED RECORDED DECEMBER 30, 2011 AS INSTRUMENT NO. 2011-0537089 OF OFFICIAL RECORDS.

PARCEL 3

THAT PORTION OF THE NORTHEAST ¼ OF SECTION 26, TOWNSHIP 1 NORTH, RANGE 5 WEST, SAN BERNARDINO BASE AND MERIDIAN, ACCORDING TO THE UNITED STATES GOVERNMENT TOWNSHIP PLAT THEREOF, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

COMMENCING 14.57 CHAINS WEST OF THE SOUTHEAST CORNER OF THE NORTHEAST ¼ OF THE NORTHWEST ¼ OF SAID SECTION 26; THENCE SOUTH 14.09 CHAINS; THENCE WEST 3 CHAINS; THENCE SOUTH 4.83 CHAINS; THENCE WEST 8.66 CHAINS; THENCE NORTH 19° WEST 18.85 CHAINS; THENCE EAST 18.36 CHAINS TO THE POINT OF BEGINNING.

PARCEL 4

THAT PORTION NORTHEAST ¼ OF SECTION 26, TOWNSHIP 1 NORTH, RANGE 5 WEST, SAN BERNARDINO BASE AND MERIDIAN, ACCORDING TO UNITED STATES GOVERNMENT TOWNSHIP PLAT THEREOF, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA DESCRIBED AS FOLLOWS:

COMMENCING AT A POST AT THE SOUTHEAST CORNER OF THE NORTHWEST ¼ OF THE NORTHEAST ¼ OF SAID SECTION 26; THENCE WEST 12 CHAINS, 18 LINKS TO A POST; THENCE SOUTH 2° EAST 11 CHAINS, 8 LINKS TO A POST; THENCE EAST 12 CHAINS, 18 LINKS TO A POST IN THE EAST LINE OF SAID SECTION 26; THENCE NORTH 11 CHAINS, 08 LINKS TO THE PLACE OF BEGINNING COMMONLY KNOWN AS WEIL VINEYARD

PARKING STALL SIZES:

STANDARD PARKING STALL - 9' X 20' WITH 2' O.H.
A.D.A (HANDICAP) ST ALLS - 9' X 18' WITH 2' O.H.
12' X 18' WITH 2' O.H.(VAN)

PARKING REQUIREMENTS :

OFFICE: 1/250
WAREHOUSE: 0-10,000SF = 1/1000
10K+ = 1/2000

1 TRAILER STALL / 1 DOCK DOOR

LANDSCAPE AREA CALCULATION:

TOTAL LAND AREA: 1,037,586.94 SF (23.82 AC.)
LANDSCAPE REQUIRED: 103,758 SF (10% OF TOTAL LAND AREA)
LANDSCAPE AREA PROVIDED:

GRAPHIC LEGEND

- OFFICE
- G.D. GRADE DOOR (12' X 14') & (12'X12')
- ADA ACCESSIBLE PARKING AS PER STATE STANDARDS
- A.D.A. PEDESTRIAN PATH
- 8' HEIGHT TUBE STL. FENCE
- SCREEN WALL / RETAINING (SEE CIVIL)
- HANDRAIL / GUARD RAIL
- PROPERTY LINE
- GRID LINE

SHEET DESCRIPTION:

A1 CONCEPTUAL SITE PLAN
A2 CONCEPTUAL FLOOR PLAN
A3 NOT USED
A4 CONCEPTUAL ELEVATIONS
A5 COLOR ELEVATIONS
A6 COLOR AND MATERIAL BOARD
A7 CONCEPTUAL 3-D RENDERING
C1 CONCEPTUAL GRADING PLAN
C2 CONCEPTUAL SITE SECTIONS
L1 CONCEPTUAL LANDSCAPE PLAN
L2 CONCEPTUAL LANDSCAPE PLAN
E0.4 LIGHTING CUTSHEETS
E1.1 PHOTOMETRICS LIGHTING PLAN

LAND ZONING & LAND USE:

CURRENT ZONING: PEPPER AVE. SPECIFIC PLAN COMMUNITY COMMERCIAL

PROPOSED ZONING: PEPPER AVE. SPECIFIC PLAN COMMUNITY COMMERCIAL (Allowing Warehousing & Logistic uses)

ASSESSOR'S PARCEL NUMBER

PARCEL NUMBER AS NOTED PER LEGAL DESCRIPTION	APN
PARCEL 1	0264-201-06
PARCEL 2	0264-201-28
PARCEL 3	0264-201-05

PROJECT TEAM:

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ORANGE, CA 92865
CONTACT: TIM HOWARD, MIKE TUNNEY
714-769-9155

ARCHITECT:
ARCHITECTS ORANGE
144 NORTH ORANGE STREET
ORANGE, CALIFORNIA 92866
CONTACT: DAN MACDAVID
714-639-9860 — PRINCIPAL
OR STEPHEN PRZYBYLOWSKI
714-417-1122 — SENIOR DESIGNER

CIVIL ENGINEER:
FMCIVIL ENGINEERS INC.
2995 TECHNOLOGY DRIVE SUITE 306
MURRIETA, CA 92563
CONTACT: FRANCISCO MARTINEZ
951-331-9873

LANDSCAPE ARCHITECT:
HUNTER LANDSCAPE
711 FEE ANA ST.
PLACENTIA, CA 92870
CONTACT: TOM MAYES
(TEL)714-986-2400

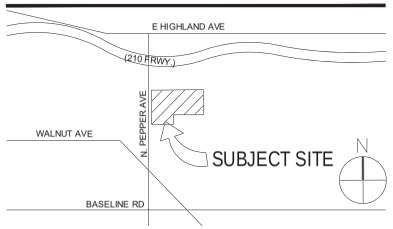
LIGHTING:
PACIFIC ELECTRICAL ENGINEERING INC.
8171 E. KAISER BLVD.
ANAHEIM, CA 92808
CONTACT: REED STONEBURNER, PE
(TEL)714-685-7768 (CELL)714-920-1411

CITY LIAISON:
EPD SOLUTIONS
2 PARK PLAZA SUITE 1120
IRVINE, CA 92614
CONTACT: NORAM JAFFAN
(TEL)949-226-1854

KEY NOTES:

1. VEHICULAR PAVING PER CIVIL
2. 14' HEIGHT CONCRETE SCREEN WALL
3. LANDSCAPE AREA
4. PER CITY STD. PARKING STALL 9'X20'
5. A.D.A. PARKING 9' X 18' & 12' X 18'- STATE STD.
6. TRASH ENCLOSURE
7. A.D.A. PEDESTRIAN PATH OF TRAVEL
8. TUBE STEEL TELESCOPING GATE

VICINITY MAP



SITE DATA TABLE

BUILDING	LAND AREA AC	LAND AREA SF	FAR %	BLDG FOOT PRINT	BLDG MEZZ.	TOTAL BLDG SF	OFFICE SF	WAREHOUSE SF	OFFICE PRKG.	WAREHOUSE PRKG. 0-10K	WAREHOUSE PRKG. 10K+	PRKG REQ.	PRKG PROV.
1	23.82 AC	1,037,586.94	45.3 %	465,000	5,000	470,000	10,000	460,000	40	10	225	275	316
									(1/250)	(1/1000)	(1/2000)		(0.67/1000)

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